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Newsletter 18/2024

ALFRED-WEBER-INSTITUT FÜR WIRTSCHAFTSWISSENSCHAFTEN
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Upcoming Seminars

Monday, 08.07.2024	**Departmental Seminar**
13.30-14.30 AWI room 00.010	Stefano Carattini, Georgia State University "Climate change in the classroom" (Host: Timo Goeschl)
Monday, 08.07.2024	**Departmental Seminar**
15.00-16.00 AWI room 00.010	Philippe Goulet Coulombe, Université du Québec à Montréal "Macroeconomic Analysis in the Machine Learning Era" (Host: Christian Conrad)
Wednesday, 10.07.2024	**Departmental Seminar**
12.15-13.15 AWI room 00.010	Wieland Müller, University of Vienna "Distinguishing Non-stationarity from Inconsistency in Intertemporal Choice" (Host: Stefan Trautmann)

Abstract

Departmental Seminar

Stefano Carattini, Georgia State University

"Climate change in the classroom"

Knowledge gaps and biased beliefs concerning both climate change and climate policy represent a major obstacle to the decarbonization process. Climate education may represent a scalable solution to address such biased beliefs. In the context of a nationwide reform of the secondary school curriculum in Italy, we built a course on climate change and climate policy and implemented a field experiment training thousands of teachers on climate change in a staggered fashion. At baseline and endline we collected survey data on teachers, students, and parents to examine starting knowledge, attitudes, behaviors, perceptions, and preferences and how such outcomes vary following exposure to climate education. Our study highlights important initial knowledge gaps and provides evidence on the ability of climate education to address biased beliefs at scale.

Departmental Seminar

Wieland Müller, University of Vienna

"Distinguishing Non-stationarity from Inconsistency in Intertemporal Choice" *

We report the results of experiments in which subjects make a series of intertemporal choices. The design of the experiments allows us to test for consistency with utility maximization using the Generalized Axiom of Revealed Preferences (GARP) as well as for stationarity of inter-temporal choices at the individual level. We document heterogeneity of individual intertemporal choices with respect to patterns of demand behavior and levels of consistency with utility maximization. Our data suggest that inconsistency, per se, is quantitatively more important than any form of non-stationarity.

* joint work with Syngjoo Choi, Shachar Kariv, Matthew Polisson, and Dan Silverman

Departmental Seminar

Philippe Goulet Coulombe, Université du Québec à Montréal

"Macroeconomic Analysis in the Machine Learning Era"

This talk summarizes recent usages of machine learning for key macroeconomic problems such as characterizing core inflation, flexibly capturing time-varying macroeconomic relationships, and evaluating the strength of the Phillips curve.
First, we introduce the Assemblage Regression, a generalized nonnegative ridge regression problem that optimizes the price index's subcomponent weights such that the core series is maximally predictive of future headline inflation. Ordering subcomponents according to their rank in each period switches the algorithm to be learning supervised trimmed inflation — or, put differently, the maximally forward-looking summary statistic of the realized price changes distribution.
Second, we develop Macroeconomic Random Forest (MRF), an algorithm adapting the canonical Machine Learning (ML) tool to flexibly model evolving parameters in a linear macro equation. Its main output, Generalized Time-Varying Parameters (GTVPs), is a versatile device nesting many popular nonlinearities (threshold/switching, smooth transition, structural breaks/change) and allowing for sophisticated new ones. Unlike most ML-based methods, MRF is directly interpretable – via its GTVPs.
Third, we design a Hemisphere Neural Network (HNN) whose peculiar architecture yields a final layer where components can be interpreted as latent states within a Neural Phillips Curve. There are benefits. First, HNN conducts the supervised estimation of nonlinearities that arise when translating a high-dimensional set of observed regressors into latent states. Second, computations are fast. Lastly, forecasts are economically interpretable. Among other findings, the contribution of real activity to inflation appears severely underestimated in traditional linear econometric specifications.

Talks and Research Visits

Moumita Deb presented work on "Information Acquisition in a Threshold Public Goods Game" in:

the Young Economists' Meeting 2024 held at *Masaryk University* (Brno, Czech Republic); the *Postdoc Network in Agricultural, Climate, and Environmental Economics Online Conference*, organised by *Charles University* (Prague); the *Market, Cooperation and Votes Workshop* held at *Universidad Carlos III* Madrid; and in *the M-BEES* held at *Maastricht University;*
all during May-June.

Editorial deadline for issue 19/2024 of the newsletter:
Wednesday, July 11th, 2024, 12 p.m.
newsletter@awi.uni-heidelberg.de