Department of Economics, Northwestern University, Spring 2021
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Title: Econ 460-2 International Trade (with applications to Growth, Development and Structural Change)

Description: This is a Ph. D course in international trade. The ultimate goal is to study how “globalization,” i.e., interactions btw countries, regions, and cities (e.g., trade in goods, factor movements, technology transfers/diffusions), contribute their growth, inequality, and structural change. To this end, we review the basic models of growth and structural change and those of international trade, economic geography, and regional/urban economics, which have been developed separately. We will then look at several recent attempts to integrate these models to understand their interactions.

19 Zoom sessions at https://northwestern.zoom.us/j/93581778684 I ask you to keep the video ON as much as possible.

<table>
<thead>
<tr>
<th>Week 1</th>
<th>Tuesday, 1:30pm-2:50pm</th>
<th>Thursday, 1:30pm-2:50pm</th>
<th>Friday, 12:30pm-1:50pm</th>
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<td>Yes, April 1</td>
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<td>Week 2</td>
<td>Yes, April 6</td>
<td>No, April 8</td>
<td>Yes, April 9</td>
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<td>Yes, April 13</td>
<td>No, April 15</td>
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<td>Week 4-Week 9</td>
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<td>Week 10</td>
<td>Yes, June 1</td>
<td>Yes, June 3</td>
<td>No, June 4</td>
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The zoom link is set for ThFr 12:30pm-3pm, regardless of the actual schedule, so that you might receive the reminders. Just ignore the reminders and stick with the schedule listed above.

My 9 lectures (Apr 1-Apr 30), 3 guest lectures by Martí Mestieri (May 6-13), 7 student presentations (May 14-June 3).

Evaluation: Attendance (25%); Participation (25%); Presentation (50%). This should be viewed as a mere formality. As a Ph.D student, you should stop worrying about the grade. You should instead worry about finding topics to pursue for your research.

Presentation: Each of 7 registered students gives one presentation, during which a few related papers is discussed. Here’s how it works. From the reading list below (mostly from the second half) and possibly based on your suggestions, I create a list of about 10 “themes”, where each “theme” consists of some (two to five) related papers. You can find a preliminary list on p.7. The papers in each theme might be related in that they might be written by the same author(s) who apply the same theoretical apparatus to different issues. Or they might be related in that the same issue is addressed differently by different sets of authors. From this list of about 10 themes, you choose one theme, which you may further narrow down to a few papers for your presentation. For example, suppose you choose a theme consisting of four papers. Then, you may select three papers out of the four. Then, in your presentation, you spend 10 minutes explaining what the theme is, 50 minutes discussing one paper in detail, and then two papers briefly in 10 minutes each.

The list found on p.7 is still preliminary, but I hope to finalize it soon. In the meantime, you can look at the list and let me know if you are interested in presenting a particular theme (and the date of your presentation if you have any preferences). You could also propose a set of papers not listed below. After all, there are lots of papers that might be relevant and yet not listed there (possibly because I am unaware of them or have simply forgotten about them). I will accommodate your interest, as long as it is reasonable.

Reading List: Always preliminary and incomplete. This list contains different types of material: textbook treatments, surveys, classics, recently published articles, and working papers, as well as my lecture notes and presentation slides. Note that it is never easy to classify papers into different topics, because good papers often address many different issues. For this reason, I may sometimes jump back and forth across topics, even though I indicate the dates in which I might discuss some topics.

1. Structural Change: Introduction (Lecture 1: Thursday, April 1)
Lecture Note, “Structural Change: An Overview,” Last Revised on 2021.03.28

2. Demand Systems: CES and Beyond (Lecture 2: Tuesday, April 6)
Lecture Note, “Demand Systems: CES and Beyond,” dated on 2021.04.07
Hanoch, 1975
Matsuyama-Ushchev, “Beyond CES: Three Alternative Classes of Flexible Homothetic Demand Systems” CEPR DP12210
Matsuyama-Ushchev, “Three Classes of Multi-Factored CRS Production Functions” slides dated on 2020.04.14
3. Monopolistic Competition: CES and Beyond (Lecture 3: Friday, April 9)

Lecture Note on “Monopolistic Competition: CES and Beyond,” Last Revised on 2021.03.18
Matsuyama “Complementarities & cumulative processes in models of monopolistic competition,” JEL 1995
Thisse-Ushchev, “Monopolistic Competition Without Apology,” Hdbk of Game Theory & Industrial Organization
Feenstra, EL
Kimball, JMCB
Matsuyama-Ushchev, “When does procompetitive entry imply excessive entry?” CEPR-#14991, slides revised, 2021.03.25.
Kasahara-Sugita, “Nonparametric Identification of Production Function, Total Factor Productivity, and Markup from Revenue Data.”
Thisse-Ushchev, “When Can a Demand System be Described by a Multinomial Logit with Income Effect?”, 2016.
Anderson, De Palma, Thisse, Discrete Choice Theory of Product Differentiation

4. Expanding Variety and Horizontal Innovation Model of Growth (Lecture 4: Tuesday, April 13)

Lecture Note on “Horizontal Innovation Models,” Last Revised on 2020.12.15
Lecture Note on “Horizontal Innovation Models: Applications,” Last Revised on 2011-04-11
Gancia-Zilibotti, “Horizontal Innovation in the Theory of Growth and Development,” Hdk Econ Growth vol.1A
Romer, P. “Endogenous Technological Change”, JPE 1990
Acemoglu, Introduction to Modern Economic Growth, ch.12, ch.13, ch.15
Grossman-Helpman, Innovation and Growth, ch. 3.
Boucekine-Latzer-Parenti, “Variable Mark-up in the Long Run,” JMathE
Latzer-Matsuyama-Parenti, “Reconsidering the Market Size Effect on Innovation and Growth,” CEPR-DP14991

5. Vertical Innovation Models of Growth

Lecture Note on “Vertical Innovation Models,” Last Revised on 2011-04-14
Grossman-Helpman, Innovation and Growth, ch.4.

6. Competitive Trade: Ricardian Theory (Lecture 5: Friday, April 16)

Lecture Note on “Competitive Trade: Ricardian Trade Theory,” Last Revised on 2020.12.07
Lecture Note on “Growth in an Interdependent World,” Last Revised on 2011-04-22
Matsuyama, “Credit Market Imperfections and Patterns of International Trade and Capital Flows,” JEEA, 2005

7. Competitive Trade: Factor Proportions and Assignment Models (Lecture 6: Thursday, April 22)

Lecture Note on “Competitive Trade: Factor Proportion,” Last Revised on 2020.12.10
Ventura, “Growth and Interdependence,” QJE 1997
Adao, “Worker Heterogeneity, Wage Inequality, and International Trade”

8. “New” Trade Theory: Agglomeration, Home Market Effect and Economic Geography (Lecture 7: Friday, April 23)
I am not sure what I would cover on Lecture 8 (Thursday, April 29) and Lecture 9 (Friday, April 30). Perhaps, a (small) subset of papers from Topics 9 & 10 in one lecture, and a (small) subset of papers from Topics 11 & 12 in another. In that case, I will leave a large number of papers in these topics for your presentations.

9. Structural Change, Productivity Growth, Nonhomotheticity, and Income Distribution

Lecture Note, “Structural Change: An Overview”
Acemoglu, “Introduction to Modern Economic Growth”, Chapter 20
Buera-Kaboski “Can Traditional Theories of Structural Change Fit The Data?” JEEA 2009.
Alder, Mueller, Boppert “A Theory of Structural Change that Can Fit the Facts”, AEJ Macro forthcoming
Buera-Kaboski-Mestieri-O’Connor, The Stable Transformation Path, WP
Buera, Kaboski, Rogerson, Vizcaino “Skill-Biased Structural Change”, forthcoming REStud
Herrendorf-Rogerson-Valentinyi, “Two Perspectives of Preferences and Structural Transformation”, AER 2013
Garcia-Santana, Pijoan-Mas, Villacorta, “Investment Demand and Structural Change”, WP
Herrendorf-Rogerson-Valentinyi, “Structural Change in Investment and Consumption: A Unified Approach”, REStud 2021
Duenecker-Herrendorf-Valentinyi, “Structural Change within the Services Sector and the Future of Cost Disease.”

10. Structural Change, Nonhomotheticity, and Income Distribution in Open Economies

Lecture Note on “Structural Change and Trade under Nonhomotheticity,” Last Revised on 2020.12.17
Matsuyama, “Structural change in an interdependent world: A global view of manufacturing decline”, JEEA2009
Fieler, “Non-homotheticity and Bilateral Trade: Evidence and a Quantitative Explanation,” Econometrica
Caron-Fally-Markusen, “International trade puzzles: a solution linking production factors and demand” QJE2014
Lewis, Monarch, Sposi and Zhang, “Structural Change and Global Trade,”
Sposi, Yi, and Zhang, “Structural Change and Deindustrialization,”

Lecture Note on “A Global View of Premature Deindustrialization,” Last Revised on 2019-10-31

11. Heterogenous Firms

Helpman-Melitz-Yeaple, “Export vs. FDI with Heterogenous Firms,” AER 2004
Dhingra-Morrow, “Monopolistic competition and optimal product diversity under firm heterogeneity,” JPE 2019
12. Dynamics of Firm Size Distributions (I have difficulty classifying papers in Topic 12 and Topic 20.

Lecture Note on Models of Firm Growth and Size Distribution, Last Revised on 2021.01.07
Klette-Kortum, “Innovating Firms and Aggregate Innovation,” JPE 2004
Perla-Tonetti, Equilibrium Imitation and Growth, JPE 2014.
Benhabib-Perla-Tonetti, “Reconciling the models of innovation and diffusion,” Econometrica forthcoming.

Mestieri Lecture 1 (May 6): Directed Technological Change: Basic Concepts and Application to Wage Inequality
Acemoglu 2002 Directed Technical Change Restud
Acemoglu 1999 Change in Unemployment and Wage Inequality AER
Acemoglu and Autor 2011 Handbook Chapter Labor Economics
Barany and Siegel, Job Polarization and Structural Change AEJ Macro
Buera Kaboski Rogerson, Skill-Biased Structural Change, Restud

Mestieri Lecture 2 (May 7): Directed Technological Change in Multi-Sector Closed Economies
Acemoglu et al 2012 AER Directed Technical Change and the Environment
Bohr Yavuz Mestieri, WP Engel's Treadmill: The Never-Ending Pursuit of Cornucopia
Comin Lashkari Mestieri, WP Structural Change in Innovation

Mestieri Lecture 3 (May 13): Technology Diffusion
Comin Mestieri Handbook of Economic Growth Chapter
Keller JEL on Technology Diffusion
Comin Mestieri If Technology Has Arrived Everywhere... AEJMacro
Comin Hobijn An Exploration of Technology Diffusion AER
Buera Oberfield The Global Diffusion of Ideas, Econometrica
Eaton Kortum 99 International Technology Diffusion, IER
Fujiwara Matsuyama, WP A Technology Gap Model of Premature Deindustrialization.

What you see below is a highly disorganized reading list of topics and papers. From these papers, and from the papers in the papers in Topic 1-12, I plan to create (by the end of April, hopefully much earlier) about 10 sets of papers (themes) for your presentations.

13. Some Growth and Trade Applications of Non-CES Demand Systems

Bertoletti-Etro-Simonovska, “International Trade with Indirect Additivity,” AEJ Micro 2018
Dhingra, “Trading Away Wide Brands for Cheap Brands,” AER 2013
Costinot-Donaldson-Kyle-Williams, “The more we die, the more we sell: a simple test of the HME,” QJE2019
Foellmi-Zweimueller, "Income Distribution and Demand-Induced Innovations," RESstud 2006
Foellmi-Hepenstrick-Zweimueller, “International Arbitrage and the Extensive Margin of Trade...” RESstud 2018
Foellmi-Hanslin-Kohler, “A Dynamic North-South Model of Demand-Induced Product Cycles,” JIE 2018

14. Directed Technological Change, Trade and Wage Inequality

Acemoglu, “Patterns of Skill Premia,” RESstud, Apr 2003
Gancia-Zilibotti, “Technology and Wealth of Nations,” ARE
Acemoglu, Gancia, and Zilibotti, “Offshoring and Directed Technological Change,” WP
Sampson, “Assignment Reversals: Trade, Skill Allocation and Wage Inequality” JET 2016
Grossman-Helpman, “Growth, Trade, and Inequality,” Econometrica 2018

15. Poverty Traps, Path-Dependence, and Coordination Failures: Closed Economy
Murphy-Shleifer-Vishny, “Industrialization and the Big Push,” JPE 1989
Ciccone-Matsuyama, "Start-up costs and pecuniary externalities as barriers to economic development" JDE1996.
Matsuyama, “Endogenous Inequality,” RESud 2000

16. Poverty Traps, Path-Dependence, and Coordination Failures: Open Economy
Allen-Donaldson, “Persistence and Path-Dependence in the Spatial Economy,
Atkins, Costinot, and Fukui, “Globalization and the Ladder of Development”

17. Selection and (Spatial Sorting of Heterogeneous Firms and Workers
Davis-Dingel, “A Spatial Knowledge Economy,” AER 2019
Gaebert, “Firm Sorting and Agglomeration,” ARE 2018
Baldwin-Okubo, Journal of Economic Geography
Mrazova-Neary, “Selection Effects with Heterogeneous Firms,” JEEA 2019
Matsuyama-Ushchev, “Selection and Sorting of Heterogenous Firms Due to the Procompetitive Effect” work in progress; No Slides exist.

18. Consumer Heterogeneity and Nonhomothetic Preferences
Faber-Fally, RESud forthcoming
Burstein-Vogel

19. Quality Ladders, Vertical Differentiation and Trade
Flam-Helpman, “Vertical Product Differentiation and North-South Trade”, AER 1987
Jaimovich-Merella, “Quality ladders in a Ricardian model of trade with nonhomothetic preferences” JEEA 2012
Fajgelbaum, Grossman and Helpman, ”Income distribution, product quality, and international trade,” JPE 2011.

20. Diffusion of Technology; Diffusion of Knowledge
Comin-Mestieri, 2018, “If Technology has Arrived Everywhere why has Income Diverged?”, AEJ: Macro.
Berkes, Manyshheva, Mestieri “World Innovation: Evidence from 100 of Patenting” mimeo
Berkes, Gaetani, Mestieri “Cities and Technology Cycles” mimeo.
Jovanovic-Rafael, "The Diffusion and Growth of Knowledge," RESstud 1986
Lucas-Moll, Knowledge Growth and the Allocation of Time, JPE 2011
Adao-Beraja-PandalaiNayar, “Technological Transition, Skill Heterogeneity Across Generations???

21. Beyond Balanced Growth

Aghion, Bergeraud, Boppart, Klenow, Li, “A Theory of Falling Growth and Rising Rents”, WP

22. Financial Globalization and Economic Growth

Gourinchas-Jeanne “Capital flows to developing countries: The allocation puzzle,” RESstud, 2013

23. Innovation Cycles

Lecture Note on “Endogenous Innovation Cycles,” Last Revised on 2019-11-11
Iong and Irmen, “The Supply of Hours Worked and Endogenous Growth Cycles,”
Matsuyama and Ushchev, “Destabilizing Effects of Market Size in the Dynamics of Innovation,” CEPR DP15010, Presentation Slides,
dated on 2020-09-28
Econ 460 Presentation Assignment

Friday, May 14  Theme A  Thomas Pellet
Thursday, May 20  Theme D1  Giovanni Sciacovelli
Friday, May 21  Theme D2  Luxi Han
Thursday, May 27  Theme E1  Alexander Doser
Friday, May 28  Theme E2c  Ryu Matsuura
Tuesday, June 1  Theme E2b  Michael Cai
Thursday, June 3  Theme C  Miguel Moreira Santana Freire

Theme A: Alternative Nonhomothetic Demand Systems: Thomas Pellet
Foellmi-Zweimueller, "Income Distribution and Demand-Induced Innovations," REStud 2006
Foellmi-Hepenstrick-Zweimueller, “International Arbitrage and the Extensive Margin of Trade…” REStud 2018
Foellmi-Hanslin-Kohler, “A Dynamic North-South Model of Demand-Induced Product Cycles,” JIE 2018

Theme C: More on Structural Change Miguel Moreira Santana Freire
Alder, Mueller, Boppart “A Theory of Structural Change that Can Fit the Facts”, AEJ Macro forthcoming
Herrendorf-Rogerson-Valentinyi, “Two Perspectives of Preferences and Structural Transformation”, AER 2013
Garcia-Santana, Pijoan-Mas, Villacorta, “Investment Demand and Structural Change”, WP
Duermecker-Herrendorf-Valentinyi, “Structural Change within the Services Sector and the Future of Cost Disease.”

Theme D: Wage Inequality and Trade
D1 Giovanni Sciacovelli
Sampson, “Assignment Reversals: Trade, Skill Allocation and Wage Inequality” JET 2016

D2 Luxi Han
Grossman-Helpman, “Growth, Trade, and Inequality,” Econometrica 2018
Grossman-Helpman-Kircher, “Matching and sorting and distributional effects of international trade,” JPE 2017

Theme E: Spatial Sorting
E1 Alexander Doser
Albouy-Behrens-RobertNicoud-Seegert, The optimal distribution of population across cities, JUE 2018??

E2a; Michael Cai
Davis-Dingel, “A Spatial Knowledge Economy,” AER 2019

E2b: Ryu Matsuura
Gaiburt, “Firm Sorting and Agglomeration,” AER 2018