

Frantisek Masek

PERSONAL DATA

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EDUCATION

Ph.D. Candidate in Economics 2020-continuing
Sapienza University of Rome, Department of Economics and Law
Supervisor: Marco Di Pietro

Research Visiting Stay Spring 2023
Vienna University of Economics and Business, Department of Economics
Vienna University of Technology, Institute of Statistics and Mathematical Methods in Economics

Research Visiting Stay Fall 2022-Winter 2023
University of Chicago, Center for Spatial Data Science

Master's Degree in Economic Analysis 2017-2019
Prague University of Economics and Business, Faculty of Economics

Bachelor's Degree in Economics and Economic Policy 2013-2017
Prague University of Economics and Business, Faculty of Economics

PROFESSIONAL EXPERIENCE

Ph.D. Research Assistant Traineeship summer 2023-summer 2024
European Central Bank, Directorate General Research
Senior Management Macro-Finance Team

Junior Economist 2020
FIO Bank, Dealing Department

WORKSHOPS

Causal Inference Summer School, University of Trento 2022
Tutors: Alessandra Mattei, Veronica Ballerini

Tools for Macroeconomists, University of Oxford 2021
Tutors: Wouter den Haan, Petr Sedlacek, and Pontus Rendahl

RESEARCH INTERESTS

Macroeconomics: Monetary Policy Rules, Effective Lower Bound, Heterogeneous Agents, Bounded Rationality, Financial Frictions

Causal Inference and Spatial Econometrics: Spillovers in Comparative Case Studies, SUTVA Violation

WORK IN PROGRESS

Average Inflation Targeting in a Behavioral Heterogeneous Agent New Keynesian Model

Working paper link here

with Jan Zemlicka

Winner of the Karel Engliš Prize for the best paper on the Czech economic policy awarded by the Czech Economic Society within the Young Economist of 2022 Award.

We analyze the optimal window length in average inflation targeting rule within a Behavioral THANK model of Pfäuti and Seyrich (2022). The central bank faces an occasionally binding effective lower bound (ELB) or persistent supply shocks and can also use quantitative easing when we merge Pfäuti and Seyrich (2022) with Sims et al. (2020). We show that the optimal averaging period is infinitely long in the case of a conventional degree of myopia. However, for a higher cognitive discounting finite window length dominates. The optimal length of the averaging period depends on the definition of the average inflation process. Optimal period is substantially lower when the target is defined as an arithmetic moving average while the welfare loss is monotonically decreasing in the history-dependence for an exponential moving average process. We solve the model locally and globally to disentangle the effects of uncertainty about hitting the ELB in the future, which may lead to a downward inflation bias in the case of the global solution. The welfare loss difference given the solution technique is considerably decreasing in the degree of history dependence.

Spatial extension of Synthetic Difference in Differences

with Renan Serenini

We introduce a spatial version of the Synthetic Difference-in-Differences estimator of Arkhangelsky et al. (2021). The extension of the estimator builds on the approach of Delgado and Florax (2015) in their Spatial Difference-in-Differences method. Hence, we assume the treatment effect has spillover characteristics on some neighboring units. In other words, we allow treatment to have direct and indirect effects. We incorporate the framework into Arkhangelsky et al. (2021) showing that Delgado and Florax (2015) is a special case absents the synthetic control weighting component of the units in the donor pool. We compare the Spatial Synthetic Difference-in-Differences with the estimator of Arkhangelsky et al. (2021) using an example of a violation of the Stable Unit Treatment Value Assumption (SUTVA) leading to the treatment effect estimator being biased and inconsistent. All the features presented in Arkhangelsky et al. (2021) related to the comparison of the Synthetic Difference-in-Differences and conventional Difference-in-Differences carry forward in our case.

The economic costs of the War in Donbas for the affected Ukrainian regions

with Renan Serenini

Using the Synthetic Difference-in-Differences (SDiD) estimator, we show that the economic effects of the War in Donbas on Luhansk and Donetsk oblasts between the years 2014 and 2019 were of enormous magnitude. We estimate the average treatment effect on the region on per capita disposable income of 3362 USD (constant 2011) and per capita gross regional product (GRP) of 4853 USD. These effects correspond to a decline from the counterfactual by 53% and 60%, respectively. We also show a sharp increase in the unemployment rate by 5.56 percentage points. By estimating the effect on investment activity as well, we highlight one of the possible underlying mechanisms through which the fall in income and GRP could take place. The impact on gross fixed capital formation is over 2.5 billion USD (65% less than in the benchmark scenario). We control for possible spillover effects on neighboring regions which would lead to the SUTVA violation. Using a spatial extension of DiD, we do not find any significant spillover effects.

PUBLISHED WORK

Measurement of the Economics Knowledge of the Czech High School Students

Accepted, forthcoming in the Journal of Economic Education

with Pavel Potuzák and Renan Serenini

The article investigates the economic knowledge of Czech high school students using a database of 18,589 participants from the 2019-2020 Czech Economics Olympiad. Czech high school students show solid comprehension of basic economics concepts, and principles of international economics, but understand substantially less about microeconomic and macroeconomic theory. We demonstrate that some prevalent features of the economic knowledge of students found in other countries are also present in the Czech Republic, including a gender gap. Our analysis confirms problematic aspects of the Czech education system which have been identified in prior studies, including large differences in education quality across types of schools and regions. This study can serve as a basis for ongoing experiments based on data from the Economics Olympiad.

CONFERENCES

Midwest Macroeconomics Meeting Fall 2022 <i>SMU, Dallas</i>	2022
PhD Workshop on Expectations in Macroeconomics <i>Barcelona School of Economics</i>	2022
Ventotene Workshop in Macroeconomics <i>Sapienza University of Rome</i>	2022
SASCA Ph.D. Conference <i>Ca' Foscari University of Venice and University of Sassari</i>	2022
Sapienza Economics Ph.D. Summer Meeting <i>Sapienza University of Rome</i>	2022

TEACHING

Macroeconomics (Ph.D.) <i>Teaching assistantship for Marco Di Pietro, Sapienza University of Rome</i> <ul style="list-style-type: none">• New Keynesian models.• Perturbation methods, Projection Methods, Dynamic Programming, Incomplete Markets Models.	2022
Monetary Macroanalysis (Graduate) <i>Teaching assistantship for Van Quang Tran, Prague University of Economics and Business</i> <ul style="list-style-type: none">• Perturbation methods.	2021
Applied Macroeconomics and Policy (Graduate) <i>Teaching assistantship for Massimiliano Tancioni, Sapienza University of Rome</i> <ul style="list-style-type: none">• Estimation methods for DSGE models.	2021
Monetary Economics (Graduate) <i>Teaching assistantship for Marco Di Pietro, Sapienza University of Rome</i> <ul style="list-style-type: none">• New Keynesian models.	2021

AWARDS

The Karel Englis Prize for the best paper on the Czech economic policy awarded by the Czech Economic Society within the Young Economist of 2022 Award.

- **Name of the article:** Average Inflation Targeting in a Behavioral Heterogeneous Agent New Keynesian Model

Award from the Examination Board for an excellent diploma thesis and second place in the Dean's Award for the best master's thesis

- **Name of the master's thesis:** Monetary Policy Regimes: A DSGE Model Approach

Second place in the Dean's Award for the best undergraduate thesis

- **Name of the bachelor's thesis:** The Fed's Monetary Policy During the Time of Alan Greenspan as Chair of the Board of Governors

GRANTS AND FELLOWSHIPS

Fellowship for Foreign Nationals Educated Abroad <i>Sapienza University of Rome</i>	2020-2024
Mobility Grant <i>Sapienza University of Rome</i>	2023
Research Initiation Projects <i>Sapienza University of Rome</i>	2021

SKILLS AND ADDITIONAL INFORMATION

Languages: Czech-native proficiency, English-full professional proficiency, Italian-beginner
Software: Matlab, R, Stata, Eviews, and basics of Python; software platform Dynare embedded in Matlab; LaTeX; terminals Bloomberg or Thomson Reuters Eikon

REFERENCES

Marco Di Pietro, Ph.D. <i>Sapienza University of Rome</i>	<code>marco.dipietro@uniroma1.it</code>
Massimiliano Tancioni, Ph.D. <i>Sapienza University of Rome</i>	<code>m.tancioni@uniroma1.it</code>
Pavel Potuzak Ph.D. <i>Prague University of Economics and Business</i>	<code>pavel.potuzak@vse.cz</code>
Van Quang Tran, Ph.D. et Ph.D. <i>Prague University of Economics and Business</i>	<code>tran@vse.cz</code>