Emre Enes Yavuz

Northwestern | Department of Economics

Placement Director:	Professor Alessandro Pavan	847-491-8266	alepavan@northwestern.edu
Placement Administrator:	Lola May Ittner	847-491-5213	econjobmarket@northwestern.edu

Contact Information	Department of Economics	Mobile: 312-479-7891
	Northwestern University	eey@u.northwestern.edu
	2211 Campus Drive	sites.northwestern.edu/eeyz
	Evanston, IL 60208	Citizenship: Turkish

Fields
Research: Macroeconomics, Applied Microeconomics, Economic History, Growth and Innovation.

Education
Ph.D., Economics, Northwestern University, Evanston, 2023 (Anticipated)
   Committee: Matthias Doepke (Chair), Martí Mestieri, Nezih Guner.
MA, Economics, Northwestern University, Evanston, 2018
MA, Economics and Finance, CEMFI, Madrid, 2017
BA, Economics, Boğaziçi University, Istanbul, 2015 *with honor*
BS, Mathematics, Boğaziçi University, Istanbul, 2015 *with honor*

Fellowships & Awards
Graduate Dissertation Fellowship, 2022-2023
CEMFI Master in Economics and Finance Scholarship, 2015 - 2017

Teaching Experience
Teaching Assistant, Northwestern University, 2018-2021
   International Finance, Money and Banking, Intermediate Macroeconomics,
   Introduction to Macroeconomics.

Teaching Assistant, Boğaziçi University, 2014
   Intermediate Microeconomics.

Research Experience
PhD Dissertation Internship, Federal Reserve Bank of St. Louis, 2022 Summer.
Research Assistant, Prof. Walker Hanlon, Northwestern University, 2021 Winter.
Research Assistant, Prof. Marti Mestierí, Federal Reserve Bank of Chicago, 2020 Winter.
Research Assistant, Prof. Monica Martinez-Bravo, CEMFI, 2016 Summer.

Job Market Paper

Intergenerational Earnings Mobility Trends and Childhood Skill Formation
There is no clear trend in intergenerational mobility despite rising inequality. I focus on the role of child skill formation in the family and argue that functional form and distributional assumptions play a crucial role in their association. I estimate the child skill-formation function nonparametrically using an EM algorithm with nonlinear quantile regressions and compare it with the commonly used CES case. The nonparametric case has features, e.g., how returns differ across families, that CES cannot capture and can create potential mechanisms for the lack of trend in intergenerational mobility. I will use the estimated child skill formation function in a quantitative life-cycle model to evaluate such mechanisms.

Other papers

Engel's Treadmill,
with Clement Bohr and Martí Mestieri.

Modern economic growth is characterized by constant growth in income per capita along with secular changes in the composition of the economy. We develop an endogenous growth model with directed technical change across sectors where these two facts emerge endogenously in equilibrium. The direction of innovation is determined by the market size, which evolves endogenously due to demand nonhomotheticities across sectors. Along the aggregate balanced growth path, there is perpetual unbalanced growth across sectors due to the two-way interaction between increasing income and directed technical change. As income grows, demand shifts to more income elastic sectors, triggering more innovation in those sectors, which further increases income, and so on. We refer to this perpetual process as "Engel's Treadmill." The model predicts that, along the balanced growth path, the relative price of more income-elastic sectors declines at a faster rate. Using US PCE price data for 138 sectors from 1959 through 2020, we provide evidence consistent with this prediction. We also show that, consistent with our theory, high income-elastic sectors experience higher innovation rate and job creation from entrants.

Taxes and Transfers with Nonlinear Wage Dynamics,
with Nezih Guner.

Following the methodology developed by Arellano, Blundell and Bonhomme (2017), we use the Panel Study of Income Dynamics to estimate a shock process for hourly wages that is both nonlinear, not AR(1), and not normal, with shocks drawn from non-parametric probability distributions. The estimated process exhibits nonlinear persistence where unusual shocks wipe out good or bad productivity histories, which can not be captured by a standard AR(1) specification. The persistence of shocks increases over the life cycle. We then build a standard life-cycle model with idiosyncratic income risk, incomplete markets, and endogenous labor supply decisions and simulate the model economy with standard, i.e. linear, and new, non-linear and non-normal, wage dynamics to study the insurance value of taxes and transfers. We find that when wage dynamics are nonlinear and nonnormal, social insurance (progressive taxes and means-tested transfers) is less valuable for poorer households but more valuable for richer ones. The estimated wage dynamics show less persistence than the standard specification, and there is more income mobility along the life cycle. This increases the value of the welfare state.

Invention and Technological Leadership during the Industrial Revolution,
with Carl Hallmann and Lukas Rosenberger.

This paper provides the first empirical cross-country evidence on inventive activity during the Industrial Revolution. Idiosyncrasies in the French historic patent law allow us to compare invention rates in Britain and France across sectors based on French patent data from 1791 to 1855. Our key result is a robust, positive association of invention rates in Britain and France at the sectoral level. Furthermore, we provide the first quantitative evidence on technological leadership in invention at the sectoral level. The evidence informs a debate about whether the acceleration of technological progress during the Industrial Revolution mainly was a British or a European achievement, which has implications for theories of growth and innovation.

Work in Progress

Are Recursive Neural Networks Useful for Macroeconomic Forecasting?
with Carl Hallman and Federico Puglisi.

We horse-race a Bayesian VAR with hierarchical priors, one of the state of the art macroeconomic forecasting models, with different neural networks. These include a simple RNN, a GRU, and a GRU regularized such that it shrinks towards withe noise (GRU-VAR). We find that any sufficiently flexible, and well regularized model has similar forecasting performance as the Bayesian VAR. We find that our GRU-VAR easily outperforms the BVAR in forecasts that go further than one step.

Mobility of Inventors: Evidence from Historical Patents of France and UK
with Walker Hanlon.

Languages   English (fluent), Turkish (native), Arabic (Advanced)

Programming   Python, R, Fortran, Matlab, Linux.

References   Professor Matthias Doepke   Professor Martí Mestieri
                       Department of Economics   Department of Economics
                       Northwestern University   Northwestern University
                       2211 Campus Drive   2211 Campus Drive
                       Evanston, IL 60208   Evanston, IL 60208
                       847 491 8207   847 491 8218
                       doepke@northwestern.edu   mestieri.marti@gmail.com

                       Professor Nezih Guner
                       Barcelona Graduate School of Economics
                       Ramon Trias Fargas, 25-27
                       08005 Barcelona, Spain
                       +34 93 581 1203
                       ngunermail@gmail.com