

Panel Discussion: Perspective on Russia

Telecommunications, Trade and Growth: Gravity Modeling and Empirical Analysis for Eastern Europe and Russia

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Interesting research topic having relationships to the economic growth and convergence problems and the increasing role of information and telecommunication in these processes. The main (possible) research hypothesis of the paper¹: 1) Development of the ITC has a statistically significant positive impact on foreign trade. This impact varies between the countries and country groups (transitional countries, FSU, EU-15, AC10, EU-25), depending on the level of economic development, investments and innovations. 2) The influence of ITC (information and telecommunication) networking on foreign trade volume takes place through a transmission of information, and this transmission is helpful in overcoming “economic distance” (geographical distance) between economically acting countries. (Geographical distance *versus* virtual distance).

If the aim of the paper is to check the validity of the conclusions presented in the papers of Jungmittag and Welfens² and to develop these research results, then choosing the gravity equation analysis as the main methodological approach of the study seems to be appropriate. However, it is recommendable to place more attention on analyzing theoretical foundations of the gravity models in order to apply

¹ Unfortunately, the aim of the study and the main research hypothesis are not clearly presented in the introductory part of the paper, therefore, it is possible that the reviewer of the paper cannot fully understand the intentions and the main research questions of the author.

² P. Welfens, A. Jungmittag. Europäische Telekomliberalisierung und Aussenhandel: Theory, Gravitationsansatz und Implikationen, EIIW Discussion Paper 85, Juni 2001. – A. Jungmittag, P. Welfens. Liberalization of EU Telecommunications and Trade: Theory: Gravity Equation Analysis and Policy Implication. EIIW Discussion Paper 87, October 2001.

this approach for testing the research hypotheses.³ For instance, how the including of the ITC indicators in the augmented gravity equation fits to the theoretical foundations of this model, etc.

By the way, Tinbergen, not Linnemann, was the first who applied the gravity model based approach to exploring international trade flows. Following the work of Tinbergen (1962) and Pöyhönen (1963), Linnemann (1966) added more variables in the gravity equation and went farther toward a theoretical justification in terms of Walrasian general equilibrium system. Therefore, Linnemann's model is sometimes called the augmented gravity model. Linnemann pointed out that, when considering the theoretical aspects of a gravity model for trade, there are three main factors to be taken into account: 1) the total potential supply, or exports, of a country to the world market; 2) the total potential demand, or imports, of a country to the world market; 3) those factors that create resistance to trade and thus, affect the degree of trade intensity. These ordinarily include tariff barriers and transportation costs.

It is a natural question whether the ITC variables are endogenous variables within the specified gravity equations (Jungmittag and Welfens, 2001). If they are not, then OLS estimators of a gravity equation may no longer be consistent. Therefore, it is recommendable to include the lagged variables into the equations and to use endogeneity tests (e.g. Hausman specifications tests, using instrumental variables, etc).

It should be taken into account that when analyzing telecommunication problems based on the data of the years 1998 and 1999, and trying to take some policy advice for 2004, the conclusions may be misleading. The situation in the quickly developing ITC sector was not the same in 1998 and 1999 as in 2004. It is not convincing that the investigations are restricted to the analysis of the situation during the years of 1998 and 1999, only by data availability. It is certainly possible to use trade data later than 1998 and 1999 for Russia and other FSU countries (See IMF trade statistics, databases 2002 and 2003). Of course, if the main aim of the author is only to consider some theoretical and methodological questions of gravity modeling and empirical analysis for Eastern European and Russian telecommunications as well as trade and growth problems and not to make any remarkable policy implications, then the author's approach regarding the time horizon seems to be appropriate. In this case, it is recommendable to restructure the paper to place figures and tables in the appendix, and to give more explanation of the research hypothesis, theory, specification and estimation problems in the body of the paper.

It is reasonable to make some corrections in the classification of the countries' groups. After May 2004, some countries are no longer candidate countries, and therefore, in the paper, which is to be published in 2004 or 2005, it is recommendable to make respective corrections, for instance, using dummies for EU15 and AC10 or CC12, etc.

³ The theoretical foundations of the gravity models are based on 1) microeconomics; 2) regional science and new economic geography; 3) trade theories. All these theories and discussions related to them explain the existence of trade from different viewpoints.