Potential Bachelor and Master Thesis Topics at the Chair of Economics VI: Empirical Economics

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1 Organizational details

1.1 General remarks

Given the focus of the chair, all theses written under its supervision have to deal with empirical analyses of some sort. This implies that potential theses have to include either different forms of regression analyses (cross-section, time-series, panel), structural econometrics (i.e. estimating theoretical economic models using data), or theoretical models calibrated to empirical data (CGE, DSGE). In addition, theses can be methodical, i.e. they can deal with issues in theoretical econometrics such as asymptotics or Monte Carlo studies of finite sample properties of estimators or test statistics and related issues. For WiWiZ-Abschlussarbeiten, a purely descriptive analysis of relevant data is sufficient at a level equivalent to knowledge of basic statistics as taught for example in "Statistik I" at the University of Bayreuth. For all other theses, a purely descriptive analysis is not sufficient.

In this document, we present several topics which may be a starting point for a thesis. This list is definitely not exhaustive. Rather it shows the range of possible topics of theses at our chair. See also our list of past theses at http://www.ewf.uni-bayreuth.de/pool/dokumente/Lehre_teaching/Ausgewaehlte-Abschlussarbeiten-17_08_2017.pdf. Typically, a thesis at our chair starts from one specific paper and tries to reproduce it. For a Bachelor's thesis this may be even enough (specifically, if the data are not readily available). For a Master thesis, we typically expect some extension of a published paper (like, for example, running another estimator or adding a new variable). This depends on the specific topic and will be discussed individually with each student. Note that while Bachelor's and Master's theses should contain a section relating the thesis to the literature, we do generally not accept pure literature surveys as Bachelor's and Master's theses at our chair. For more details concerning the formal requirements for term papers and Bachelor's/Master's theses at the Chair of Economics VI: Empirical Economics see https://www.ewf.uni-bayreuth.de//pool/dokumente/2021-01-18_stylesheet_english20210113.pdf.

You are also invited to approach the chair with your own proposals for a thesis topic. In general, all topics are accepted when they have a clear empirical focus, a well defined research question, and, most crucially, name the data needed to analyze the research question. The best way to start is to look for a published paper dealing with the research question you are interested in, or at least is close to your question. Please note that if you want to propose a topic which needs data which are not available at the chair, it is your own responsibility to gather the data. Therefore, as a general rule, we will not accept a thesis proposal when the data needed are not yet in your possession at the date of application.

1.2 Theses in cooperation with companies

1.2.1 General remarks

The chair also welcomes students who want to write their thesis in close cooperation with private sector companies or (non-)governmental organizations during e.g. an extended internship. The above rules apply to these theses, i.e. they have to have a clear empirical focus and research question. Students should name a responsible supervisor from the company with which the student will cooperate. The topic of the thesis should be coordinated with the supervisor at the company and the chair. If the student uses confidential data for the thesis which cannot be handed over to the chair, the student has to explicitly state this *before* starting the thesis. The results of the thesis have to be replicable, so at the minimum the programs have to be disclosed. In addition, the thesis may not contain sections which include classified results which may not be made available to the general public.

Theses which generate results only to be used inside the company for business secret reasons cannot be accepted at the chair.

1.2.2 Cooperation with Siemens AG

SIEMENS Since 2011, the chair has an ongoing cooperation with the business cycle department of Siemens AG to write Bachelor's and Master's theses. Potential topics are the influence of exchange rates on exports in the engine construction and car manufacturing sector, an analysis of India's industrial structure, international comparisons of interdependencies between industry sectors using input-output measures, and many others. Further details can be found in a dedicated pdf document on the chair's website at http://www.ewf.uni-bayreuth.de//pool/dokumente/Lehre_teaching/Aushang-Themen-Juni-2017_v2.pdf.

1.3 Prerequisites

In general, we allow all students to write a thesis at our chair, given that they comply with the following requirements:

- You have completed at least EWF I (Bachelor) at our chair or an equivalent course at a different institution **with sufficient success**.[1] Of course, it is advisable to have completed other courses at our chair, preferably a seminar, but this is no prerequisite.
- You send us a mail with a simple **copy of your transcript** ("Kontoauszug").
- You tell us about your econometric software skills.

Note: Without these prerequisites, the chair will not arrange an appointment to discuss details on your thesis.

[1] This does not apply to WiWiZ-Abschlussarbeiten.

1.4 Application

There is no specific application date for writing a thesis at our chair. Simply approach one of the members of the chair in order to arrange an appointment to discuss the details of your thesis, preferably per email.

1.5 Proposal

You have to hand in a proposal (two to three pages are sufficient) which should contain the following elements:

- title and outline of your thesis
- research question
- estimation equation
- information on the data used

1.6 Time span

The chair is convinced that a thesis is not simply a measure of student output but of student productivity, i.e. output per unit of time. Therefore, the chair is committed to stick to the official number of weeks allotted to complete a thesis. This is in the interest of our students: We know that you can work nearly indefinitely on a thesis; however, part of writing a thesis is writing up what has been done up to a specific date, namely the date when you are supposed to hand in your thesis.

1.7 Presentation of your thesis

About two weeks (for Bachelor's theses) or four to six weeks (for Master's theses) before handing in your thesis, you have to present your main results at the chair. The presentation should be 20 minutes long, and a beamer for slides will be available. After the presentation, there will be a discussion of about 10 minutes. **The presentation of your thesis is compulsory**. Please contact the chair after you have received the date for handing in your thesis from the "Prüfungsamt" to arrange a date for your presentation!

The presentation serves two purposes: Firstly, the chair wants to ensure that you have actually done the research presented in your thesis on your own. Being able to answer to questions concerning your thesis is, in general, a good predictor for this. Secondly, it also gives you the opportunity to ask questions about your thesis to all members of the chair to clarify and resolve problems prior to handing in your thesis. The chair will give you feedback about your thesis and will give you specific suggestions as to how to proceed in the remaining time of your thesis writing. A failure to reflect and incorporate the suggestions given during the presentation in your handed-in thesis will negatively affect your grade!

2 Potential Topics (not exhaustive!)

2.1 Economic Geography and International Inequality

Literature: Redding, Stephen and Anthony J. Venables (2004): Economic Geography and International Inequality, *Journal of International Economics*, 62(1), 53-82.

Abstract of the Paper: *This paper estimates a structural model of economic geography using cross-country data on per capita income, bilateral trade, and the relative price of manufacturing goods. We provide evidence that the geography of access to markets and sources of supply is statistically significant and quantitatively important in explaining cross-country variation in per capita income. This finding is robust to controlling for a wide range of considerations, including other economic, geographical, social, and institutional characteristics. Geography is found to matter through the mechanisms emphasized by the theory, and the estimated coefficients are consistent with plausible values for the model's structural parameters.*

Potential goal of the thesis: Critically reproduce the empirical analysis presented in the paper. This requires constructing the data set needed for the analysis from raw data available on the internet. Some code related to the paper can be found at http://www.princeton.edu/ reddings/redpublish.htm. Potential avenues for a thesis could be investigating the robustness of results to different modeling strategies.

Skills required: Experience with Stata. Some knowledge of or at least interest in economic geography.

2.2 Trade Liberalization and Local Skill Premia

Literature: Dix-Carneiro, Rafael and Brian K. Kovak (2015): Trade Liberalization and the Skill Premium: A Local Labor Markets Approach, *American Economic Review*, 105(5), 551-557.

Abstract of the Paper: *We develop a specific-factors model of regional economies that includes two types of workers, skilled and unskilled. The model delivers a simple equation relating trade-induced local shocks to changes in local skill premia. We apply the methodology to Brazil's early 1990s trade liberalization and find statistically significant but modest effects of liberalization on the evolution of the skill premium between 1991 and 2010. The methodology uses widely available household survey data and can easily be applied to other countries and liberalization episodes.*

Potential goal of the thesis: Critically reproduce the empirical analysis presented in the paper. This requires understanding of the specific-factors model of regional economies. Data and code are available at https://www.aeaweb.org/articles?id=10.1257/aer.p20151052. Potential avenues for a thesis may be application to a different or extended sample, for which data can be found.

Skills required: Experience with Stata. Some knowledge of or at least interest in economic geography.

2.3 The Impact of Regional and Sectoral Productivity Changes on Regional Economies

Literature: Caliendo, Lorenzo, Fernando Parro, Esteban Rossi-Hansberg, and Pierre-Daniel Sarte (2018): The Impact of Regional and Sectoral Productivity Changes on the U.S. Economy, *The Review of Economic Studies*, 85(4), 2042-2096.

Abstract of the Paper: *We study the impact of intersectoral and interregional trade linkages in propagating disaggregated productivity changes to the rest of the economy. Using U.S. regional and industry data, we obtain the aggregate, regional and sectoral elasticities of measured total factor productivity, GDP, and employment to regional and sectoral productivity changes. We find that the elasticities vary significantly depending on the sectors and regions affected, and are importantly determined by the spatial structure of the economy. We use our calibrated model to perform a variety of counterfactual exercises including several specific studies of the aggregate and disaggregate effects of shocks to productivity and infrastructure. The specific episodes we study include the boom in California's computer industry, the productivity boom in North Dakota associated with the shale oil boom, the disruptions in New York's finance and real state industries during the 2008 crisis, as well as the effect of the destruction of infrastructure in Louisiana following hurricane Katrina.*

Potential goal of the thesis: Critically reproduce (parts of) the empirical analysis presented in the paper. This requires understanding of the model of the US economy. Data and code are available at https://www.princeton.edu/erossi/research_chrono.html . Potential avenues for a thesis may be application to a different event to those presented in the paper.

Skills required: Experience with MATLAB. Some knowledge of or at least interest in economic geography.

2.4 Growth and Investment Effects of EU Regional Transfers

Literature: Becker, Sascha O., Peter H. Egger, and Maximilian von Ehrlich (2013): Absorptive Capacity and the Growth and Investment Effects of Regional Transfers: A Regression Discontinuity Design with Heterogeneous Treatment Effects, *American Economic Journal: Economic Policy*, 5(4), 29-77.

Abstract of the Paper: *Researchers often estimate average treatment effects of programs without investigating heterogeneity across units. Yet, individuals, firms, regions, or countries vary in their ability to utilize transfers. We analyze Objective 1 transfers of the EU to regions below a certain income level by way of a regression discontinuity design with systematically varying heterogeneous treatment effects. Only about 30 percent and 21 percent of the regions?those with sufficient human capital and good-enough institutions?are able to turn transfers into faster per capita income growth and per capita investment, respectively. In general, the variance of the treatment effect is much bigger than its mean.*

Potential goal of the thesis: Critically reproduce the empirical analysis presented in the paper. Replication files are available at https://www.aeaweb.org/articles?id=10.1257/pol.5.4.29.

Skills required: Experience with STATA.

2.5 The Wealth of Subnations

Literature: Mitton, Todd (2016): The Wealth of Subnations: Geography, Institutions, and Within-Country Development, *Journal of Development Economics*, 118, 88-111.

Abstract of the Paper: *I study determinants of economic development in a new dataset covering 1867 subnational regions from 101 countries, focusing on within-country effects of geography and institutions. Several geographic factors have significant explanatory power for within-country differences in per-capita GDP, including terrain ruggedness, tropical climate, ocean access, temperature range, storm risk, and natural resources such as oil, diamonds, or iron. Institutions have a significant positive effect on income among subnational regions with greater autonomy, suggesting that strong subnational institutions enhance development when not dominated by national institutions.*

Potential goal of the thesis: Critically reproduce and extend the empirical analysis presented in the paper, potentially with a focus on international trade. Replication files are available at https://www.sciencedirect.com/science/article/pii/S0304387815001030? via%3Dihub#s0115.

Skills required: Experience with Stata.

2.6 International Trade and Social Connectedness

Literature: Bailey, Michael, Abhinav Gupta, Sebastian Hillenbrand, Theresa Kuchler, Robert Richmond, and Johannes Stroebel (2021): International Trade and Social Connectedness, *Journal of International Economics*, 129, 103418.

Abstract of the Paper: *We use de-identified data from Facebook to construct a new and publicly available measure of the pairwise social connectedness between 170 countries and 332 European regions. We find that two countries trade more when they are more socially connected, especially for goods where information frictions may be large. The social connections that predict trade in specific products are those between the regions where the product is produced in the exporting country and the regions where it is used in the importing country. Once we control for social connectedness, the estimated effects of geographic distance and country borders on trade decline substantially.*

Potential goal of the thesis: Critically reproduce the empirical analysis presented in the paper. Code and data are available at https://data.mendeley.com/datasets/7wddm84w9r/2.

Skills required: Experience with Stata and R.

2.7 Unobservable Selection and Coefficient Stability

Literature: Oster, Emily (2016): Unobservable Selection and Coefficient Stability: Theory and Evidence, *Journal of Business & Economic Statistics*, 37(2), 187-204.

Abstract of the Paper: *A common approach to evaluating robustness to omitted variable bias is to observe coefficient movements after inclusion of controls. This is informative only if selection on observables is informative about selection on unobservables. Although this link is known in theory in existing literature, very few empirical articles approach this formally. I develop an extension of the theory that connects bias explicitly to coefficient stability. I show that it is necessary to take into account coefficient and R-squared movements. I develop a formal bounding argument. I show two validation exercises and discuss application to the economics literature. Supplementary materials for this article are available online.*

Potential goal of the thesis: Critically reproduce the theoretical and empirical analysis presented in the paper.

Skills required: Experience or at least interest in econometric theory.

2.8 Brexit Uncertainty

Literature: Graziano, Alejandro G., Kyle Handley, and Nuno Limão (2020): Brexit Uncertainty and its (Dis)Service Effects, *The Economic Journal*, 1-36.

Abstract of the Paper: *We estimate the uncertainty effects of preferential trade disagreements. Increases in the probability of Britain's exit from the European Union (Brexit) reduce bilateral export values and trade participation. These effects are increasing in trade policy risk across products. We estimate that at the average disagreement tariff of 4.5% the increase in the probability of Brexit after the referendum lowered EU-UK bilateral export values between 11-20%. Neither the EU or UK exporters believed a trade war was likely.*

Potential goal of the thesis: Critically reproduce the empirical analysis presented in the paper. Replication files can be found at https://doi.org/10.5281/zenodo.4048466 and information at [link].

Skills required: Experience in Stata.

2.9 Trade Openness, Income, and Migration

Literature: Ortega, Francesc and Giovanni Peri (2014): Openness and Income: The Roles of Trade and Migration, *The Economic Journal*, 92(2), 231-251.

Abstract of the Paper: *This paper explores the relationship between openness to trade, immigration, and income per person across countries. To address endogeneity concerns we extend the instrumental-variables strategy introduced by Frankel and Romer (1999). We build predictors of openness to immigration and to trade for each country by using information on bilateral geographical and cultural distance (while controlling for country size). Since geography may affect income through other channels, we also control for climate, disease environment, natural resources, and colonial origins. Most importantly, we also account for the roles of institutions and early development. Our instrumental-variables estimates provide evidence of a robust, positive effect of openness to immigration on long-run income per capita. In contrast, we are unable to establish an effect of trade openness on income. We also show that the effect of migration operates through an increase in total factor productivity, which appears to reflect increased diversity in productive skills and, to some extent, a higher rate of innovation.*

Potential goal of the thesis: Critically reproduce the empirical analysis presented in the paper. Data and codes can be found at http://giovanniperi.ucdavis.edu/data-and-codes.html.

Skills required: Experience in STATA.

2.10 A Growth Model of the Data Economy

Literature: Farboodi, Maryam and Laura Veldkamp (2021): A Growth Model of the Data Economy, *NBER Working Paper*.

Abstract of the Paper: *The rise of information technology and big data analytics has given rise to "the new economy." But are its economics new? This article constructs a growth model where firms accumulate data, instead of capital. We incorporate three key features of data: 1) Data is a by-product of economic activity; 2) data is information used for prediction, and 3) uncertainty reduction enhances firm profitability. The model can explain why data-intensive goods or services, like apps, are given away for free, why many new entrants are unprofitable and why some of the biggest firms in the economy profit primarily from selling data. While our transition dynamics differ from those of traditional growth models, the long run still features diminishing returns. Just like accumulating capital, accumulating predictive data, by itself, cannot sustain long-run growth.*

Potential goal of the thesis: Critically reproduce the model presented in the paper.

Skills required: Experience or at least interest in growth models.

2.11 CO2 Emissions from International Trade

Literature: Shapiro, Joseph S. (2016): Trade Costs, CO2, and the Environment, *American Economic Journal: Economic Policy*, 8(4), 220-254.

Abstract of the Paper: *This paper quantifies how international trade affects CO2 emissions and analyzes the welfare consequences of regulating the CO2 emissions from shipping. To this end, the paper describes a model of trade and the environment, compiles new data on the CO2 emissions from shipping, and estimates key parameters using panel data regressions. Results show that the benefits of international trade exceed trade's environmental costs due to CO2 emissions by two orders of magnitude. While proposed regional carbon taxes on the CO2 emissions from shipping would increase global welfare and increase the implementing region's GDP, they would also harm poor countries.*

Potential goal of the thesis: Critically reproduce the empirical exercises and simulations presented in the paper.

Skills required: Experience with Stata and Matlab. Good knowledge of international trade theory.

2.12 Is Free Trade Good for the Environment?

Literature: Antweiler, Werner, Brian Copeland, and M. Scott Taylor (2001): Is Free Trade Good for the Environment?, *American Economic Review*, 91(4), 877-908.

Abstract of the paper: *This paper investigates how openness to international goods markets affects pol- lution concentrations. We develop a theoretical model to divide trade's impact on pollution into scale, technique, and composition effects and then examine this theory using data on sulfur dioxide concentrations. We find international trade creates relatively small changes in pollution concentrations when it alters the composition of national output. Estimates of the trade-induced technique and scale effects imply a net reduction in pollution from these sources. Combining our estimates of all three effects yields a somewhat surprising conclusion: freer trade appears to be good for the environment.*

Potential goal of the thesis: Critically reproduce the empirical analysis presented in the paper.

Skills required: Experience with STATA. Good understanding of international trade theory.

2.13 International Trade in Used Vehicles

Literature: Davis, Lucas W. and Matthew E. Kahn (2010): International Trade in Used Vehicles: The Environmental Consequences of NAFTA, *American Economic Journal: Economic Policy*, 2(4), 58-82.

Abstract of the paper: *Since trade restrictions were eliminated in 2005, Mexico has imported over 2.5 million used vehicles from the United States. Using a unique, vehicle-level dataset, we find that traded vehicles are dirtier than the stock of vehicles in the United States and cleaner than the stock in Mexico, so when a vehicle is traded from the United States to Mexico average vehicle emissions per mile tend to decrease in both countries. Overall, however, the evidence suggests that trade has increased total lifetime emissions, primarily because of low vehicle retirement rates in Mexico.*

Potential goal of the thesis: Critically reproduce the empirical analysis presented in the paper. Discuss the identification strategy and its underlying assumptions.

Skills required: Experience with STATA.

2.14 Climate Change and Agriculture

Literature: Burke, Marshall and Kyle Emerick (2016): Adaptation to Climate Change: Evidence from US Agriculture, *American Economic Journal: Economic Policy*, 8(3), 106-140.

Abstract of the paper: *Understanding the potential impacts of climate change on economic outcomes requires knowing how agents might adapt to a changing climate. We exploit large variation in recent temperature and precipitation trends to identify adaptation to climate change in US agriculture, and use this information to generate new estimates of the potential impact of future climate change on agricultural outcomes. Longer run adaptations appear to have mitigated less than half – and more likely none – of the large negative short-run impacts of extreme heat on productivity. Limited recent adaptation implies substantial losses under future climate change in the absence of countervailing investments.*

Potential goal of the thesis: Critically reproduce the empirical analysis presented in the paper.

Skills required: Experience with Stata.

2.15 Quantifying Trade Diversion

Literature: Dai, Mian, Yoto V. Yotov, and Thomas Zylkin (2014): On the Trade-Diversion Effects of Free Trade Agreements, *Economics Letters*, 122(2), 321-325.

Abstract of the paper: *Trade-diversion effects of free trade agreements (FTAs) have not been thoroughly examined empirically. Using a novel empirical approach, we confirm that FTAs divert trade away from non-member countries and even more so from internal trade (domestic sales) in member countries.*

Potential goal of the thesis: Critically reproduce the empirical analysis presented in the paper.

Skills required: Experience with Stata and some knowledge of panel data methods.

2.16 Regional Trade Agreements and the Extensive and Intensive Margin

Literature: Baier, Scott L., Jeffrey H. Bergstrand, and Michael Feng (2014): Economic Integration Agreements and the Margins of International Trade, *Journal of International Economics*, 93(2), 339-350.

Abstract of the paper: *One of the main policy sources of trade-cost changes is the formation of an economic integration agreement (EIA), which potentially affects an importing country's welfare. This paper: (i) provides the first evidence using gravity equations of both intensive and extensive (goods) margins being affected by EIAs employing a panel data set with a large number of country pairs, product categories, and EIAs from 1962 to 2000; (ii) provides the first evidence of the differential (partial) effects of various "types" of EIAs on these intensive and extensive margins of trade; and (iii) finds a novel differential "timing" of the two margins' (partial) effects with intensive-margin effects occurring sooner than extensive-margin effects, consistent with recent theoretical predictions. The results are robust to correcting for potential sample-selection, firm-heterogeneity, and reverse causality biases.*

Potential goal of the thesis: Reproduce (part) of the analysis of the paper.

Skills required: Experience with STATA and some knowledge of panel data methods.

2.17 Regional Trade Agreements and Globalization Effects

Literature: Bergstrand, Jeffrey H., Mario Larch, and Yoto V. Yotov (2015): Economic Integration Agreements, Border Effects, and Distance Elasticities in the Gravity Equation, *European Economic Review*, 78, 307-327.

Abstract of the paper: *Using a novel common econometric specification, we examine the measurement of three important effects in international trade that historically have been addressed largely separately: the (partial) effects on trade of economic integration agreements, international borders, and bilateral distance. First, recent studies focusing on precise and unbiased estimates of effects of economic integration agreements (EIAs) on members' trade may be biased upward owing to inadequate control for time-varying exogenous unobservable country-pair-specific changes in bilateral export costs (possibly decreasing the costs of international relative to intranational trade); we find evidence of this bias using a properly specified gravity equation. Second, our novel methodology yields statistically significant estimates of the declining effect of "international borders" on world trade, now accounting for endogenous EIA formations and unobserved country-pair heterogeneity in initial levels. Third, we confirm recent evidence providing a solution to the "distance-elasticity puzzle," but show that these estimates of the declining effect of distance on international trade are biased upward by not accounting for endogenous EIA formations and unobserved country-pair heterogeneity. We conclude our study with numerical general equilibrium comparative statics illustrating a substantive difference on trade effects of EIAs with and without allowance for the declining effects of international borders on world trade.*

Potential goal of the thesis: Reproduce (part) of the analysis of the paper.

Skills required: Experience with STATA and some knowledge of panel data methods.

2.18 Determinants of Regional Trade Agreements

Literature: Baier, Scott, Jeffrey H., Bergstrand, and Ronald Mariutto (2014): Economic Determinants of Free Trade Agreements Revisited: Distinguishing Sources of Interdependence, *Review of International Economics*, 22(1), 31-58.

Abstract of the paper: *One of the most notable international economic events since 1990 has been the enormous increase in the number of free trade agreements (FTAs). While Baier and Bergstrand were the first to show empirically the impact of a country-pair's economic characteristics on the likelihood of the pair having an FTA, the literature has been extended to demonstrate the importance empirically of FTA "interdependence"—the effect of other FTAs on the probability of a pair having an FTA. In the context of the Baier-Bergstrand framework, this paper delves deeper into the sources of interdependence—an "own-FTA" effect and a "cross-FTA" effect. The authors argue that the own-FTA effect (the impact on the net welfare gains of an FTA between two countries owing to either already having other FTAs) likely dwarfs the cross-FTA effect (the impact on the net welfare gains of an FTA between the pair owing to other FTAs existing in the rest of the world, or ROW). Augmenting a parsimonious logit model with simple "multilateral FTA" and "ROW FTA" terms to differentiate the own and cross effects empirically, it is shown that the marginal impact on the probability of a country-pair having an agreement of either country having one more FTA with a third country is 50 times that of one more FTA between another pair in ROW. The results suggest that "domino (own-FTA) effects" have far exceeded "competitive liberalization (cross-FTA) effects" in the proliferation of FTAs.*

Potential goal of the thesis: Reproduce the augmented logit regressions.

Skills required: Experience with Stata and some knowledge of panel data methods.

2.19 Currency Unions and Trade

Literature: Larch, Mario, Joschka Wanner, Yoto Yotov, and Tom Zylkin (2017): The Currency Union Effect: A PPML Re-assessment with High-Dimensional Fixed Effects, *CESifo Working Paper*, 6464.

Abstract of the paper: *Recent work on the effects of currency unions (CUs) on trade stresses the importance of using many countries and years in order to obtain reliable estimates. However, for large samples, computational issues limit choice of estimator, leaving an important methodological gap. To address this gap, we unveil an iterative PPML estimator which flexibly accounts for multilateral resistance, pair-specific heterogeneity, and correlated errors across countries and time. When applied to a comprehensive sample with more than 200 countries trading over 65 years, these innovations flip the conclusions of an otherwise rigorously-specified linear model. Our estimates for both the overall CU effect and the Euro effect specifically are economically small and statistically insignificant. The effect of non-Euro CUs, however, is large and significant. Notably, linear and PPML estimates of the Euro effect increasingly diverge as the sample size grows.*

Potential goal of the thesis: Critically reproduce the analysis or apply the estimation procedure described in the paper to a different trade policy.

Skills required: Basic understanding of international trade theory, experience with STATA.

2.20 Trade and Growth

Literature: Acemoglu, Daron, and Jaume Ventura (2002): The World Income Distribution, *Quarterly Journal of Economics*, 117(2), 659-694.

Abstract of the paper: *We show that even in the absence of diminishing returns in production and technological spillovers, international trade leads to a stable world income distribution. This is because specialization and trade introduce de facto diminishing returns: countries that accumulate capital faster than average experience declining export prices, depressing the rate of return to capital and discouraging further accumulation. Because of constant returns to capital accumulation from a global perspective, the world growth rate is determined by policies, savings, and technologies, as in endogenous growth models. Because of diminishing returns to capital accumulation at the country level, the cross-sectional behavior of the world economy is similar to that of existing exogenous growth models: cross-country variation in economic policies, savings, and technology translate into cross-country variation in incomes. The dispersion of the world income distribution is determined by the forces that shape the strength of the terms-of-trade effectsthe degree of openness to international trade and the extent of specialization.*

Potential goal of the thesis: Focus on the reproduction of the empirical results.

Skills required: Experience with STATA.

2.21 Commercial Imperialism? Political Influence and Trade During the Cold War

Literature: Berger, Daniel, William Easterly, Nathan Nunn, and Shanker Satyanath (2013): Commercial Imperialism? Political Influence and Trade During the Cold War, *American Economic Review*, 103(2), 863-896.

Abstract of the paper: *We provide evidence that increased political influence, arising from CIA interventions during the Cold War, was used to create a larger foreign market for American products. Following CIA interventions, imports from the US increased dramatically, while total exports to the US were unaffected. The surge in imports was concentrated in industries in which the US had a comparative disadvantage, not a comparative advantage. Our analysis is able to rule out decreased trade costs, changing political ideology, and an increase in US loans and grants as alternative explanations. We provide evidence that the increased imports arose through direct purchases of American products by foreign governments.*

Potential goal of the thesis: Try to tackle the endogeneity of free trade agreements, possibly by resorting to a bilateral estimation strategy. Evaluate the claims concerning downward-biased standard errors in bilateral trade flow studies as hinted in footnote 23 of the paper.

Skills required: Basic understanding of international trade theories, experience with STATA.

2.22 Trading Partners and Trading Volumes

Literature: Santos Silva, J.M.C. and S. Tenreyro (2015): Trading Partners and Trading Volumes: Implementing the Helpman-Melitz-Rubinstein Model Empirically, *Oxford Bulletin Of Economics AND Statistics*, 77(1), 93-105.

Abstract of the paper: *Helpman, Melitz, and Rubinstein (2008) – HMR – present a rich theoretical model to study the determinants of bilateral trade flows across countries. The model is then empirically implemented through a two-stage estimation procedure. This note seeks to clarify some econometric aspects of the estimation approach used by HMR and explore the consequences of possible departures from the maintained distributional assumptions.*

Potential goal of the thesis: Santos Silva and Tenreyro (2008) note that HMR is not a consistent estimate because of Jensen's inequality. However, Santos Silva and Tenreyro (2008) also note that it might be a reasonably accurate approximation in many practical situations. One goal should be to reproduce and check this statement.

Background literature: Helpman, E., M. Melitz, Y. Rubinstein (2008): Estimating Trade Flows: Trading Partners and Trading Volumes, *Quarterly Journal of Economics*, 123(2), 441-487.

Skills required: Jensen's inequality and excellent mathematical knowledge about distributions. MA-level.

2.23 On the Choice between Sample Selection and Two-Part Models

Literature: Leung, S.F., and S. Yu (1996): On the Choice between Sample Selection and Two-Part Models, *Journal of Econometrics*, 72, 197-229.

Abstract of the paper: *This paper resolves the vigorous debates between advocates of the sample selection model and the two-part model. Recent Monte Carlo studies by Hay, Leu, and Rohrer (1987) and Manning, Duan, and Rogers (1987) find that the two-part model performs better than the sample selection model even when the latter is the true model. We show that Manning, Duan, and Rogers' negative results regarding the sample selection model are caused by a critical design problem. We demonstrate that their data generating process produces serious collinearity problems that bias against the sample selection model. Once the design problem is rectified, the poor performance of the sample selection model evaporates. Our Monte Carlo results offer a more balanced view on the relative merits of the two models as each model performs well under different conditions. In particular, the sample selection model is susceptible to collinearity problems and a t-test can be used to distinguish between the two models as long as there are no collinearity problems. As an example, we employ Mroz's (1987) labor supply data to illustrate how his tests for selectivity bias might have been affected by collinearity problems.*

Potential goal of the thesis: Provide an own Monte Carlo simulation on the Choice between Sample Selection and Two-Part Models.

Background literature: Leung, S.F., and S. Yu (1996): On the Choice between Sample Selection and Two-Part Models, *Journal of Econometrics*, 72, 197-229.

Skills required: Experience with MATLAB or SCILAB.

2.24 The Erosion of Colonial Trade Linkages after Independence

Literature: Head, Keith, Thierry Mayer, and John Ries (2010): The Erosion of Colonial Trade Linkages after Independence, *Journal of International Economics*, 81(1), 1-14.

Abstract of the paper: *Most independent nations today were part of empires in 1945. Using bilateral trade data from 1948 to 2006, we examine the effect of independence on post-colonial trade. While there is little short-run effect on trade, after four decades trade with the metropole (colonizer) has contracted by about 65%. Hostile separations lead to large, immediate reductions in trade. We also find that trade between former colonies of the same empire erodes as much as trade with the metropole, whereas trade with third countries decreases about 20%. The gradual trade deterioration following independence suggests the depreciation of some form of trading capital.*

Potential goal of the thesis: Reproduce the empirical exercises presented in the paper. This requires constructing the data set needed for the analysis from raw data available on the internet. Potential avenues for a thesis would be investigating the robustness of results to different modeling strategies and estimators, e.g. zero-inflated Poisson and/or negative binomial models in order to control for the fact that some countries do not trade with each other (so-called “zero trade flows”). As it is not completely clear which of the estimators is the “correct” solution to this problem, the student may investigate the robustness of results to different estimation strategies. Also investigating the robustness of results to other measures of colonialism or related regressors can be an avenue for a thesis.

Skills required: Experience with STATA. Some knowledge or interest in international trade.

2.25 Estimating the Effects of Free Trade Agreements on International Trade Flows Using Matching Econometrics

Literature: Baier Scott L. and Jeffrey H. Bergstrand (2009): Estimating the Effects of Free Trade Agreements on International Trade Flows Using Matching Econometrics, *Journal of International Economics*, 77(1), 63-76.

Abstract of the paper: *This paper provides the first cross-section estimates of long-run treatment effects of free trade agreements on members' bilateral international trade flows using (nonparametric) matching econometrics. Our nonparametric cross-section estimates of ex post long-run treatment effects are much more stable across years and have more economically plausible values than corresponding OLS cross-section estimates from typical gravity equations. We provide plausible estimates of the long-run effects of membership in the original European Economic Community (EEC) and the Central American Common Market (CACM) between 1960 and 2000 and the estimates confirm anecdotal reports of these agreements' effectiveness.*

Potential goal of the thesis: Reproduce the empirical exercises presented in the paper. This requires constructing the data set needed for the analysis from raw data available on the internet. Potential avenues for a thesis could be investigating the robustness of results to different modeling strategies and matching estimators, e.g. nearest neighbor-matching vs. Mahalanobis-matching. One part of the thesis could be a critical evaluation of whether the assumptions underlying the estimations are actually valid (i.e. a discussion of the so-called "identification strategy"). For example, the student could investigate the implications for the estimation strategy that international trade theory implies that large countries have an impact on international prices, and trade flows are determined in general equilibrium. Another potential avenue is how to deal with the fact that some countries do not trade with each other (so-called "zero trade flows") when using matching econometrics. Also investigating the robustness of results to the inclusion of other regressors can be an avenue for a thesis.

Skills required: Experience with STATA. Some knowledge or interest in international trade.

2.26 Civil Wars and International Trade Agreements

Literature: Martin, Philippe, Thierry Mayer, and Mathias Thoenig (2012): The Geography of Conflicts and Regional Trade Agreements, *American Economic Journal: Macroeconomics*, 4(4), 1-35.

Abstract of the paper: *In addition to standard trade gains, regional trade agreements (RTAs) can promote peaceful relations by increasing the opportunity cost of conflicts. Country pairs with large trade gains from RTAs and a high probability of conflict should be more likely to sign an RTA. Using data from 1950 to 2000, we show that this complementarity between economic and politics determines the geography of RTAs. We disentangle trade gains from political factors by a theory-driven empirical estimation and find that country pairs with higher frequency of past wars are more likely to sign RTAs, the more so the larger the trade gains.*

Potential goal of the thesis: Reproduce the empirical exercises presented in the paper. This requires constructing the data set needed for the analysis from raw data available on the internet. Potential avenues for a thesis could be investigating the robustness of results to different modeling strategies. One part of the thesis could be a critical evaluation of whether the assumptions underlying the estimations are actually valid (i.e. a discussion of the so-called "identification strategy"). Also investigating the robustness of results to the inclusion of other regressors can be an avenue for a thesis.

Skills required: Experience with STATA.

2.27 Estimating the Extensive Margin of Trade

Literature: Santos Silva, J.M.C, Silvana Tenreyro, and Kehai Wei (2014): Estimating the Extensive Margin of Trade, *Journal of International Economics*, 93(1), 67-75.

Abstract of the paper: *Understanding and quantifying the determinants of the number of sectors or firms exporting in a given country is of relevance for the assessment of trade policies. Estimation of models for the number of exporting sectors, however, poses a challenge because the dependent variable has both a lower and an upper bound, implying that the partial effects of the explanatory variables on the conditional mean of the dependent variable cannot be constant. We argue that ignoring these bounds can lead to erroneous conclusions and propose a flexible specification that accounts for the doubly-bounded nature of the dependent variable. We empirically investigate the problem and the proposed solution, finding significant differences between estimates obtained with the proposed estimator and those obtained with standard approaches.*

Potential goal of the thesis: Reproduce the empirical exercises presented in the paper. This requires constructing the data set needed for the analysis from raw data available on the internet. Potential avenues for a thesis could be investigating the robustness of results to different modeling strategies. One part of the thesis could be a critical evaluation of whether the assumptions underlying the estimations are actually valid (i.e. a discussion of the so-called "identification strategy"). Also investigating the robustness of results to the inclusion of other regressors can be an avenue for a thesis.

Skills required: Experience with Stata, some knowledge or interest in international trade.

2.28 Estimation with Censored Regressors: Basic Issues

Literature: Rigobon, Roberto and Thomas M. Stoker (2007): Estimation with Censored Regressors: Basic Issues, *International Economic Review*, 48(4), 1441-1467.

Abstract of the paper: *We study issues that arise for estimation of a linear model when a regressor is censored. We discuss the efficiency losses from dropping censored observations, and illustrate the losses for bound censoring. We show that the common practice of introducing a dummy variable to "correct for" censoring does not correct bias or improve estimation. We show how censored observations generally have zero semiparametric information, and we discuss implications for estimation. We derive the likelihood function for a parametric model of mixed bound-independent censoring, and apply that model to the estimation of wealth effects on consumption.*

Potential goal of the thesis: The paper presents a new estimator to deal with the common problem of censored regressors. The thesis will consist of two parts: 1.) An explanation of the underlying econometric problem, and 2.) an application of the estimator to a data set. The specific data set to which the estimator should be applied will be discussed with the chair. The chair will provide guidance in terms of which data sets may be suitable to an application.

Another possibility would be to illustrate the estimator using simulated data or doing a Monte Carlo study of the estimator.

Skills required: Experience with STATA or SCILAB, interest in programming new estimators and applying them to a new data set.

2.29 Tracing Value-Added and Double Counting in Gross Exports

Literature: Koopman, Robert, Zhi Wang, and Shang-Jin Wei (2014): Tracing Value-Added and Double Counting in Gross Exports, *American Economic Review*, 104(2), 459-94.

Abstract of the paper: *This paper proposes an accounting framework that breaks up a country's gross exports into various value-added components by source and additional double-counted terms. Our parsimonious framework bridges a gap between official trade statistics (in gross value terms) and national accounts (in value-added terms), and integrates all previous measures of vertical specialization and value-added trade in the literature into a unified framework. To illustrate the potential of such a method, we present a number of applications including re-computing revealed comparative advantages and the magnifying impact of multi-stage production on trade costs.*

Potential goal of the thesis: Reproduce the empirical exercises presented in the paper. Potential avenues for a thesis could be investigating the robustness of results to different modeling strategies.

Skills required: Experience with STATA. Interest in international trade.

2.30 Openness and Income: The Roles of Trade and Migration

Literature: Ortega, Francesc, Peri, Giovanni (2014): Migration, Trade and Income, *Journal of International Economics*, 92(2), 231-251.

Abstract of the paper: *This paper explores the relationship between openness to trade, immigration, and income per person across countries. To address endogeneity concerns we extend the instrumental-variables strategy introduced by Frankel and Romer (1999). We build predictors of openness to immigration and to trade for each country by using information on bilateral geographical and cultural distance (while controlling for country size). Since geography may affect income through other channels, we also control for climate, disease environment, natural resources, and colonial origins. Most importantly, we also account for the roles of institutions and early development. Our instrumental-variables estimates provide evidence of a robust, positive effect of openness to immigration on long-run income per capita. In contrast, we are unable to establish an effect of trade openness on income. We also show that the effect of migration operates through an increase in total factor productivity, which appears to reflect increased diversity in productive skills and, to some extent, a higher rate of innovation.*

Potential goal of the thesis: Critically reproduce the empirical exercises presented in the paper.

Skills required: Experience with STATA. Interest in migration and trade.

2.31 Trade and Institutions (i)

Literature: Levchenko, Andrei A. (2007): Institutional Quality and International Trade, *The Review of Economic Studies*, 74(3), 791-819.

Abstract of the paper: *Institutions-quality of contract enforcement, property rights, shareholder protection, and the like- have received a great deal of attention in recent years. Yet trade theory has not considered the implications of institutional differences, beyond treating them simply as different technologies or taxes. The purpose of this paper is twofold. First, we propose a simple model of international trade in which institutional differences are modelled within the framework of incomplete contracts. We show that doing so reverses many of the conclusions obtained by equating institutions with productivity. Institutional differences source of comparative advantage imply, among other things, that the less developed country may not gain from trade and factor prices may actually diverge as a result of trade. Second, we test empirically whether institutions act as a source of trade, using data on U.S. imports disaggregated by country and industry. The empirical results provide evidence of "institutional content of trade": institutional differences are important determinant of trade flows.*

Potential goal of the thesis: Critically reproduce the empirical exercises presented in the paper.

Skills required: Experience with STATA. Good knowledge of international trade theory.

2.32 Trade and Institutions (ii)

Literature: Nunn, Nathan (2007): Relationship-Specificity, Incomplete Contracts, and the Pattern of Trade, *The Quarterly Journal of Economics*, 122(2), 569-600.

Abstract of the paper: *Is a country's ability to enforce contracts an important determinant of comparative advantage? To answer this question, I construct a variable that measures, for each good, the proportion of its intermediate inputs that require relationship-specific investments. Combining this measure with data on trade flows and judicial quality, I find that countries with good contract enforcement specialize in the production of goods for which relationship-specific investments are most important. According to my estimates contract enforcement explains more of the pattern of trade than physical capital and skilled labor combined.*

Potential goal of the thesis: Critically reproduce the empirical exercises presented in the paper.

Skills required: Experience with STATA.

2.33 Bilateral Investment Treaties (BITs) (i)

Literature: Neumayer, Eric (2006): Self-interest, Foreign Need and Good Governance: Are Bilateral Investment Treaty Programs Similar to Aid Allocation?, *Foreign Policy Analysis*, 2(3), 245-267.

Abstract of the paper: *Bilateral investment treaties (BITs) have become the most important legal mechanism for the encouragement and governance of foreign direct investment (FDI) in developing countries. Yet practically no systematic evidence exists on what motivates capital-exporting developed countries to sign BITs earlier with some developing countries than with others, if at all. The theoretical framework from the aid allocation literature suggests that developed countries pursue a mixture of self-interest, foreign need and, possibly, good governance. We find evidence that both economic interests of developed countries' foreign investors and political interests of developed countries determine their scheduling of BITs. However, foreign need as measured by per capita income is also a factor, whereas good governance by and large does not matter. These results suggest that BIT programs can be explained employing the same framework successfully applied to the allocation of aid. At the same time, self-interest seems to be substantively more important than developing country need when it comes to BITs.*

Potential goal of the thesis: Critically reproduce the empirical exercises presented in the paper.

Skills required: Experience with STATA.

2.34 Bilateral Investment Treaties (BITs) (ii)

Literature: Allee, Todd and Clint Peinhardt (2014): Evaluating Three Explanations for the Design of Bilateral Investment Treaties, *World Politics*, 66(1), 47-87.

Abstract of the paper: *The rise of preferential economic agreements is one of the major developments in international relations in the late twentieth and early twenty-first centuries, and one that shows few signs of slowing down. Economic giants such as the United States and the European Union continue to negotiate preferential trade agreements (PTAs) with countries across Africa, Asia, and Latin America. Likewise, bilateral investment treaties (BITs) have become hugely popular, with states worldwide signing between fifty and one hundred such agreements annually. Although PTAs typically attract the most attention from the media and politicians, bits are far more commonplace and their myriad potential effects are significant. Although BITs have existed for more than half a century, only recently have they attracted their fair share of scholarly attention. Despite a recent wave of BIT scholarship, these treaties are oversimplified in the extant literature and their motivations remain poorly understood.*

Potential goal of the thesis: Critically reproduce the empirical exercises presented in the paper.

Skills required: Experience with STATA.

2.35 Environmental Regulation and Energy Use

Literature: Levinson, Arik (2016): How Much Energy Do Building Energy Codes Save? Evidence from California Houses, *American Economic Review*, 106(10), 2867-2894.

Abstract of the paper: *Regulations governing the energy efficiency of new buildings have become a cornerstone of US environmental policy. California enacted the first such codes in 1978 and has tightened them every few years since. I evaluate the resulting energy savings three ways: comparing energy used by houses constructed under different standards, controlling for building and occupant characteristics; examining how energy use varies with outdoor temperatures; and comparing energy used by houses of different vintages in California to that same difference in other states. All three approaches yield estimated energy savings significantly short of those projected when the regulations were enacted.*

Potential goal of the thesis: Critically reproduce the empirical exercises presented in the paper.

Skills required: Experience with STATA.

2.36 Natural Resources and Civil Conflict

Literature: Dube, Oeindrila and Juan Vargas (2013): Commodity Price Shocks and Civil Conflict: Evidence from Columbia, *Review of Economic Studies*, 80, 1384-1421.

Abstract of the paper: *How do income shocks affect armed conflict? Theory suggests two opposite effects. If labour is used to appropriate resources violently, higher wages may lower conflict by reducing labour supplied to appropriation. This is the opportunity cost effect. Alternatively, a rise in contestable income may increase violence by raising gains from appropriation. This is the rapacity effect. Our article exploits exogenous price shocks in international commodity markets and a rich dataset on civil war in Colombia to assess how different income shocks affect conflict. We examine changes in the price of agricultural goods (which are labour intensive) as well as natural resources (which are not). We focus on Colombia's two largest exports, coffee and oil. We find that a sharp fall in coffee prices during the 1990s lowered wages and increased violence differentially in municipalities cultivating more coffee. This is consistent with the coffee shock inducing an opportunity cost effect. In contrast, a rise in oil prices increased both municipal revenue and violence differentially in the oil region. This is consistent with the oil shock inducing a rapacity effect. We also show that this pattern holds in six other agricultural and natural resource sectors, providing evidence that price shocks affect conflict in different directions depending on the type of the commodity.*

Potential goal of the thesis: Critically reproduce the empirical exercises presented in the paper.

Skills required: Experience with STATA.

2.37 The Trade Effects of WTO

Literature: Subramanian, Arvind and Shang-Jin Wei (2007): The WTO Promotes Trade, Strongly but Unevenly, *Journal of International Economics*, 72, 151–175.

Abstract of the paper: *This paper furnishes robust evidence that theW-TOhas had a strong positive impact on trade, amounting to about 120% of additional world trade (or US$ 8 trillion in 2000 alone). The impact has, however, been uneven. This, in many ways, is consistent with theoretical models of the GATT/WTO. The theory suggests that the impact of a country's membership in the GATT/WTO depends on what the country does with its membership, with whom it negotiates, and which products the negotiation covers. Using a properly specified gravity model, we find evidence broadly consistent with these predictions. First, industrial countries that participated more actively than developing countries in reciprocal trade negotiations witnessed a large increase in trade. Second, bilateral trade was greater when both partners undertook liberalization than when only one partner did. Third, sectors that did not witness liberalization did not see an increase in trade.*

Potential goal of the thesis: First, critically reproduce the empirical exercises presented in the paper. Then, one may want to check the results using latest developments in the structural gravity literature as described in Yotov, Piermartini, Monteire, Larch (2016), An Advanced Guide to Trade Policy Analysis: The Structural Gravity Model. United Nations and World Trade Organization. Geneva, Switzerland, available for download at http://vi.unctad.org/tpa/index.html.

Skills required: Experience with Stata. Some knowledge of panel data econometrics is helpful.