

RTG Teaching Summer: Topics on “Regional Disparities”

The idea of this class is to make students familiar with recent seminal papers in various fields that relate to the spatial economy and to regional disparities. The selection of topics and papers connects with the expertise of the RTG’s principal investigators to meet two goals: First, students should obtain a deeper knowledge of the topics covered by the PIs in the group to better understand research undertaken by all group members. Second, the wide coverage should help identify loose ends to be connected between PIs and between PIs and PhD students. Beyond these two specific goals, the class improves the analytical and presentation skills of the RTG students.

The course is structured in three main parts:

- A. Human Capital and Labour Markets (Thomas Bauer, Martin Karlsson, Marie Paul)
- B. Organization of the Firm in Space (Christiane Hellmanzik, Sanne Kruse-Becher, Jens Wrona)
- C. Spatial Public Finance (Nadine Riedel, Galina Zudenkova)

As this is a paper-based class, we expect all of you to read the respective papers. Some of them should be presented. If you have questions, please contact the PIs responsible for the respective parts. You find the timing of events in the exposition below. There is no final exam, but we expect paper presentations and active participation.

PART A: Human Capital and Labour Markets (Bauer, Karlsson, Paul)

Course Structure

The course consists of three lectures. Core topics on the course are the production of human capital, gender differences in the acquisition of human capital, worker mobility, and the returns to human capital on the labour market. Each session begins with a short introduction to the topic by the lecturer – and thereafter a group of three students give a presentation based on the readings of the session, and in connection, a general discussion takes place in which it is assumed that all participants have read all the papers.

Session I: Human capital investments and labour market outcomes (Karlsson)

Tuesday, 5 May, 9 – 12 (three parts of 45 minutes each; intro, student presentation, discussion)

This session evolves around human capital investments, and negative shocks, early in life – and their consequences for later-life outcomes. Particular attention is devoted to the question how an advantage or disadvantage early in life generates outcomes later in life – and also to the question how and why gender differences in these processes arise. Also the role of parents and the intergenerational transmission of socioeconomic outcomes will be covered.

Readings: The presentation should cover the key ideas and results as well as the links between all four papers

Molina, T (2020), Pollution, Ability, and Gender-Specific Investment Responses to Shocks. Forthcoming, JEEA.

Bhalotra, Karlsson, Nilsson, Schwarz (2020), Infant Health, Cognitive Performance and Earnings: Evidence from Inception of the Welfare State in Sweden (RR Restat)

Pitt, Rosenzweig & Hassan (2012), Human Capital Investment and the Gender Division of Labor in a Brawn-Based Economy. *American Economic Review*.

Nybohm & Stuhler (2016), Interpreting Trends in Intergenerational Mobility (RR JPE)

Session II: Understanding gender gaps (Paul)

Tuesday, 12 May, 9-11 (student presentation of Alesina et al. and discussion)

Labor market outcomes like hours worked, wages, and occupations differ considerably between men and women, but the size of these gaps varies across regions, ethnic groups, and skill levels. The literature uses such variation to learn about the origins and the transmission process of gender norms and gender gaps on the labor market. For example, Alesina et al. (2013) argue that societies that traditionally practiced plough agriculture have larger gender gaps and that these norms persist among US citizens with different countries of origin and have thus been transmitted through immigration and from one generation to the next. Later papers shed further light on, first, persisting gender gaps among descendants of immigrants and, second, on the transmission of gender norms within families in particular during early childhood or at the workplace (e.g. Bertrand (2019), Boelmann et al. (2020)).

Readings:

Alesina, Giuliano, and Nunn (2013), On the Origins of Gender Roles: Women and the Plough, *QJE*, 128 (2).

Session III: Location Choice of Migrants and Impact of Migration (Bauer)

Friday, 15 May, 14-16: Two times 45 minutes: overview/intro migration decisions by Thomas Bauer and student presentation of Lewis & Peri (2015)

Tuesday, 19 May, 10-12: Lecture by Thomas Bauer on impact of migration on residents

We will introduce the basic theoretical and empirical concepts of migration theory, the location choice of migrants and the impact of migration on (local) labor markets. We will refer in particular to the paper "Immigration and the Economy of Cities and Regions" by Ethan Lewis and Giovanni Peri in the *Handbook of Regional and Urban Economics*.

Readings.

Lewis & Peri (2015), Chapter 10 - Immigration and the Economy of Cities and Regions. *Handbook of Regional and Urban Economics*.

PART B: Organization of the Firm in Space (Hellmanzik, Kruse-Becher, Wrona)

Course Structure

The course consists of three lectures, which consecutively build upon each other, and on a final presentation session, in which students will team up in three groups to present and discuss three different papers (see below). The focus of the course will be on the spatial organization of the firm and on how firms can react to large shocks with long-lasting consequences by optimally adopting their organizational structure in space. Students will learn how a fast-expanding literature in international economics has addressed similar

questions related to multinational firms, global value chains, and the organization of the firm, and it will be their task to transfer concepts and ideas from an international context to a regional setting.

Session I: Theory and Organization of the Firm

Tuesday, 26 May and Thursday, 28 May: 9-11 (two lectures by Jens Wrona)

The first session will establish a basic theoretical framework for studying optimal firm behavior and for the analysis of optimal firm organization in the presence of contractual imperfections. Students will be made familiar with the monopolistic competition framework, which can be understood as a simplification of standard oligopolistic competition, and which can be easily incorporated into standard general equilibrium models. Building up on this basic framework, we will discuss the firm's decision to engage in international trade, to conduct vertical and/or horizontal FDI, and to make or buy (domestic or foreign) intermediate inputs. With these theoretical tools (from the international economics literature) at hand students will be well-equipped to study more generally the optimal organization of the firm in space.

Readings:

- Melitz, Marc J. & Redding, Stephen J., (2014): "Chapter 1: Heterogeneous Firms and Trade," in: Gopinath, G. & Helpman, E. & Rogoff, K. (eds.), *Handbook of International Economics*, vol. 4, pp. 1-54.
- "Chapter 2: Workhorse Models" in Antràs, Pol (2015): *Global Production: Firms, Contracts, and Trade Structure*," pp. 28-56.

Session II: Production in Uncertain Times and the Organization of Supply Chains

Tuesday, 9 June, 9-11 (lecture by Sanne Kruse-Becher)

The second session combines the economics perspective with insights from business administration. We will study how firms deal with uncertainty due to volatile demand or disruptions in the supply of intermediate inputs and explain how volatility amplifies through the supply chain. We will discuss how geographical diversification, holding own inventories, switching transport modes or maintaining various supply relations play prominent roles to ensure economic resilience of firms.

Readings:

- Alessandria, G., Kaboski, Joseph P. & Virgiliu Midrigan (2010) "Inventories, Lumpy Trade, and Large Devaluations," *American Economic Review*, vol 100(5), pp. 2304-39.
- Hummels, D. & Schaur, G. (2010): "Hedging Price Volatility Using Fast Transport," *Journal of International Economics*, Vol. 82, pp. 15-25.
- Jain, Nitish, Karan Girotra & Serguei Netessine (2014). Managing Global Sourcing: Inventory Performance, *Management Science*, vol. 60(5), pp. 1202-22.
- Novy, Dennis & Taylor, Alan M. (forthcoming): "Trade and Uncertainty," *Review of Economics and Statistics*.

Session III: Services trade, the role of knowledge and information in international trade Tuesday, 16 June, 9-11 (lecture by Christiane Hellmanzik)

In the third session we are going to analyse two aspects which have gained increasing importance in the literature in international trade:

1. Services trade has experienced considerable growth rates despite the inherent proximity burden in the service sector. In Session III we are studying services trade, its interlinkages with traditional goods trade, sectoral complementarities as well as implications for policy-makers. As such our analysis of services as tradables complements the theoretical work laid down in Session I.

2. The share of multinationals in trade has increased considerably in the last years and their cross-border activities largely impact trade statistics. As their size often is substantial and their supply-chains often global their organizational decisions bear impact on many markets across the globe as analysed in Session II. In Session III we focus on the special role of knowledge and information flows.

In the student assignment we will reign in these topics by analyzing the regional impact of trade policy as well as deliberating some of the consequences of the most recent crisis for international trade.

Readings:

Ariu, A., Breinlich, H., Corcos, G., & Mion, G. (2018). The interconnections between services and goods trade at the firm-level. *Journal of International Economics*. doi:10.1016/j.jinteco.2018.10.005

Bahar, D. (2020). The hardships of long distance relationships: time zone proximity and the location of MNC's knowledge-intensive activities. *Journal of International Economics*, 103311. doi:10.1016/j.jinteco.2020.103311

Beverelli, C., Fiorini, M., & Hoekman, B. (2017). Services trade policy and manufacturing productivity: The role of institutions. *Journal of International Economics*, 104, 166–182. doi:10.1016/j.jinteco.2016.11.001

Session IV: Student presentations

Thursday, 2 July, 9-11 (student presentations, one by each group)

These three papers should be presented (30 minutes each)

1. Boehm, Christoph E & Flaaen, Aaron & Pandalai-Nayar, Nitya (2019): "Input Linkages and the Transmission of Shocks: Firm-Level Evidence from the 2011 Tōhoku Earthquake," *The Review of Economics and Statistics*, vol. 101(1), pp. 60-75.
2. Kramarz, Francis, Martin, Julien & Isabelle Mejean (2020): „Volatility in the small and in the large: The lack of diversification in international trade,” *Journal of International Economics*, vol. 122, pp. 1-19.
3. Dix-Carneiro, R., & Kovak, B. K. (2017). Trade Liberalization and Regional Dynamics. *American Economic Review*, 107(10), 2908–2946. doi:10.1257/aer.20161214

PART C: Spatial Public Finance (Riedel, Zudenkova)

Course Structure

This part of the course covers recent papers at the intersection of “Quantitative Spatial Economics” and public economics, which aim to derive the quantitative (and not just the qualitative) effect of various policy changes. The focus is on the impact of government incentives (taxation, subsidies and transfers) on the spatial (mis)allocation of firms and workers. The course consists of 5 parts (allocated to 3 sessions). In the first session, we give an introduction to the literature and briefly present/revisit a canonical model that has been widely used in the literature. We will then have student presentations of articles at the research frontier followed by a general discussion. We expect all students to read the literature before the sessions take place.

Session I: Introduction

Tuesday, 23 June, 10-11

General introduction and overview of the recent literature.

Canonical model:

Stephen J. Redding and Esteban Rossi-Hansberg (2017). Quantitative Spatial Economics. *Annual Review of Economics*, 9:1, 21-58.

Stephen Redding (2016). Goods Trade, Factor Mobility and Welfare. *Journal of International Economics*, 101, 148-167.

Session II: Student presentations

Tuesday, 30 June, 8-12: Three presentations, one by each group

1. Impact of income taxation on spatial misallocation

Households in highly productive regions receive higher nominal wages and thus have to pay higher income taxes. Income taxes can therefore distort workers' location decision. This session investigates the effects of existing income tax schemes on the spatial allocation of workers and on welfare. We then quantify potential welfare gains from alternative tax schemes. For example, we ask whether income tax schemes should have cost-of-living adjustments, so that households living in cities with high housing prices receive a tax break.

Papers:

Albouy, D. (2009). The unequal geographic burden of federal taxation. *Journal of Political Economy* 117 (4), 635–667.

Eeckhout, J. and N. Guner (2015). Optimal spatial taxation: Are big cities too small?

Colas, M., K. Hutchinson, et al. (2017). Heterogeneous workers and federal income taxes in a spatial equilibrium.

2. Impacts of corporate taxes on spatial misallocation

It is a well-established empirical result that corporate tax rates affect firms' location decision. In this session, we discuss recent work that aims to quantify the efficiency and distributional consequences of existing corporate tax schemes. We also analyze the consequences of various corporate tax policy reforms, for example, the harmonization of corporate tax rates across jurisdictions.

Papers:

Fajgelbaum, Pablo, et al. (2019). State Taxes and Spatial Misallocation. *Review of Economic Studies* 86 (1), 333–376.

Serrato, Juan Carlos Suárez, and Owen Zidar (2016). Who Benefits from State Corporate Tax Cuts? A Local Labor Market Approach with Heterogeneous Firms. *American Economic Review* 106 (9), 2582-2624.

3. Efficient Spatial Allocations

We discuss recent work that derives the optimal allocation of workers and firms in spatial models with production and consumption externalities. We then characterize (transfer) policies that implement the efficient allocation.

Papers:

Rossi-Hansberg, Esteban, Pierre-Daniel Sarte, and Felipe Schwartzman (2019). Cognitive hubs and spatial redistribution. No. w26267. National Bureau of Economic Research.

Blouri, Yashar and Maximilian von Ehrlich (2020). On the optimal design of place-based policies: A structural evaluation of EU regional transfers, *Journal of International Economics*, forthcoming.

Session III: Strategic Interaction in Quantitative Spatial Models

Tuesday, 7 July, 8-12: Lecture by Nadine Riedel and Galina Zudenkova

We discuss recent work that introduces **strategic** policy choices in quantitative spatial models. In the context of subsidy competition in the US, we ask whether existing subsidy levels can be better explained by cooperative or non-cooperative policy choices, and quantify the welfare gains from a fully cooperative equilibrium. Work in this area helps to understand which policy choices should be centralized and which should be relegated to decentralized levels of government.

Papers:

R. Ossa (2018). A Quantitative Analysis of Subsidy Competition in the US.