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## Abstract of Thesis

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| Title                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Estimating Search and Matching Models in Post-transition Economies in Eastern Europe<br>(経済移行後の東欧におけるサーチ・マッチング・モデルの推定) |
| <p>The early 1990s were characterized by one of the major economic transformations, as Eastern European countries transitioned from a centrally planned economy towards a market economy, capitalism, and a democratic political regime. The transition process was structurally challenging, accompanied by a decrease in production and an increase in unemployment. Progress was made in the late 1990s, but was uneven across countries. Furthermore, during that time, Western Europe was characterized by remarkable economic success, creating a higher disparity among European countries. What are the characteristics of Eastern European countries that have been performing better than others? How do their labor markets behave under different external shocks? To answer these questions, this dissertation aims to discover similarities and differences in labor markets across selected developed Central and Eastern European (CEE) countries by estimating search and matching models using Bayesian methods.</p> <p>The first essay specifies a standard discrete-time search and matching model with convex vacancy-posting costs and explores how well the model matches the aggregate labor market dynamics in Croatia. The model has two exogenous sources of uncertainty, productivity and separation, and is estimated on unemployment and vacancy data during the period 2012 to 2020 using Bayesian methods. As there have been no other attempts at the time at using Bayesian methods for Croatia, the paper focuses on determining prior parameter values and exploring the variance decompositions of main labor market variables during the observed period.</p> <p>The results indicate the model is a good fit for the data, and that the productivity shock is the main driving force of volatility on the labor market, but unlike in other developed countries, the separation shock contributes greatly to unemployment volatility. The estimation results pass several robustness checks, from changing the set of observable variables, having linear vacancy-posting costs, as well as a lower prior value of the worker outside option.</p> <p>The second essay extends the model by introducing a price markup shock as an additional source of uncertainty in the market and observes differences in labor market dynamics in several CEE countries, Bulgaria, Croatia, Hungary, Poland, and Romania, during the period from 2010 to 2023. The countries are selected based on their development level, they are considered developed but have yet to reach the level of a fully developed country, as well as their membership in the European Union.</p> <p>The results indicate a similar pattern across countries as the separation shock accounts for the majority of unemployment volatility. The price markup is the main driver of vacancy fluctuations, with the exception of Croatia, where both the price markup and labor productivity shocks have equally important roles. Variations in output are mainly contributed to the labor productivity shock. Furthermore, the parameter estimates in Bulgaria, Croatia, and Hungary indicate a different relationship compared to other literature, as higher values of unemployment benefits are accompanied by higher values of bargaining power of workers. The results are robust to different model specifications and different prior values of the parameters and are crucial in policy design as they show that during the observed period, the separation shock, rather than the productivity shock, accounts for the majority of unemployment volatility.</p> |                                                                                                                        |

The focus of the third essay is on Latvia, and the constructed model includes the matching efficiency shock instead of the separation shock, which is now treated as a fixed parameter. Furthermore, the model introduces a vacancy creation subsidy in order to match the model with recent policies implemented in Latvia that target the most vulnerable groups in the labor market.

The results pass several robustness checks and indicate that the matching efficiency and the separation shocks are the main drivers of the unemployment volatility. Furthermore, the essay confirms the previous indication that the parameter estimates differ from other literature, as the elasticity of the matching function is on the higher end of the proposed efficient range, and the relationship between unemployment benefits and worker bargaining power implies both high values of unemployment benefits and bargaining power of workers.

論文審査の結果の要旨及び担当者

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論文審査の結果の要旨

The main focus of this dissertation is on CEE countries that have gone through the transition process and are considered developed but have yet to satisfy all the main development criteria. The main goal is to understand the differences and similarities among their labor markets, as well as to provide insight in labor markets of countries with a similar history and level of development.

The first essay specifies a simple discrete-time search and matching model to describe the aggregate labor market dynamics in Croatia, a country that was part of Yugoslavia until 1991. The search and matching model includes the standard two exogenous shock processes, labor productivity and separation, and is estimated using Bayesian methods on aggregate quarterly data from 2012 to 2020. The results show that the model replicates the data well and that the labor productivity shock is the main driver of labor market fluctuations, but the separation shock has a stronger influence on unemployment fluctuations in Croatia compared to other developed countries.

The second essay conducts a cross-country comparison of labor markets in several CEE EU member countries: Bulgaria, Croatia, Hungary, Poland, and Romania. The Bayesian estimation provides insight on the similarities and main differences in variation across countries during the period from 2010 until 2023. Results show that the separation shock is the main driver of unemployment fluctuations in all countries, and variations in output are mainly contributed to the labor productivity shock. The results pass several robustness checks and have policy implications as they show that during the observed period, the separation shock has a stronger impact than the productivity shock in explaining unemployment fluctuations.

The third essay focuses on Latvia, a country that had a rather fast and efficient transition process, gaining the status of a fully developed country in 2016. A discrete-time search and matching model with a job creation subsidy is estimated on quarterly Latvian data during the period from 2010 to 2024. The model fits the data well but cannot replicate the extent of the strongly negative relationship between unemployment and vacancies. The estimation results show that the matching efficiency shock is the main driver of unemployment fluctuations and has a significant role in explaining vacancy fluctuations as well.

**審査結果の要旨**

Jelena Rkman氏の博士論文は、東欧諸国の労働市場に焦点を当て、サーチ＝マッチング・モデルを用いて失業率や雇用フローの変動の要因を探り、生産性ショック、離職ショック、そしてマッチング効率性が失業率や雇用フローに変動に大きな影響を与えることを示した。これらの取り組みは学術的な貢献だけでなく、東欧諸国の労働市場政策の立案にも大きな貢献があると言える。以上から博士（経済学）に十分に値すると判断する。