Workshop "International Trade and Regional Economics"

December 11th – 12th, 2015

HSE Center for Market Studies and Spatial Economics

16 Soyuza Pechatnikov Street, room 218, Saint Petersburg, Russia

Preliminary program

Friday, December 11th

10:30 – 11:15. **Gabriel Felbermayr** (LMU Munich). Market Size and TFP in New New Trade Theory (with Benjamin Jung).

11:15 – 12:00. **Philip Ushchev** (HSE). Price competition in product variety networks (with Yves Zenou).

12:00 – 12:30. Coffee break.

12:30 – 13:15. **Wolfgang Dauth** (Universität Würzburg). Adjusting to Globalization: Evidence from Heterogeneous Worker-Establishment Matches in Germany (with Jens Suedekum and Sebastian Findeisen).

13:15 – 14:00. **Kristian Behrens** (UQAM and HSE). The Determinants of Co-agglomeration: Evidence from Functional Employment Patterns (with Rachel Guillain).

14:00 – 15:30. Lunch.

15:30 – 16:15. **Sergey Kokovin** (HSE and NSU). Hotelling Meets Chamberlin: Spatial Monopolistic Competition (with Maxim Goryunov and Takatoshi Tabuchi).

16:15 – 17:00. **Alexander Tarasov** (HSE). Trade and the Spatial Distribution of Transport Infrastructure (with Gabriel Felbermayr).

Saturday, December 12th

10:30 – 11:15. **Sebastian Krautheim** (University of Passau). Offshoring with Endogenous NGO Activism (with Thierry Verdier).

11:15 – 12:00. **Sergey Kichko** (HSE). Intersectoral Markup Divergence and Welfare (with Kristian Behrens and Philip Ushchev).

12:00 – 12:30. Coffee break.

12:30 – 13:15. **Michael Irlacher** (LMU Munich). Capital Market Imperfections and Trade Liberalization in General Equilibrium (with Florian Unger).

13:15 – 14:00. **Natalya Volchkova** (NES). Credit Constraints of Exporters: Evidence from Russia (with Olga Kuzmina).

14:00 – 15:30. Lunch.

15:30 – 16:15. **Petros Millionis** (University of Groningen). The Short- and Long-Run Effectiveness of EU Structural Funds (with Sjoerd Beugelsdijk and Mariko Klasing).

16:15 – 17:00. **Volodymir Vakhitov** (KSE and HSE). Effect of NTM on Productivity of Firms in Food Processing (with Oleksandr Shepotylo).

Abstracts.

Friday, December 11th

Gabriel Felbermayr (LMU Munich). Market Size and TFP in New New Trade Theory (with Benjamin Jung).

Recent trade theory in the Krugman (1980) tradition predicts that countries with larger market size enjoy higher levels of total factor productivity (TFP) as a smaller fraction of spending on inputs is affected by trade costs. However, in cross-country data, there is no such positive correlation between market size and TFP. We argue that models with heterogeneous firms and selection help to reconcile theory and data. While they do feature a home market effect – larger firms have an overproportionate share of firms – and, therefore, have more input varieties available, the average productivity of those firms is lower as market size protects inefficient firms. To reconcile theory with data, we show that a lower degree of external economies of scale is needed than what is implicitly assumed in the usual formulation of aggregate CES production functions.

Philip Ushchev (HSE). Price competition in product variety networks (with Yves Zenou).

We develop a product-differentiated model where the product space is a network defined as a set of varieties (nodes) linked by their degree of substituabilities (edges). In this network, we also locate consumers so that the location of each consumer (node) corresponds to her "ideal" variety. We show that there exists a unique Nash equilibrium in the price game among firms. Equilibrium prices are determined by firms' weighted Bonacich centralities and the average willingness to pay across consumers. They both hinge on the network structure of the firm-product space. We also investigate how local product differentiation and the spatial discount factor affect the equilibrium prices. We show that these effects non-trivially depend on the network structure. In particular, we find that, in a star-shaped network, the firm located in the star node does not always enjoy higher monopoly power than the peripheral firms.

Wolfgang Dauth (Universität Würzburg). Adjusting to Globalization: Evidence from (with Jens Suedekum and Sebastian Findeisen).

Heterogeneous Worker-Establishment Matches in Germany dress the causal effect of rising international trade exposure on individual earnings and job stability in heterogeneous worker-establishment matches across various industries in Germany. We exploit rich panel data on individual employment biographies to analyze how workers adjust to the increasing trade integration with China and Eastern European countries. Applying a high dimensional fixed effects IV approach, we can disentangle the benefits of mobility between plants, industries and regions after a trade shock. Our main finding is that import competition from "the East" substantially reduced earnings of manufacturing workers. About half of this effect can be mitigated if workers move to jobs in different industries. Moving to other firms in the same industry or to different regions smaller effect than industrial mobility.

Kristian Behrens (UQAM and HSE). The Determinants of Co-agglomeration: Evidence from Functional Employment Patterns (with Rachel Guillain).

We analyze industrial location patterns using micro-geographic co-agglomeration measures and functional employment splits. Combining geocoded plant- level data and geographically more aggregated special census tabulations on functional specialization, we show that abstracting from the functional aspects of co-agglomeration masks substantial heterogeneity. While 30% of industry pairs exhibit co-agglomeration of 'retail and service' functions, about 60% exhibit co- agglomeration of 'production' or 'clerical' functions. Our results highlight that functional variation allows for a cleaner identification of the determinants of co- agglomeration. For example, both 'management and research' and 'clerical' functions are co-agglomerated at short distances for industry pairs that share knowledge, yet are neither for 'production' nor for 'retail and service' functions. Thus, the role of knowledge for agglomeration cannot be identified by looking only at co-agglomeration patters for total employment.

Sergey Kokovin (HSE and NSU). Hotelling Meets Chamberlin: Spatial Monopolistic Competition (with Maxim Goryunov and Takatoshi Tabuchi).

Usual monopolistic competition model is enriched with spatial dimension: a space of product characteristics containing consumers' "ideal varieties" a la' Hotelling. It means consumer heterogeneity, i.e., localized monopolistic competition, though zones of service among continuously distributed producers do intersect. When the equilibrium density of firms is uniform, we find that the density reacts positively to growing market size (population), alike non-localized monopolistic competition. However, positive/negative price reaction is determined now by increasing/decreasing elasticity of utility (instead of demand elasticity in non-localized competition). New notion is each firm's range of service, which decreases both in population and cost (disutility) of distance, when not covering the complete space. Another kind of equilibrium is agglomarated one. We find a necessary/sufficient condition for clustered equilibria under complete service-range: demand convexity must be smaller than unit. This agglomaration effect means standardization (in product characteristics) or shopping-molls (in city space). Thus, unlike Krugman's model, agglomeration may arise even when competition itself is the only agglomeration force, thus confirming the famous Hotelling hypothesis.

Alexander Tarasov (HSE). Trade and the Spatial Distribution of Transport Infrastructure (with Gabriel Felbermayr).

The distribution of transport infrastructure across space is the outcome of deliberate government planning that reflects a desire to unlock the welfare gains from regional economic integration. Yet, despite being one of the oldest government activities, the economic forces shaping the endogenous emergence of infrastructure have not been rigorously studied. This paper provides a stylized analytical framework of open economies in which planners decide non-cooperatively on transport infrastructure investments across continuous space. Allowing for intra- and international trade, the resulting equilibrium investment schedule features underinvestment that turns out particularly severe in border regions and that is amplified by the presence of discrete border costs. In European data, the mechanism explains about a quarter of the border effect identified in a conventionally specified gravity regression. The framework sheds light on the welfare costs of second best investment schedules, on the effects of intercontinental trade or of privatized infrastructure provision.

Saturday, December 12th

Sebastian Krautheim (University of Passau). Offshoring with Endogenous NGO Activism (with Thierry Verdier).

The process of globalization is characterized by an impressive growth of global value chains, as well as the proliferation of non-governmental organizations (NGOs) interacting with multinational firms. This paper presents a model of offshoring and NGO-firm interactions in which offshoring to a low-regulation country allows a monopolist to implement a "dirty" technology undesired by consumers. Consumers can reduce the incentive for dirty production by financing an NGO monitoring the firm. NGO emergence and offshoring can arise as joint and interacting outcomes. For a range of trade costs, NGO emergence allows firms to capture gains from globalization, which would otherwise be unattainable. Somewhat paradoxically, NGO emergence can be at the expense of consumers possibly leading to welfare losses through offshoring.

Sergey Kichko (HSE). Intersectoral Markup divergence and welfare (with Kristian Behrens and Philip Ushchev)

We develop a general equilibrium model of monopolistic competition with a traded and a non-traded sector. Using preferences that generate variable markups and precompetitive effects, we show how trade liberalization reduces markups in the traded sector and increases markups in the non-traded sector. Hence, while markups in the traded sector converge across countries due to trade liberalization, they diverge across sectors within countries. The welfare effects of trade liberalization are therefore ambiguous: the direct positive effects in the traded sector may be dominated by the indirect negative effects in the non-traded sector, especially when trade costs are large and the non-traded sector is small.

Michael Irlacher (LMU Munich). Capital Market Imperfections and Trade Liberalization in General Equilibrium (with Florian Unger).

This paper develops a new international trade model with capital market imperfections and endogenous borrowing costs in general equilibrium. A key element of our model is that firm heterogeneity arises from the interaction of credit constraints at the firm-level with financial frictions at the country-level. Our theory is consistent with new empirical patterns from World Bank firm-level data. We highlight that credit frictions are positively related to the degree of product market competition, and to the variance of sales across firms. Further, we show that endogenous adjustments of capital costs represent a new channel that reduces common gains from globalization. Trade liberalization increases the borrowing rate, leads to a reallocation of market shares towards unconstrained producers and a larger fraction of credit-rationed firms. This increases the within-industry variance of sales and reduces welfare gains as consumers dislike price heterogeneity.

Natalya Volchkova (NES). Credit Constraints of Exporters: Evidence from Russia (with Olga Kuzmina).

This paper examines the differences in credit parameters faced by domestic and exporting firms. Literature so far provides controversial results on credit constraints of exporters relative to nonexporters. On one hand, Feenstra et al. (2014) argue that higher risks faced by exporters compared to non-exporting firms may lead to higher costs of external financing for the former. They provide a theoretical model and test it empirically on a sample of Chinese firms. On the other hand, empirical studies of Belgian firms by Muuls (2012), of Italian firms by Minetti and Zhu (2010), of Japanese firms by Amiti and Weinstein (2012) and others indicate a positive association between lower costs of financing and export status of firms. To provide more evidence on the issue we collect a unique dataset in a large-scale survey of exporting and non-exporting Russian firms to test the differences in credit parameters between two groups of firms. Unlike previous literature, we analyses the differences between two groups controlling for a number of observable characteristics of individual credit lines. Our results are consistent with lower interest rates for credits obtained by exporting firms compare to non-exporting. We also show that higher currency diversification in firm's revenues is associated with lower interests rates while higher share of foreign currencies in firm's costs is associated with higher interest rates.

Petros Millionis (University of Groningen). The Short- and Long-Run Effectiveness of EU Structural Funds (with Sjoerd Beugelsdijk and Mariko Klasing).

We investigate how EU structural funds influence economic development at the regional level. Our analysis differs from previous work on the topic in that (i) we assess both the short-run and long-run impact of funds paid to EU regions, (ii) we distinguish between the effectiveness of funds in raising regional levels of per capita output, per worker output and total factor productivity, and (iii) we separate between funds committed to regions and funds actually paid out. The results of our analysis suggest that structural fund payments increase the levels of output per capita and output per worker in the recipient regions, but this boost is only temporary

and does not lead to more long-term increases in output and productivity. These results are robust to accounting for the endogeneity of structural fund payments.

Volodymyr Vakhitov (KSE and HSE). Effect of NTM on Productivity of Firms in Food Processing (with Oleksandr Shepotylo)

Over the last two decades import tariffs have declined significantly. Governments around the world increasingly use non-tariff measures as a substitute for the tariff protection. Little is known about their importance for and effect on international trade. Literature reports a positive effect of reduction in tariffs and services liberalization on productivity of the economy through the firm productivity increase (Pavcnik, 2002; Javorcik, 2004; Amiti and Konings, 2007) and through elimination of low-productive firms and reallocation of resources towards high-productive firms (Melitz, 2003). To the best of our knowledge, no study investigates the effect of the NTMs on an individual firm. To feel this void in the literature, we study the effect of NTMs on firm-level productivity and industry dynamics, focusing on food-processing sector. Since the scope on NTMs is vast and hardly explored, at this stage we focus on the average effect of NTM on productivity of a firm. We investigate the effect on productivity through competition within the same industry (defined at NACE 3 digit level), as well as thorough backward linkages due to competition in industries that provide inputs into production process. We use firm-level data for Ukrainian firms in 2001-2006. As NTM variable, we calculated our own firm-level index, based on measures estimated by (Movchan and Shportyuk, 2010). Our initial results indicate that effects of NTM on productivity of firms is miniscule compared with the effect of traditional protectionist measures such as tariffs for inputs. This result holds for majority of specifications and quite robust to the choice of the NTM measure, using current or lagged values of NTM, or the choice of productivity measure.