

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

Albrecht Kauffmann

1 Introduction	300
2 Telecommunications, Foreign Trade, and Globalization.....	302
3 Foreign Trade of Transition Countries	303
3.1 Choice of Countries to be Included in the Investigation	303
3.2 Development of Foreign Trade of Selected Country Groups.....	306
4 Developments of ICT Infrastructure in Selected Groups of Countries Included Into Investigation	311
5 ICT Infrastructure and Foreign Trade: Extended Gravity Model.....	313
5.1 Overview.....	313
5.2 Model Specifications for the Whole Country Set	315
5.3 Model Specifications for Subgroups of Trading Partners	324
6 Conclusion.....	329
References	331

1 Introduction

During the re-orientation of the economic systems of post-socialist countries which were highly integrated in the former Council of Mutual Economic Aid, foreign trade relations have had to be settled in a new way after the breakdown of communist order in Eastern Europe. The states at the western margin of the former Eastern Bloc searched – and have quickly found – the political, military and economic connection to western alliances that already existed, and to the economic area of the West. Successors of former Soviet Republics (FSU) did not have this ability in the majority of cases. Moreover, not only had the foreign trade channels to the former CMEA partners outside the Soviet Union been cut, the political decay of the USSR was simultaneously the end of the former highly integrated economic area of the Soviet Union. The centrally coordinated, excessive domestic trade between former Socialist Republics came to a standstill, the new foreign trade, created by disintegration of the former single market, and was hindered by many barriers resulting from non-cooperation of the monetary authorities (Gross/Steinherr 1995, ch. 13). Simultaneously, the development of foreign trade based on economic principles of the use of comparative advantages caused by national experience and factor properties was a chance to participate in the grid of international economic connections as a prerequisite to taking part in international labor division that promotes economic growth.

Particularly, Russia meets some requirements for taking up and enhancing foreign trade as a base of economic growth. Besides large natural resources, a level of education in all layers of the population exists as well as a readiness to put its labor force into economic activity. A part from trade barriers caused by institutional affairs of law and security, non-utilization of the existing potential of foreign trade may be caused by antiquated, expensive, and/or a non-existing infrastructure for the transfer of goods and information.

The ability to meet quantitative statements regarding the possibility of connection between international trade volumes on the one hand and progress in extension of infrastructure of information and telecommunication (ICT) on the other, have improved at the start of the 21st Century, particularly as a result of improved data availability. The concept of measurement of influence of ICT networking on foreign trade volume is based on the assumption that the improvement in transmission of information is helpful to overcome the “economic distance,” which includes the geographical distance as one of many parts, between economically acting subjects. The inclusion of data that indicates the state of networking of information by ICT into well-known foreign trade models regressing international trade volumes to economic weight of trading partners and the (economic) distance between them could prove to be reasonable.

The gravity approach was named after the physical phenomenon of gravity and found its way from economic geography into spatial economic modeling in the first quarter of the 20th century. Linnemann (1966) was the first to apply the approach to international trade. The popularity of the gravity model may be caused by its simplicity and robustness. On the other hand, the advocates of gravity have