

**UTokyo TWID Special Lecture Series on the Gravity Model**  
**by**  
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**Course Title:** “Analyzing Trade and Trade Policy with the Structural Gravity Model”

**Short Description:** The goal of the course is to serve as a practical guide for trade policy analysis with the structural gravity model, i.e., the workhorse model in international trade. The course traces the evolution of the gravity model from its initial a-theoretical applications to the most recent structural developments, e.g., dynamic gravity, and it offers a comprehensive and balanced approach between theory and empirics. Rigorous theoretical exposition is combined with a series of applications and empirical exercises, including estimation of the partial and the GE effects of FTAs and MFN tariffs within the same theory-consistent framework.

**\*NOTE: Start times of the sessions will be set firmly. End times are a bit flexible.**

**Course Outline:**

**Lecture 1:** The Gravity Model of International Trade:  
Introduction and Theoretical Foundations.

**Date/Time:** October 7, 4:30pm-6:30pm.

**Lecture 2:** Estimating Structural Gravity: Challenges,  
Solutions, and Applications.

**Date/Time:** October 14, 4:00pm-7:00pm.

**Session 1:** Hands-on Session on Estimating Structural  
Gravity. Applications. (Stata required)

**Date/Time:** October 16, 4:30pm-6:30pm.

**Lecture 3:** General Equilibrium Analysis with the Gravity  
Model. Theory and Applications

**Date/Time:** October 21, 4:30pm-6:30pm.

**Session 2:** Hands-on Session on GE Analysis with the Structural  
Gravity model. Applications. (Stata required)

**Date/Time:** October 23, 4:30pm-6:30pm.

**Lecture 4:** Nested Gravity: A Dynamic Gravity Model of Trade and Growth.  
Trade and FDI with Dynamics.

**Date/Time:** October 28, 4:30pm-6:30pm.

## Course Readings

**Required Readings.** The course is developed around the following book and the accompanying two working papers, which are extended versions of the book's two main chapters. The book, along with data and Stata codes can be downloaded for free at <https://vi.unctad.org/tpa/web/vol2/vol2home.html>

[1] "An Advanced Guide to Trade Policy Analysis: The Structural Gravity Model" Yotov, Y. V., R. Piermartini, J. A. Monteiro, and M. Larch. Co-published by UNCTAD and WTO, 2016.

[2] "Estimating Trade Policy Effects with Structural Gravity", Piermartini, R. and Y. V. Yotov, 2016.

[3] "General Equilibrium Trade Policy Analysis with Structural Gravity", Larch, M. and Y. V. Yotov, 2016.

**Highly Recommended Readings.** The required readings cover a large number of important related studies and I refer the interested reader to the bibliography sections of the above papers. The following are some influential academic papers that are most closely related to the course material.

[1] "Gravity with Gravitas: A Solution to the Border Puzzle" Anderson, J. E., and E. van Wincoop. 2003. *American Economic Review*, 93(1): 170–192.

[2] "Technology, Geography, and Trade" Eaton, J. and S. Kortum, 2002. *Econometrica*, vol. 70(5), pages 1741-1779.

[3] "Estimates of the Trade and Welfare Effects of NAFTA" Caliendo L., and F. Parro *The Review of Economic Studies*, Volume 82, Issue 1, 1 January 2015, Pages 1–44.

[4] "The Changing Incidence of Geography" Anderson, J. E. and Y. V. Yotov, 2010. *American Economic Review*, vol. 100(5), pages 2157-86.

[5] "Distorted Gravity: The Intensive and Extensive Margins of International Trade" Thomas Chaney. *American Economic Review*, 98(4), pp. 1707-21.

[6] "The Log of Gravity" Santos Silva, J.M.C. and S. Tenreyro, 2006. *Review of Economics and Statistics*, 88(4): 641–658.

[7] "Estimating General Equilibrium Trade Policy Effects: GE PPML" Anderson, J. E., M. Larch, and Y. V. Yotov, 2015. CESifo Working Paper Series 5446.

**Highly Recommended Survey Readings.** The following are excellent surveys that complement the main reading materials for the course.

[1] "The Gravity Model" Anderson, J.E. 2011. *Annual Review of Economics*, 3:133-60.

[2] "Gravity for Dummies and Dummies for Gravity Equations" Baldwin, R. and D. Taglioni, 2006. NBER Working Papers 12516.

[3] "Trade Theory with Numbers: Quantifying the Consequences of Globalization" Costinot, A., and A. Rodríguez-Clare, 2014. in the *Handbook of International Economics* Vol. 4, eds. G. Gopinath, E. Helpman, and K. Rogoff.

[4] "Gravity Equations: Workhorse, Toolkit, and Cookbook" Head, K. and T. Mayer, 2014. in the *Handbook of International Economics* Vol. 4, eds. G. Gopinath, E. Helpman, and K. Rogoff.

[5] "Practical Guide to Trade Policy Analysis" World Trade Organization and United Nations Conference on Trade and Development, 2012.