

Chapter 7

Conclusion and Policy Recommendations

Satoru Kumagai

Inter-disciplinary Studies, IDE-JETRO, Japan

Toshitaka Gokan

Inter-disciplinary Studies, IDE-JETRO, Japan

Ikumo Isono

Bangkok Research Center, IDE-JETRO, Thailand

Kazunobu Hayakawa

Inter-disciplinary Studies, IDE-JETRO, Japan

Souknilanh Keola

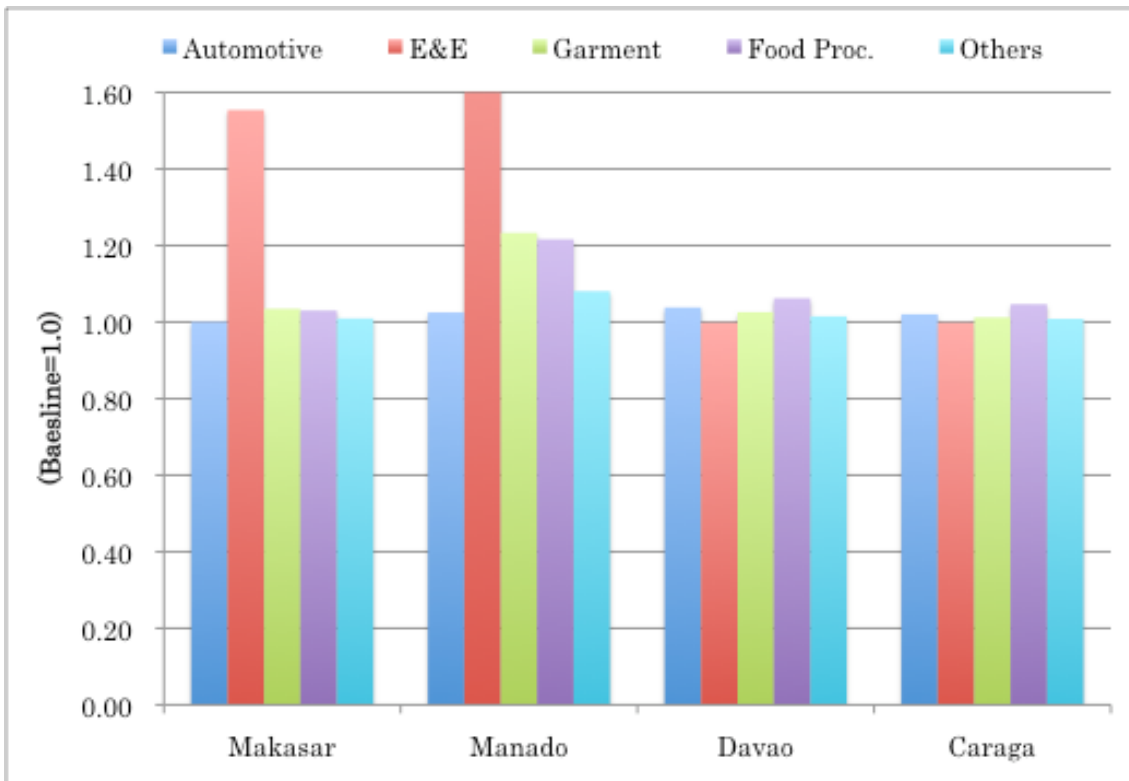
Development Studies Center, IDE-JETRO, Japan

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Figure 31: Economic Effects of Davao-Manado by Industry (10 years after)



The results of additional simulations based on other scenarios are introduced in Appendix E.

7. Conclusion and Policy Recommendations

The third-generation IDE/ERIA-GSM is a cutting-edge economic model that incorporates realistic geography and modal choice. Various analyses show that the economic impacts of logistic infrastructure developments are quite complicated and differ significantly by industry. Therefore, the development should be carefully planned and, for that purpose, an analytical model like IDE/ERIA-GSM has much to

contribute. We propose three general policy recommendations.

7.1. Minding the income gap in the developing phase of the economy

The third-generation IDE/ERIA-GSM confirms that infrastructure development will benefit most regions along corridors and near ports and airports. However, large-scale infrastructure development may widen the gaps, i.e., the richer regions may become richer and the poor regions may become poorer. In particular, intranational economic gaps may widen during the phase of economic development, given the restrictions on the mobility of the international labor force.

Thus we should be very cautious when considering regional infrastructure development. The economic improvement of all involved regions is not a given. In addition, infrastructure development might create winning industries and losing industries within a region. The economic effects of infrastructure development are quite complicated and not easily predictable without proper analytical tools. IDE/ERIA-GSM is such a tool and contributes to sound evaluation and prioritization of certain types of planned infrastructure development projects.

7.2. Need to consider modal shift by infrastructure development

The test simulations presented in this paper revealed that an infrastructure development project might lead to quite drastic modal shifts for certain origin-destination combinations. As a result, there is a possibility of under- or overunitization of specific loads/ports/airports.

We thus need to plan infrastructure development projects while considering all modes of transport. In addition to that, the regions affected by an infrastructure development project are often wider than one can imagine. Thus, it is a sensible policy option to establish an international body to coordinate regional transport infrastructure development projects. Again, an economic model with realistic geography and modal choices like IDE/ERIA-GSM has a role to play in predicting possible modal shifts triggered by transport infrastructure development projects.

7.3. Establishment of a geographical economic and social database in East Asia

IDE/ERIA-GSM is a complex system; it is hard to predict without accurate data and a solid simulation model. We need to develop IDE/ERIA-GSM further as well as facilitate the coordination of a geographical statistical system among the member countries of the Economic Research Institute for ASEAN and East Asia (ERIA).

To conduct more accurate simulations with richer implications, more precise regional economic and demographic data are required at the subnational level in each country and at the subprovincial level in China and India. The establishment of uniform territorial units for geographical statistics like the Nomenclature of Territorial Units for Statistics (NUTS) in the European Union (EU) is needed. We need harmonized data as well as harmonized data collection methods in East Asia. ERIA is a suitable body to conduct capacity building for officials in national corridors connecting regions.

We also need more precise data on routes and corridors connecting regions. Information on the main routes between cities, times, and modes of transport (road,

railway, sea, and air) appears indispensable. Data on border costs such as tariffs and nontariff barriers due to inefficient customs clearance seem crucial.

REFERENCES

- Anderson, E. James and Eric van Wincoop. 2003. Gravity with Gravitas: A Solution to the Border Puzzle, *American Economic Review*. Vol.93, No.1. pp. 170-192.
- Bosker, M., Brakman, S., Garretsen, H., and M. Schramm. 2007. Adding Geography to The New Economic Geography. *CESifo Working Paper* No. 2038.
- Davis, R. Donald; and David E. Weinstein. 2003. Market access, economic geography and comparative advantage: an empirical test. *Journal of International Economics*. Vol.59 Issue 1. pp 1-23.
- Fujita, Masahisa; Paul Krugman; and Anthony J. Venables. 1999. *The Spatial Economy: Cities, Regions, and International Trade*. Cambridge, MA: MIT Press.
- Fujita, Masahisa; and Tomoya Mori. 2005. Frontiers of New Economic Geography. *Papers in Regional Science*, Vol.84 No.3. pp. 377-405.
- Haig, Robert Murray. 1926. Toward an understanding of the metropolis. *The Quarterly Journal of Economics*, Vol. 40, No.2. pp. 179-208.
- Hanson, H. Gordon; and Chong Xiang. The Home-Market Effect and Bilateral Trade Pattern. *American Economic Review*. Vol.94, No.4, pp.1108-1129.
- Hummels, David. 1999. *Toward a Geography of Trade Costs*, GTAP Working Papers 1162, Purdue University.
- Hirschman, Albert O. 1958. *The Strategy of Economic Development*. Yale University Press, New Heaven.
- Krugman, Paul. 1991. Increasing returns and economic geography. *Journal of Political Economy* Vol.99. pp. 483-499.
- Kumagai, Satoru. 2010. The Challenges in Developing Realistic NEG Simulation Models for East Asia. S. Kumagai (ed.) *New Challenges in New Economic*

Geography. Research Paper. IDE-JETRO.

Kumagai, S., Gokan, T., Isono, I. and S. Keola. 2008. Geographical Simulation Model for ERIA: Predicting the Long-run Effects of Infrastructure Development Projects in East Asia. N. Kumar (ed.) *International Infrastructure Development in East Asia: Towards Balanced Regional Development and Integration*. ERIA Research Report 2007, No 3. :IDE-JETRO. pp. 360-394.

Marshall, Alfred. 1890. *Principles of Economics*. London, Macmillan, 8th edition published in 1920.

Midelfart-Knarvik K.H., Overman H.G., Redding S and A.J.Venables. 2002. Integration and industrial specialisation in the European Union. *Revue Économique*. Vol. 53, No.3, May 2002. pp. 469-481.

Midelfart-Knarvik K.H., Overman H.G., and A.J.Venables. 2001. Comparative advantage and economic geography: Estimating the determinants of industrial location in the EU. CEPR discussion paper.

Puga, Diego. 1999. The rise and fall of regional inequality. *European Economic Review* Vol. 43, pp.303-334.

Teixeira, Antonio Carlos. 2006. Transport policies in light of the new economic geography: The Portuguese experience, *Regional Science and Urban Economics*, Vol. 36, pp.450-466.

UNESCAP. “About the Asian Highway.”
<http://www.unescap.org/ttdw/?MenuName=AsianHighway>. [Online access].