

## Syllabus

[cmcd.economia@fgv.br]

**Course: Theory and Quantitative Methods in International Trade**

**Professor:**

**TA:**

**2026 SECOND SEMESTER**

### COURSE OUTLINE AND METHODOLOGY

The aim of the course is to study recent developments in the field of international trade. It takes a theoretical and empirical approach. We will discuss core trade theories and their empirical applications. Hence, students will deal with both theoretical and empirical tools, including state-of-the-art structural estimation techniques used in the field.

I will cover five broad topics: (i) the Melitz model and firm heterogeneity; (ii) the Eaton-Kortum model and quantitative trade models; (iii) estimation of gravity equations; (iv) gains from trade and the ACR formula; (v) trade and labor markets. The sixth topic is flexible and may change according to students' interests.

### PROGRAM

**I. Increasing Returns to Scale, Intra-Industry Trade and Heterogeneous Firms**

**II. Technological Differences**

**III. The Gravity Equation**

**IV. Gains from Trade**

**V. Trade and Labor Markets**

V.1.Theory

V.2 Empirics

V2. Structural Models

**VI. Other Topics**

VI.1. Open – see list of potential topics.

### BIBLIOGRAPHY

**I. Increasing Returns to Scale, Intra-Industry Trade and Heterogeneous Firms**

\* Krugman, P. "Increasing returns, monopolistic competition, and international trade," *Journal of International Economics* 9(4), 469–479, 1979.

\* Bernard, A., S. Redding and P. Schott. "Firms in International Trade," *Journal of Economic Perspectives*, 21(3), 105–130, 2007.

\* Melitz, M. "The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity," *Econometrica* 1695-1725, 2003.

Dixit, A. and J. Stiglitz. "Monopolistic Competition and Optimum Product Diversity," *AER* 67(3), 297-308, 1977.

Krugman, P. "Scale Economies, Product Differentiation, and the Pattern of Trade," *AER* 70: 950-959, 1980.

**Hv4 (ch. 1, 1-54):** M. Melitz & S. Redding, "Heterogeneous Firms and Trade."

Mayer, T. and G. Ottaviano. "The Happy Few: the Internationalisation of European Firms – New facts based on firm-level evidence." *Bruegel blueprint series*, vol. 3, 2007.

Melitz, M. and G. Ottaviano. "Market Size, Trade, and Productivity," *Review of Economic Studies*, 75(1), 295-316, 2008.

Helpman, E., M. Melitz and S. Yeaple. "Export versus FDI with Heterogeneous Firms," *AER* 94, 300-316, 2004.

Bernard, A., S. Redding and P. Schott. "Comparative Advantage and Heterogeneous Firms," *Review of Economic Studies* 74: 31-66, 2007.

Chaney, T. "Distorted Gravity: The Intensive and Extensive Margins of International Trade," *American Economic Review* 98(4), 1707–1721, 2008.

Arkolakis, C. "Market Penetration Costs and the New Consumers Margin in International Trade," *JPE* 118(6): 1151-1199, 2010.

Trefler, D. "The Long and Short of the Canada-U.S. Free Trade Agreement", *American Economic Review* 94, 870-895, 2004.

## II. Technological Differences

\* Eaton, J. and S. Kortum. "[Technology, geography, and trade](#)," *Econometrica* 70(5), 1741-1779, 2002.

\* Caliendo, L. and F. Parro. "Estimates of the Trade and Welfare Effects of NAFTA," *The Review of Economic Studies*, 82 (1): 1-44, 2015.

R. Dornbusch, S. Fischer and P. Samuelson. "[Comparative advantage, trade, and payments in a Ricardian model with a continuum of goods](#)," *AER* 67: 823-839, 1977.

Eaton, J., S. Kortum and F. Kramarz. "An Anatomy of International Trade: Evidence from French Firms," *Econometrica* 79: 1453-1498, 2011.

Costinot, A., D. Donaldson and I. Komunjer. "What Goods Do Countries Trade? A Quantitative Exploration of Ricardo's Ideas," *Review of Economic Studies* 79(2): 581-608, 2012.

### III. The Gravity Equation

\* **Hv4 (ch. 3, 131-195):** K. Head and T. Mayer, "Gravity Equations: Workhorse, Toolkit, and Cookbook."

### IV. Gains from Trade

\* **Hv4 (ch. 4, 197-264):** A. Costinot and A. Rodríguez-Clare, "Trade Theory with Numbers: Quantifying the Consequences of Globalization."

\* C. Arkolakis, A. Costinot and A. Rodríguez-Clare. "[New Trade Model, Same Old Gains?](#)" *AER* 94-130, 2012.

Donaldson, D. "Railroads of the Raj: Estimating the Impact of Transportation Infrastructure" *AER*, forthcoming.

Melitz, M. and S. Redding. "Firm Heterogeneity and Aggregate Welfare," NBER Working Paper No. 18919, 2013.

D. Bernhofen and J. Brown. "An Empirical Assessment of the Comparative Advantage Gains from Trade: Evidence from Japan," *AER* 95(1): 208-225, 2005.

### V. Trade and Labor Markets

#### V.1. Theory

Helpman, Elhanan and Oleg Itskhoki & Stephen Redding. "Inequality and Unemployment in a Global Economy," *Econometrica*, Econometric Society, vol. 78(4), pages 1239-1283, 07, 2010.

#### V.2 Empirics

\* Autor, David H. and David Dorn and Gordon H. Hanson. "The China Syndrome: Local Labor Market Effects of Import Competition in the United States," *American Economic Review*, American Economic Association, vol. 103(6), pages 2121-68, October, 2013.

\* Costa, Francisco and Jason Garred and Joao Paulo Pessoa. "Winners and Losers from a Commodities-for-Manufactures Trade Boom," *Journal of International Economics* (forthcoming), 2016.

Autor, David H. and David Dorn and Gordon H. Hanson and Jae Song. "Trade Adjustment: Worker-Level Evidence," *The Quarterly Journal of Economics*, Oxford University Press, vol. 129(4), pages 1799-1860, 2014.

### V.3. Structural Models

\*Artuç, Erhan, Shubham Chaudhuri and John McLaren. 2010. "Trade Shocks and Labor Adjustment: A Structural Empirical Approach." *American Economic Review*, 100(3): 1008-45.

\*Dix-Carneiro, Rafael, João Paulo Pessoa, Ricardo Reyes-Heroles and Sharon Traiberman. 2021. "Globalization, Trade Imbalances, and Labor Market Adjustment," mimeo.

## VI. Other Topics

### VI.1. Trade and Environment

\*Taylor, Scott. 2011. "Buffalo Hunt: International Trade and the Virtual Extinction of the North American Bison," *American Economic Review*, Vol. 101, No. 7, December 2011, 1-36.

\*Costinot, A., Donaldson, D., and Smith, C. 2016. "Evolving Comparative Advantage and the Impact of Climate Change in Agricultural Markets: Evidence from 1.7 Million Fields Around the World," *Journal of Political Economy*, 124(1):205{248.

### VI.2. Trade and Uncertainty

\*Handley, Kyle and Nuno Limão. "Policy Uncertainty, Trade and Welfare: Theory and Evidence for China and the U.S," NBER Working Papers 19376, 2013.

Pierce, Justin R. and Peter K. Schott. "The Surprisingly Swift Decline of U.S. Manufacturing Employment," NBER Working Papers 18655, 2012.

### VI.3. Trade and Innovation

\*Bloom, Nicholas and Mirko Draca and John Van Reenen. "Trade Induced Technical Change? The Impact of Chinese Imports on Innovation, IT and Productivity," *Review of Economic Studies*, Oxford University Press, vol. 83(1), pages 87-117, 2016.

Buera, F. and Ezra Oberfield. "The Global Diffusion of Ideas," NBER Working Paper Series 21844, 2016.

### VI.4. Trade and Finance

Xu, Chenzi. 2022. "Reshaping Global Trade: The Immediate and Long-Run Effects of Bank Failures", *The Quarterly Journal of Economics*.

## VI.5 Suggestions are welcome!

### **GRADING**

Problem Sets/Empirical Exercises: 70% of the final grade.

Presentation and class participation: 30% of the final grade.

[OBS: Art. 46º - Aos alunos dos Cursos de Mestrado Acadêmico e Doutorado é atribuída nota em cada disciplina, variável de 0 (zero) a 10 (dez).

I - A nota final dos alunos em cada disciplina, variável de 0 (zero) a 10 (dez), é a média ponderada das notas atribuídas:

I.I) a uma ou mais formas de avaliações intermediárias;

I.II) à avaliação final, que pode constar de prova escrita ou de trabalho final;

II - O peso atribuído à nota de cada uma das formas de avaliação da disciplina é determinado pelo professor da disciplina e deve constar explicitamente do respectivo programa, não sendo permitido atribuir peso superior a 60% (sessenta por cento) a nenhuma das formas de avaliação especificadas]

### **PROFESSOR - EMAILS**