

Advanced topics in gravity and geography

Thierry Mayer
September 2011

I GRAVITY

1 – Why is gravity so universal?

1.1. Gravity rules in the data

1.2. Gravity rules in the theory

- Mother gravity
- Anderson van Wincoop and Dixit-Stiglitz-Krugman as first two babies
- Estimation methods

Readings:

* Baldwin R. and D. Taglioni, 2006, “Gravity for Dummies and Dummies for Gravity Equations”, NBER Working Paper No. W12516.

* Combes, P-P., Mayer, T., Thisse, J-F. 2008. Economic Geography, Princeton University Press, Princeton, Chapter 5

Anderson, J.E. and E. van Wincoop, 2003, “Gravity With Gravititas: A Solution to the Border Puzzle,” *American Economic Review*, 93(1), 170–192.

Anderson, J.E. and D. Marcouiller, 2002, “Insecurity and the Pattern of Trade: An Empirical Investigation,” *The Review of Economics and Statistics* 84(2), 342-352.

Romalis, J., 2007, “NAFTA’s and CUSFTA’s Impact on International Trade” *Review of Economics and Statistics* 89(3), 416–435.

1.2 Does the method matter?

- The impact of Currency unions, FTAs and GATT in old-style gravity.
- Results re-evaluated with the new methods.
- The current trade collapse analysed with gravity

Readings:

Baier, Scott L., Bergstrand, Jeffrey H., 2007, « Do free trade agreements actually increase members' international trade? » *Journal of International Economics* 71 (1), 72–95.

Rose, Andrew, 2004, “Does the WTO Really Increase Trade?” *American Economic Review* 94(1) 98–114.

2 – Border effects

2.1 Why study the impact of borders on trade flows?

- Motivation
- The extent of border effects in the EU

Readings:

* Head, K. and J. Ries, 2001, “Increasing Returns Versus National Product Differentiation as an Explanation for the Pattern of US-Canada Trade”, *American Economic Review* 91(4): 858-876.

Mc Callum, J. (1995), “ National Borders Matter: Canada-US Regional Trade Patterns”, *American Economic Review* 85:615-623.

Chen, N. (2004), “Intra-national versus international trade in the European Union: why do national borders matter?”, *Journal of International Economics* 63(1),93–118.

Combes, P-P., Mayer, T., Thisse, J-F. 2008. *Economic Geography*, Princeton University Press, Princeton, Chapter 5

2.2 The two different explanations to the existence of border effects

- Technical estimation issues
- Economic determinants of border effects

Readings:

Head, K. and T. Mayer, 2009, “Illusory Border Effects: Distance Mismeasurement Inflates Estimates of Home Bias in Trade” in *The Gravity Model in International Trade: Advances and Applications*, eds: Bergeijk and Brakman, Cambridge University Press.

Combes, P-P., Lafourcade M. and T. Mayer, 2005, “The Trade Creating Effects of Business and Social Networks: Evidence from France.”, *Journal of International Economics*, 66(1): 1-29

3 – Trade with heterogeneity: gravity still rules.

3.1 Stylized facts on the importance of heterogeneity in the internationalization of European firms.

Readings:

* Bernard, A., B. Jensen, S. Redding and P. Schott, 2007, “Firms in International Trade” *Journal of Economic Perspectives*.

*Mayer T. and G.I.P. Ottaviano, 2007, “The happy few: new facts on the internationalization of European firms”, Bruegel-CEPR EFIM2007 Report, Bruegel Blueprint Series.

Eaton J., S. Kortum and F. Kramarz, 2004, “Dissecting Trade: Firms, Industries, and Export Destinations”, *American Economic Review, Papers and Proceedings*, 93: 150–154.

3.2 Heterogenous costs:

- New theoretical babies of mother gravity
- Empirical implementations

Readings:

* Chaney, T. 2008. “Distorted Gravity: the Intensive and Extensive Margins of International Trade”, *American Economic Review*, 98(4): 1707-1721.

Helpman, E., Melitz, M., Rubinstein, Y., 2008. Estimating trade flows: trading partners and trading volumes. *Quarterly Journal of Economics* 123(2), 441-487.

Crozet, M. and P. Koenig, 2008, "Structural gravity equation with extensive and intensive margins", CEPII Working Paper, 2008-30

3.3 Other sources of heterogeneity which also yield gravity

- Heterogenous Consumers : Anderson, de Palma Thisse (1992)
- Heterogenous Technology: Eaton and Kortum (2002)
- Heterogeneity in Quality: Baldwin and Harrigan (2011)

Readings:

* Eaton, J., Kortum, S., 2002. Technology, geography, and trade. *Econometrica* 70(5), 1741–1779.

Baldwin, R. and J. Harrigan. 2007. “Zeros, Quality and Space: Trade Theory and Trade Evidence”, NBER Working Paper No. 13214.

Head, K., Ries, J. 2008. FDI as an outcome of the market for corporate control: theory and evidence” *Journal of International Economics* 74(1), 2-20.

Head Mayer and Ries 2008. How remote is the offshoring threat ? *European Economic Review*

Hallak, J-C. 2006. “Product Quality and the Direction of Trade,” *Journal of International Economics* 68(1): 238–265.

II GEOGRAPHY

This part is based on our very recent book (CMT):

Combes, P-P., Mayer, T., Thisse, J-F. 2008. *Economic Geography*, Princeton University Press, Princeton.

4. The history of thought and facts in economic geography

Readings:

Chapters 1 and 2 of CMT

5. Interregional Trade and Market Size

5.1 The Dixit–Stiglitz–Krugman Model of Trade

5.2 The Home-Market Effect

Readings:

Chapter 5 of CMT

6 The Core–Periphery Structure

- 6.1 Increasing Returns and Industrialization
- 6.2 Regional Disparities: The Krugman Model
- 6.3 The Krugman Model Revisited

Readings:

Chapter 6 of CMT

7 Intermediate Goods, the Bell-Shaped Curve, and the Evolution of Regional Disparities

- 7.1 The Role of Intermediate Goods
- 7.2 The Spatial Distribution of the Manufacturing Sector
- 7.3 The Evolution of Regional Disparities
- 7.2 When Does the Bell-Shaped Curve Arise?

Readings:

Chapters 7 and 8 of CMT

8 The Empirics of Economic Geography

- 8.1 A General Framework
- 8.2 Location of Firms
- 8.3 Home-Market Effect
- 8.4 Factor Prices and Economic Geography
- 8.5 Migrations
- 8.6 The Stability of Spatial Patterns

Readings:

Chapters 10 to 13 of CMT

* Redding, S. and D. Sturm. 2008. "The Costs of Remoteness: Evidence from German Division and Reunification" *American Economic Review*, 98(5), 1766-1797.

* Head, K. and T. Mayer, 2011, "Gravity, Market Potential and Economic Development", forthcoming in the *Journal of Economic Geography*.