UC SANTA BARBARA
Laboratory for Aggregate Economics and Finance

Vol XVIII — No 2 — June 2026

IN THIS ISSUE

Workshop on Income, Employment, and Consumption Dynamics
Conference held June 30 and July 1, 2025

Finn's Skål
Conference held July 4-5, 2025

XXVIII Workshop on Dynamic Macroeconomics
Conference held July 8-10, 2025

FROM THE LAB

Volume XVIII — No 2 — June 2026

Table of Contents

Table of Contents

Volume XVIII — No 2 — June 2026

Finn's Skål

Note: speakers are highlighted in author listings

Volume XVIII — No 2 — June 2026

Table of Contents

Table of Contents

Volume XVIII — No 2 — June 2026

From the Lab

Director's Message

Finn Kydland

Dear Friends,

This issue covers summer 2025, an historic season in my Getting Older Era. Everyone surprised me with a special conference in one of my favorite cities, Madrid. It was special because it was attended by many of my former students and colleagues who presented their latest research. As you all know, I am not an effusive person. I know no Norwegians with that quality. I must say, however, that I appreciated seeing each and every one of you who attended "Finn's Skol." The papers were very good, as were the critiques. It was striking how all of you asked interesting questions – the "question" question – in your papers. So often researchers get lost in their data or model and leave it to the reader to wonder what the author was asking and attempting to answer. I hope I had a good influence on you in that respect. Great job! I was also very pleased to see my former students, friends, and colleagues who did not present papers at this conference. Catching up on your lives was delightful. Moreover, the singing at dinner was top class. Thank you for this surprise.

We also had our usual and wonderful trip to Vigo this year where even more singing occurred on the bus riding home from our annual lobster dinner. While Vigo was different this year without the castle, it is always wonderful for Tonya and I to be a part of such a lively and serious bunch of great economists.

From the Lab

Assistant Director's Message

Nick Pretnar

The summer 2025 conference slate was a whirlwind two weeks in late June and early of vibrant seminars, discussions, and academic camaraderie in conjunction with three different Spanish institutions — CEMFI, the IE Business School, and the Universidad de Vigo.

The set of conferences started with the Workshop on Income, Employment, and Consumption Dynamics hosted by CEMFI and jointly sponsored by LAEF. As I have mentioned in these pages in the past few issues of From the Lab, LAEF is proud to partner with many institutions around the world to help fund conferences and research initiatives that bring together economists at the cutting edge of our frontiers of knowledge to showcase and workshop their latest ideas. This conference did just that (as do all of our various partnered and LAEF solo endeavors). The CEMFI workshop was a bit of a prelude for a big LAEF conference that Tonya (Finn's wife), Carlos Garriga, and myself spent quite a bit of time putting together in secret so as to keep it a surprise for Finn – Finn's Skål. We really wanted to have a big gathering for Finn to bring all of his students together on the 20th anniversary of LAEF's founding. Madrid was of course the best place to do this (as Finn's favorite), and Pedro Gete of IE University along with Carlos Garriga were seminal in helping with local organization that made this lively and rambunctious endeavor go off without a hitch. This conference was not only testament to the lasting and meaningful impact Finn has had on all of his students (myself included) but also the quality of the kinds of conferences and research showcases that we can put on at LAEF. Indeed, Finn's vision has always been for LAEF to be a laboratory that supports and features the best economists presenting their latest work. I continue to be honored to be a part of its storied lore and to be lucky to have been one of his very select group of esteemed PhD students.

Finally, no summer is complete without the annual pilgrimage to Vigo for the PhD student Workshop on Macroeconomic Dynamics. The 2025 edition was number XXVIII in a long series. As Finn mentioned, it was unfortunate that this conference was not held at the old Castello, however, being in the heart of Vigo afforded the presenting students and visiting faculty members more options to break off for one-on-one discussions in more intimate settings at the local cafes and restaurants. We are back in the city of Vigo again this summer and look forward to another great conference as usual.

The 2026-2027 academic calendar is already shaping up to be a strong and deep one at LAEF. We will be back in the fall with conferences at the University of Connecticut (Growth, Inequality, and Macro Development) in September, Santa Barbara in October, and the University of Hong Kong in December. Check the LAEF website for are open submission calls. The UConn is taking submissions until July 10, and we expect the open call for the Hong Kong conference to be published sometime in late May/early June.

As always, if you are interested in helping host a LAEF conference, please reach out to me, Nick Pretnar at npretnar@ucsb.edu. We partner with a variety of institutions and welcome any and all proposals.

Workshop on Income, Employment, and Consumption Dynamic

June 30 and July 1, 2025; CEMFI, Madrid Attendees

Martin Almuzara – *FRB of New York*
Anmol Bhandari — *University of Minnesota*
Beatriz Gonzalez — *Banco de España*
David Price — *University of Toronto*
Suphanit Piyapromdee — *University College London*
Micole De Vera — *Banco de España*
Martin Souchier — *Wharton School-University of Pennsylvania*
Nathan Zorzi — *Dartmouth College*
Kurt Mitman — *CEMFI and IIES*
Benjamin Friedrich — *Kellogg School-Northwestern University*
Sergio Salgado— *Wharton School-University of Pennsylvania*
Eugenio Renedo Sanchez — *CEMFI*

Organizers: Manuel Arellano – CEMF
Nezih Guner – CEMFI
Kurt Mitman – CEMFI. IIES
Serdar Ozkan – FRB of St. Louis

Nonlinear Micro Income Processes with Macro Shocks

Presenter: *Martin (Tincho) Almuzara*

Coauthors: *Manuel Arellano, Stephane Bonhomme, Richard Blundell*

We propose a nonlinear framework that exploits both macro and micro data to study the dynamic transmission of aggregate and idiosyncratic shocks to household income. We develop identification arguments and estimation methods that combine macro time series and time series of panels. Using U.S. aggregate data and the PSID, we find that business-cycle fluctuations modulate the persistence of heterogeneous individual histories and the risk faced by households. We document how aggregate and idiosyncratic shocks propagate over time for households in different macro and micro states. Lastly, we quantify the welfare cost of aggregate and idiosyncratic risk.

Capital Reallocation and Private Firm Dynamics

Presenter: *Anmol Bhandari*

Coauthors: *Paolo Martellini, Ellen McGrattan*

We develop a theory of firm dynamics and capital reallocation in private firms and use it to study the taxation of business income, capital, and capital gains. Intangible assets—such as customer bases and trade names—are created using owners' time and are infrequently traded in bilateral meetings. We discipline the model with U.S. administrative data, which report purchase prices and counterparties in asset transfers, allowing us to calibrate the investment technology and output elasticity for otherwise unobservable intangible capital. The equilibrium features dispersion in marginal product of capital, transferable share of firm value, and return on business wealth. Introducing taxation, we find that capital gains taxes are most distortionary, primarily by discouraging entry and reallocation of capital, whereas income taxes are least distortionary.

The Minimum Wage Effects on Earnings and Sorting

Presenter: *Suphanit Piyapromdee*

Coauthors: *Tanisa Tawichsri, Nada Wasi*

This paper estimates the effects of the introduction of a nation-wide minimum wage (MW) in Thailand on earnings and sorting. Using the Thai social security data, we show that there is a great degree of mobility differential among workers with similar wages. Hence traditional methods of measuring MW effects by classifying workers into wage bins based on workers' wages before the MW policy may give an incomplete picture of the earnings effects due to mobility heterogeneity. Moreover, they exclude unemployed workers without wage bins before the policy. In our analysis, we include both employed and unemployed workers and estimate their latent types using a semi-parametric model of wages and employment mobility with two-sided heterogeneity of Bonhomme et al. (2019) and Lentz et al. (2021). Using identification designs exploiting variation in exposure across workers' wage-mobility latent types, we find that the MW raised earnings with sizable spillover effects. We show that while the MW had little disemployment effect on employed workers, the probability of finding a job for unemployed workers who had been unemployed for at least a year declined. Moreover, sorting among new employment matches after the policy became less positive across workers of all age groups. We then use the two-sided heterogeneity model to perform simulation to decompose (i) the sources of gains on earnings into worker, firm, match and allocation effects, and (ii) the reduction of sorting into changes in job-to-job, employment-unemployment and unemployment-employment transitions. We find that for short tenure workers, the declined sorting is primarily driven by the change in their mobility pattern out of unemployment whereas for long tenure workers all three mobility channels are equally important. The sources of gains on earnings vary by worker types.

.

The Lifecycle Origins of Inequality

Presenter: *David Price*

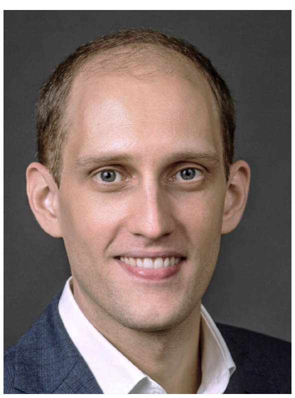
Coauthors: *Fatih Guvenen, Luigi Pistaferri*

This project will challenge an accepted finding in economics on the lifecycle pattern of inequality—namely, that inequality increases with age within a birth cohort. The research team builds on existing research from the Global Repository of Income Dynamics database to develop a model to explain an observation in the data that inequality is generated more from differences in childhood experiences such as parental income or school quality than from labor market experiences.

Firm-level Productivity and Demand Shocks in Imperfectly Competitive Labor Markets: Implications for Wage Dynamics

Presenter: *Micole de Vera*

I build a novel framework to empirically disentangle productivity from demand shocks at the firm level and measure their pass-through to worker wages. Measuring the pass-through of firm-level shocks contributes to understanding how firms affect wage inequality and wage dynamics. My analysis leverages a unique Portuguese data set that combines matched employer-employee data, financial statements data, and firm-product information on quantities and prices. The productivity, demand, and labor market advantages processes are inferred from observed data. I find substantial cross-sectional heterogeneity across firms along these three dimensions. Moreover, these features of the firm evolve in rich, nonlinear ways. Most firms have highly persistent states for most shocks, but poor-performing firms with large positive shocks have much less persistent states. In an environment with wage adjustment costs, I find that wages are not adjusted in response to productivity shocks, whereas I estimate positive pass-through elasticities to demand shocks. There is suggestive evidence that pass-throughs of adverse demand shocks are larger than those of good ones. Moreover, the pass-through of good demand shocks is larger for firms with better positions in their respective labor markets.



Insurance Inside and Outside the Firm

Presenter: *Martin Souchier*

This paper presents a new equilibrium model with optimal wage contracts, assets, and search frictions. In this model, firms take into account workers' access to financial markets when they design how wages change with tenure and after productivity shocks. The model is consistent with empirical evidence showing that wealthy workers experience higher average wage growth and are more exposed to firm-level productivity shocks than poor workers. The insurance that workers receive outside the firm significantly crowds out the insurance that they receive inside the firm. Specifically, firms provide relatively less insurance to wealthy workers because these workers can self-insure better. Wealthy workers are also matched with more productive firms and receive higher average wages precisely because firms provide less insurance to them. The model has novel implications for public policies that improve the ability of workers to self insure, such as relaxing borrowing constraints.

The Labor Market Consequences of Rapid Sectoral Shifts

Presenter: *Nathan Zorzi*

Coauthors: *John Grisgby*

Sectoral shifts require costly labor reallocation, fueling concerns about how quickly they occur. We study how the pace of these shifts affects workers at risk of displacement. We develop a life-cycle model with skill heterogeneity, directed search and job ladders in which labor demand gradually rises in one sector and declines in another. The model reveals three insights. First, workers' lifetime earnings are strongly non-linear and even non-monotonic in the horizon over which the transition unfolds. Second, more workers benefit on the extensive margin as the transition accelerates further, but the tail of losses becomes thicker on the intensive margin. Third, labor market frictions are important to quantify these non-linearities. We apply our model to the climate transition and find substantial earnings losses from a transition ending in 2060. Completing the transition ten years earlier reduces average losses, but raises losses in the tail by around 20%.

Unequal Decoupling

Presenter: *Kurt Mitman*

Coauthors: *Sergio de Ferra, Gabriel Fritsch, Frederica Romei*

Who gains and who loses from geopolitical fragmentation? We develop a general- equilibrium, quantitative framework that incorporates cross-country heterogeneity in in- come and wealth inequality, capturing rich income dynamics in both advanced and emerg- ing economies. We then consider two fragmentation scenarios: the closure of the United States or of China to trade and financial flows with the rest of the world. We find that in the United States, only households at the top of the wealth distribution experience wel- fare gains in both scenarios, while all other households incur losses. Outside the United States, the average welfare outcome is generally positive when the United States closes, as capital becomes more abundant in all countries. The reverse is generally true when China ceases lending. These average effects mask significantly heterogeneous impacts of these shocks on workers and owners of capital in each country.

Earnings Dynamics and Firm-level Shocks

Presenter: *Benjamin Friedrich*

Coauthors: *Lisa Laun, Costas Meghir, Luigi Pistaferri*

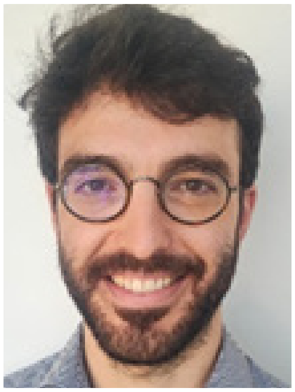
We use matched employer-employee data from Sweden to study the role of the firm in affecting the stochastic properties of wages. Our model accounts for endogenous participation and mobility decisions. We find that firm-specific permanent productivity shocks transmit to individual wages, but the effect is mostly concentrated among the high-skilled workers. The pass-through of temporary shocks is smaller in magnitude and similar for high- and low-skilled workers. The updates to worker-firm specific match effects over the life of a firm-worker relationship are small. Substantial growth in earnings variance over the life cycle for high-skilled workers is driven by firms. In particular, cross-sectional wage variances by age 55 are roughly one-third higher relative to a scenario with no pass-through of firm shocks onto wages.

Non-linear Productivity and Investment Dynamics

Presenter: *Beatriz Gonzalez*

Coauthors: *Giulio Fella, Julio Gálvez, Tatsuro Tsenga, Juan Carlos Ruiz-Garcia*

The nature of productivity shocks is a central feature of models of heterogeneous firm dynamics. Using firm-level data from Spain, we show that the observed productivity dynamics differ from those implied by the canonical, linear AR(1) representation with normally-distributed shocks. We document that the productivity process features non-linear persistence and non-normality. Motivated by this, we estimate a flexible stochastic process for productivity which allows for these features and compare its implications with the canonical one. We find that the flexible model fits the productivity data much better. We also estimate non-parametric, semi-reduced form empirical investment functions and find that the two processes imply very different responses to productivity shocks. Those estimated under the flexible process fit much better the relationship between investment and productivity in the data. Finally, we embed both the non-linear and the canonical process in a structural, partial equilibrium investment model and estimate capital adjustment costs under both specifications. The model estimated under the non-linear process fits the data much better and has very different implications for the relative importance of fixed versus quadratic costs of adjustment.

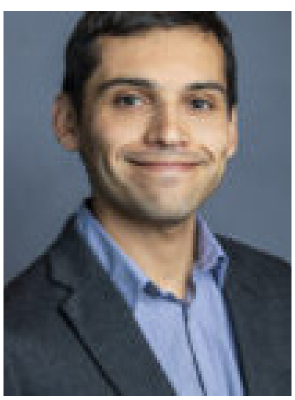


Taxes and Transfers with Nonlinear Wage Dynamics

Presenter: *Eugenio Renedo Sanchez*

Coauthors: *Nezih Guner, Emre Enes Yavuz*

Following the 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.



Scalable versus Productive Technologies

Presenter: *Sergio Salgado*

Coauthors: *Mons Chan, Guangbin Hong, Serdar Ozkan, Joachin Hubmer*

Are larger firms more productive, more scalable, or both? We use firmlevel panel data from thirteen countries and employ a broad set of methods to estimate factor elasticities—capturing returns to scale (RTS)—and total factor productivity (TFP). We find substantial RTS heterogeneity within industries, with larger firms exhibiting higher RTS driven by greater intermediate input elasticities. TFP, by contrast, rises with firm size only up to the top decile before declining. Incorporating RTS heterogeneity into a standard model of entrepreneurship more than doubles the efficiency losses from financial frictions compared with a conventional calibration with only TFP differences.

Finn's Skål

July 4 and July 5, 2025; IE University – Madrid, Attendees

Eric Young – *University of Virginia*
Enrique Martínez García— *FRB of Dallas*
Carlos Zarazaga — *Southern Methodist University*
Roman Sustek — *Queen Mary University London*
Rish Singhania — *University of Exeter*
Christine Braun — *University of Warwick*
Ben Griffy — *University of Albany, SUNY*
Stephane Verani — *Federal Reserve Board*
Marek Kapička — *CERGE-EI*
Zach Bethune — *Rice University*
Julien Neira— *University of Exeter*
Kjetil Storesletten — *University of Minnesota*
Espen Henriksen – *BI*
Carlos Garriga – *FRB of St. Louis*
Nick Pretnar – *UCSB, LAEF and CMU, Tepper School of Business*

Organizers: Carlos Garriga – *FRB of St. Louis*,
Tonya Kydland
Nick Pretnar – *UCSB, LAEF and CMU, Tepper School of Business*
Pedro Gete – IE University

Equilibrium Multiplicity in Aiyagari and Krussell-Smith

Presenter: *Eric Young*

Coauthors: *Kieran Walsh*

Repeatedly solving the Aiyagari (1994) model with random parameters,we construct hundreds of examples with multiple stationary equilibria. We never find this steady-state multiplicity with risk aversion less than ≈ 1.49, depreciation less than ≈ 0.19, or income persistence less than ≈ 0.47, and multiplicity requires a disaster state for income. In cases with multiplicity, the lowest rental rate occurs near depreciation times the capital share. It is possible for the economy, without a change in fundamentals, to transition rationally from a higher-rate equilibrium to one with a lower rental rate, lower inequality, and lower welfare (for most agents). We also construct the first Krusell and Smith (1998) examples with multiple recursive competitive equilibria.

Tempting FAIT: Flexible Average Inflation Targeting and the Post-COVID U.S. Inflation Surge

Presenter: *Enrique Martínez García*

Coauthors: *Roberto Duncan, Luke Miller*

In August 2020, the Federal Reserve replaced Flexible Inflation Targeting (FIT) with Flexible Average Inflation Targeting (FAIT), introducing make-up strategies that allow inflation to temporarily exceed the 2% target. Using a synthetic control approach, we estimate that FAIT raised CPI inflation by about 1 percentage point and core CPI inflation by 0.5 percentage points, suggesting a moderate impact net of food and energy and a largely temporary effect. Short- to medium-term inflation expectations increased by approximately 0.8 percentage points, while long-term expectations remained anchored. The effects of FAIT on economic activity were, if anything, minimal. Our results are robust across multiple specifications, including alternative price indices, synthetic control esti-

Quantifying Discretionary Fiscal Policy's Contribution to U.S. Inflation

Presenter: *Carlos Zarazaga*

Coauthors: *Nathan Balke*

The surge of inflation following the 2020-2021 COVID-19 pandemic, preceded by historically large fiscal deficits, has reignited an old-standing debate about the role of fiscal policy in inflationary outcomes. This paper sets out to contribute to that debate by empirically assessing the role that US fiscal policy has had on the post-pandemic inflation spike, disciplined by the requirement that such contribution had to be consistent with that for the entire 1960-2022 period, as inferred with a model widely regarded as successfully accounting for cyclical features of the US economy. To that end, the paper introduces a fiscal block in the Smets and Wouter's model (2007) that overcomes the limitation that fiscal debt policy in the active monetary-passive fiscal policy regime assumed by that paper has no effect on inflation, other than "passively" validating that "actively" targeted by the monetary authority. The augmented model makes it possible to postulate an alternative passive monetary-active fiscal policy configuration in which inflationary neutral Ricardian shocks to contemporaneous U.S. Federal primary budget deficits coexist with "Non-Ricardian" ones that are an independent source of unanticipated inflation or deflation. The paper finds that such shocks contributed to roughly one-third of the 2021-2022 post-Covid increase in inflation, and that they played yet a more significant role during the 1970s and 1980s, when their contribution to the rise and fall of inflation was roughly 50%. From a more historical perspective, the results of this paper suggest that non-Ricardian fiscal shocks have been a non-negligible source of U.S. inflation, accounting for 25% of the one-year-ahead inflation forecast error variance and for 64% of the unconditional variance in inflation over the period 1960-2022.

Immigration and Productivity: Unpacking the Role of Spatial Sorting

Presenter: *Rish Singhania*

Coauthors: *Jan Auerbach, Elisa Keller, Julian Neira*

Foreign-born and US-born workers sort differently across space. This paper examines how spatial sorting affects US productivity by disentangling the roles of worker productivity and local amenities. Using data on labor market outcomes and new measures of user cost of capital across regions, we identify spatial distributions of local amenities and productivity by worker birthplace, including birth state for US-born workers, in a general form under minimal assumptions. We use a productivity decomposition as a diagnostic tool to isolate channels through which immigration contributes to aggregate TFP. The decomposition applied to US Census data from 1980 to 2018 reveals that amenity-induced spatial sorting is the primary driver of TFP gains from immigration, with the largest share coming from foreign-born workers mitigating the birth-state bias of US-born workers. Counterfactual exercises show that the birth-state-bias-mitigation channel accounts for at least 90% of TFP gains from immigration.

Measuring the Productivity of Working from Home

Presenter: *Christine Braun*

Coauthors: *Travis Cyronek, Peter Rupert*

We document a doubling of hours worked at home in the US from 2003 to 2019. We propose a model where workers choose optimally where (at home or at the office) and how much time to work at the chosen location. The place and time depend on worker preferences across locations and the relative productivity of working from home. We estimate the model allowing for both preferences and productivity to change over time and decompose the rise in hours worked. Changes in preferences and the demographic composition of the workforce played little role in the rise of working from home. Instead, increases in the relative productivity of working from home and employment shifts toward occupations with higher relative productivity can account for most of the observed increase in hours worked at home.

The Effect of Unemployment Insurance Eligibility in Equilibrium

Presenter: *Benjamin Griffy*

Coauthors: *Ying H. Chao, David Wiczer*

In the United States, workers whose past earnings were below a threshold are generally ineligible for unemployment insurance (UI), creating a discontinuous jump in the value of being unemployed. Using a regression discontinuity design with administrative panel data, we estimate a sizable local effect from UI eligibility on earnings in the next employer, around 10 percent per quarter. This evidence, however, understates UI's causal effect because of endogenous non-compliance. It also does not distinguish between underlying reasons for higher re-employment earnings, a higher share of production, or more productive matches. These are addressed through a quantitative model. The underlying causal effect is 50 percent higher than the empirical estimates, and nearly all of the effect comes from workers getting a larger share.

Optimal Retirement Policies with Private Annuities

Presenter: *Stephane Verani*

Coauthors: *Pei Cheng Yu*

This paper examines the optimal design of retirement policies that rely on private insurance markets while accounting for financial frictions within these markets. We analyze the impact of uninsurable aggregate interest rate shocks in a life-cycle model where the government screens productivity, longevity, and altruism. We show that observing retirees' annuitization choices helps separate individual types. However, private annuity markets face supply-side inefficiencies due to interest rate risk. To improve market efficiency, the government can issue long-term bonds, supported by interest rate-contingent taxes. Therefore, full privatization can only be optimal without interest rate shocks; otherwise, Social Security remains necessary.

Are Asset Taxes Useful in Reducing Consumption and Wealth Inequality?

Presenter: *Marek Kapička*

I analyze asset tax reforms in an overlapping generations economy with preference heterogeneity and find that asset taxes have a limited impact on consumption and asset heterogeneity, even when the tax revenues are redistributed to the less wealthy. Higher asset taxes raise both the risk-free rate and the equity premium, largely offsetting their redistributive benefits. The equity premium increases not only because taxing risky assets reduces the wealthy's willingness to bear risk but also because these assets are reallocated to less wealthy individuals with a lower risk tolerance. Calibrating the model to the US economy, I show that a 10 percent tax on risky assets increases the equity premium from 5.2 percent to 6.2 percent, reduces consumption Gini only from 0.33 to 0.31, and asset Gini from 0.55 to 0.54. The reduction in inequality is significantly larger if asset price changes are not taken into account.

Consumer Search, Market Power, and the Distributional Effects of Inflation

Presenter: *Zach Bethune*

Coauthors: *Shihan Shen*

This paper studies the effect of inflation on consumers' search behavior and firms' pricing strategies. In the model, households face uninsurable, idiosyncratic income and expenditure risk, and smooth consumption through pre-cautionary savings. Search in the goods market is random and households choose shopping effort to find low price offers, as in Burdett and Judd (1983). In addition, given a set of offers, households have the outside option to continue searching, as in Diamond (1971). In equilibrium, households with heterogeneous wealth and income choose different shopping strategies. Low wealth or income households put in more shopping effort, have a higher elasticity of demand (driven by their outside option of continued search), and pay lower prices/markups, compared to high wealth or income households. In response to an increase in aggregate inflation, the relative price paid by low wealth/income households increases compared to high wealth/income — their effective inflation rate is higher. This effect is driven by the fact that high wealth/income households increase their shopping effort relatively more, end up in lower price stores more often, and compete with the low wealth/income. As a result, low price stores then need to adjust prices by less.

Fiscal Progressivity of the U.S. Federal and State Governments

Presenter: *Kjetil Storesletten*

Coauthors: *Johannes Fleck, Jonathan Heathcoate, Gianluca Violante*

Combining a variety of survey and administrative data, this paper measures the progressivity of taxes and transfers at the U.S. federal level and separately for each state. The findings are as follows. (i) The federal tax and transfer system is progressive. (ii) State and local tax and transfer systems are close to proportional, on average. (iii) There is substantial heterogeneity in tax levels and tax progressivity across states. (iv) States that are funded mostly by sales, property and business taxes tend to have regressive tax systems and low average tax rates. States that are funded mostly by personal income and corporate income taxes tend to have progressive tax systems and high average tax rates. (v) Regressive states are concentrated in the South. (vi) State progressivity has remained broadly stable between 2005 and 2016. (vii) Including spending on public goods and services as a transfer has a large positive impact on measured federal and state progressivity. State spending on public education is associated with the largest increases in estimated progressivity.

Risky Capital of Emerging Markets

Presenter: *Espen Henriksen*

Coauthors: *Felix Gerding, Ina Simonovska*

We build a panel of stock market returns across 37 developed and developing countries spanning five decades. We document: (1) higher and more volatile returns in poorer over richer countries; (2) higher returns in countries with more sensitive dividends to changes in global predictable growth. We quantitatively explore whether consumption-based longrun risk can reconcile these patterns. When we estimate the parameters that govern the U.S. investor's consumption growth and each market's dividend growth process, the model generates higher risk premia in emerging over developed markets, and predicts levels and volatilities of stock market returns that are at par with data.

A Theory of Long-run Development with Capital

Presenter: *Nick Pretnar*

Coauthors: *Akos Valentinyi*

This paper offers a unified framework for understanding long-run growth across the pre-industrial, transitional, and industrial eras. We build a flexible growth model with three factors of production (land, capital and labor) and two distinct productivities which separately augment land/labor and capital/labor complementarities. The structure generates endogenously variable elasticities of substitution between inputs and can explain dynamic shifts in both factor income shares and aggregate output for an entire time series of aggregate data. When estimated on historical data from England and Wales, we show both theoretically and quantitatively that the model successfully reconciles multiple growth regimes.

Monetary Policy, Refinancing Windows, and Credit Expansions

Presenter: *Carlos Garriga*

Coauthors: *Manu Garcia*

Firm Dynamics with Many Sectors

Presenter: *Julien Neira*

Coauthors: *Hugo Hopenhayn, Rish Singhania*

Global House Prices since 1950

Presenter: *Roman Sustek*

Coauthors: *Harron Mumtaz*

What drives house prices? Applying a parsimonious model to house prices in 12 advanced economies since 1950, we show that expectations about future fundamentals were the key driver behind some major house price movements. In the model, the price of housing services is determined by the housing stock, population, income per capita, and housing consumption heterogeneity across age groups. These fundamentals contain persistent predictable components, inferred from the data, affecting expectations. The estimated model accounts for the spectacular boom and bust in Japan, the boom starting in many countries in the early 1990s, and the recurrent cycles in house prices in Switzerland. A decomposition into the contributing factors is carried out.

XXVIII Workshop on Dynamic Macroeconomics

July 8-10, 2025; Universidad de Vigo Attendees

Jan Mazza – *European University Institute*
Carlos I Bolivar Herrera – *University of Minnesota*
Jisu Jeun – Goethe *University Frankfurt*
Olatz Román – *European University Institute*
Geraud Desazars de Montgaillhard – *Bocconi University*
Lukas Boehnert – *University of Oxford*
Agustina Sampaolesi – *University of Nottingham*
Charles Labrousse – *Paris School of Economics*
Naomi Cohen – *Sciences Po*
Luís Teles Morais – *Nova School of Business and Economics*
Elena Aguilar – *Princeton University*
Simone Zanella Cavallero – *Universitat Pompeu Fabra*
Yannick Reichlin – *Bocconi University*
Adilya Abdrazakova – *University of Alicante*
Barnabás Székely – *Goethe University Frankfurt*

Scientific Committee:
Arpad Abraham — *University of Bristol*
Franck Portier — *University College London*
Jaime Alonso Carrera — *Universidad de Vigo*
Sergio Feijoo Moreira — *University of Bristol*
Tim Kehoe — *University of Minnesota*
Jose Victor Rios Rull — *University of Pennsylvania*
Finn Kydland — *UCSB, LAEF*
Nick Pretnar — *UCSB, LAEF*

Inheritance Expectations, Dynastic Altruism, and Education

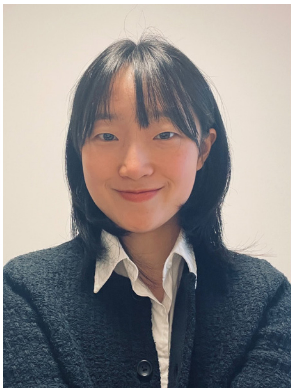
Presenter: *Jan Mazza*

This paper shows that altruism – the preference for transferring resources to future generations – is heterogeneous and persistent within dynasties, and an important driver of intergenerational inequality, given its influence on both physical and human capital transmission. Using Italian microdata, I document two facts. First, youths expecting an inheritance are substantially more likely to attend university, conditional on parental wealth, income, education, and transfers. Second, individuals who received inheritances are substantially more likely to intend to leave bequests, conditional on current resources. I develop a quantitative life-cycle model in which dynastic altruism follows a Markov process across generations, calibrated to match both empirical facts. Removing heterogeneity in bequest motives shrinks the enrollment gap between expected heirs and non-heirs by 63%; removing heterogeneity in coresidence and inter vivos transfers shrinks it by 37%; the anticipated wealth transfer itself has instead a large negative effect, as in its absence the gap widens by 53%. Persistence in altruism is critical: with altruism uncorrelated across generations, expected heirs become less likely to study, as the disincentivizing wealth effect dominates. Inheritance taxation funding student grants substantially raises enrollment and weakens the link between inheritance expectations and educational attainment.

The Micro Effects of Aggregate Shocks in Endogenous Trade Networks

Presenter: *Carlos L Bolivar Herrera*

This paper examines how aggregate shocks affect production networks through a model where firms balance cost and risk in supplier choices. Global uncertainty reorganizes the network, changing shock transmission and GDP growth. In the model, the impact of reorganization on value added depends on a firm's position in the network: during crises, producers shift away from central country-industry pairs as these become riskier. In addition, the model attributes 16-20% of GDP growth during the financial crisis to network reorganization. A policy counterfactual shows lower trade costs boost expected consumption by reallocating the network to more productive suppliers but raise aggregate risk for many countries.



Going Public over the Business Cycle

Presenter: *Jisu Jeun*

This paper analyzes the role of Initial Public Offerings (IPOs) on employment cyclicality. Using Compustat data, I show that IPOs are cyclical in numbers and compositions and that the economic conditions at the time of IPO have longlasting effects on subsequent firm growth. An important factor driving this result is the procyclical amount of capital raised from IPOs. Building on this evidence, I develop a firm dynamics model in which private firms decide whether to go public, while public and private firms decide about employment, investment, and exit in the presence of borrowing constraints. Crucially for the model mechanism, public firms face a looser borrowing constraint. The model is calibrated to match selected features of the U.S. non-financial firm sector and replicates the procyclical number of IPOs, selection patterns, and procyclical capital injections observed in the data. Using my model, I find that if IPOs were acyclical, the volatility of employment would be reduced by 10.4 percent. This amplification operates through two channels: first, a decline in the public firm share exacerbates capital misallocation; second, a lower propensity to go public reduces potential entrants' expected future value, decreasing entry rates. These findings suggest that policies mitigating IPO cyclicality during recessions could facilitate a faster recovery in aggregate employment.

Children, Household Specialization and Relationship Quality

Presenter: *G Olatz Román*

We investigate how having children impacts the quality of couples' relationships, a proxy for the non-material gains from being in a relationship. Using a novel measure of relationship quality (RQ), we perform a dynamic difference-in-differences estimation around the birth of the first child. We find a sharp and persistent decrease in RQ after birth, of comparable magnitude for mothers and fathers. We attribute this effect to changes in household specialization. Traditional gender-based specialization prevails after birth, regardless of the baseline distribution of tasks within the couple. Leveraging heterogeneous changes in household specialization after birth, we find that couples undergoing larger rearrangements also suffer larger RQ drops.

Capital Intensity and Firm Dynamics

Presenters: *Geraud Desazars de Montgaillhard*

Large firms exhibit systematically higher capital intensity relative to peers, a fact at odds with standard models where firms' technological differences are factor-neutral. This paper develops a general equilibrium framework in which firms expand by adapting their technology in order to adopt capital goods when they become cheaper. Firms can pay a firm-specific switching cost to change their production technology for a more capital-intensive one. As the cost of capital falls due to capital-embodied technical change, the firms that face the smallest switching costs become relatively more capital intensive and gain a competitive edge. This allows them to build market shares and markups. Markup endogeneity generates strategic interactions that further widen the dispersion in capital intensity and market shares. The model provides a unified explanation for the divergence between sales and employment concentration, rising dispersion in markups, a falling aggregate labor share despite a rising median labor share, and capital misallocation and investment weakness.

Regional Specialization Trade-Off

Presenters: *Lukas Boehnert*

In 1950, highly specialized U.S. regions had higher per capita incomes than those with greater industrial diversity. Since then, however, the more specialized regions have grown persistently slower. I rationalize this novel finding in a dynamic multiindustry model featuring two opposing forces. On the one hand, specialization raises productivity via agglomeration economies. On the other hand, it increases exposure to sectoral shocks. Real factor adjustment costs and financial frictions make reallocation in response to shocks costly and long-lasting. Disciplined by U.S. Census data, the model explains half of the observed relationship between initial specialization and subsequent growth, with financial frictions accounting for more than half of this adverse effect. A constrained-efficient planner allocation reveals that less specialization can raise welfare by reducing a region's exposure to industry-specific downturns.

Monetary Policy and R&D: Heterogeneous and Persistent Effects

Presenter: *Maria Sampaolesi*

This paper examines the enduring effects of monetary policy through rms' R&D decisions. Empirical evidence from U.S. data suggests that rms' R&D responses to monetary policy shocks are heterogeneous and persistent. In particular, relatively productive and financially constrained firms expand R&D more following an interest rate cut, with the peak effect occurring around four years after the shock. A DSGE model with heterogeneous rms and endogenous growth replicates these dynamics and highlights the roles of rm heterogeneity, entry and exit dynamics, and financial frictions in shaping monetary transmission. The model emphasises two key mechanisms: in the short run, monetary easing facilitates innovation among entrants, while, over time, incumbents drive innovation as the selection effect strengthens through the exit of less productive rms and the reallocation towards more efficient ones. A simulated onestandard-deviation interest rate cut results in a persistent increase in aggregate productivity and growth, leading to GDP being approximately 0.1% higher in the long run. Within this framework with endogenous growth and rm heterogeneity, welfare improves when monetary policy is gradual and places some weight on output stabilisation alongside inflation, with an optimal inflation target of 22.5 p.p. best supporting innovation and long-run growth.

International Risk-Sharing and Inequality Transmission: an Application to the Euro Area

Presenter: *Naomi Cohen*

Bilateral holdings of financial assets serve as a smoothing mechanism, aiming to alleviate the correlation between fluctuations in consumption and national output for both countries in the case of country-specific shocks. However, within countries, households exhibit unequal access to diversification opportunities, with financial assets, and particularly foreign assets, concentrated among the wealthiest households. Furthermore, asymmetric portfolios and cross-border capital holdings result in different intensity of diversification and, consequently, differing spillover effects from countryspecific shocks. These two channels highlight the heterogeneous impact of portfolio diversification within and across countries, with important implications for inequality. This paper examines the interaction between inequality and portfolio diversification in the context of how country-specific shocks affect inequality in the euro area. While theoretical models assume full home bias in equity by restricting investment to domestic capital, I provide empirical evidence of portfolio heterogeneity both within and between countries. This evidence demonstrates differences in access to and intensity of diversification, using household-level and country-level data. To analyze these dynamics, I develop a two-country Two-Agent New Keynesian (TANK) model within a monetary union, calibrated to represent the Core and Periphery of the euro area. The model incorporates the ability to invest in both domestic and foreign capital through a risk-neutral mutual fund. I focus on the consumption responses of households within a country and among similar agents across countries when subjected to a countryspecific shock. The results reveal that incorporating realistic portfolio structures significantly alters aggregate and individual consumption responses. Notably, the costs and benefits of such shocks are unequally distributed across households and countries. In the next steps, I aim to extend the model to a Heterogeneous-Agent New Keynesian (HANK) framework to quantify the mechanisms and provide deeper insights into various dimensions of inequality.

Mortgage Structure, Household Saving, and the Wealth Distribution

Presenter: *Luís Teles Morais*

Mortgage repayments make up 30% of Euro-area household saving flows. I show that fixed amortization schedules, mandatory in most countries, induce wealth accumulation through debt repayment but limit consumption smoothing. In a life-cycle model with uninsurable income risk and illiquid home equity, costly deviation from scheduled repayment forces constrained homeowners to cut consumption and liquid saving. In the data, homebuyers are constrained: starting with large mortgages and little cash, they save more than renters (including debt repayment) but accumulate less liquid wealth. I exploit a 2013 Dutch policy change that made previously-free flexible repayment costly through tax incentives. Homebuyers accelerated repayment and built less liquid buffers. The model matches these patterns and shows mandatory amortization increases the share of hand-to-mouth households by 15 percentage points, amplifying financial wealth inequality. Welfare losses, at 2–3% of lifetime consumption – equivalent to working an extra year before retirement – are concentrated in lower-income households.

Wealth and the Geography of Job Ladders

Presenter: *Simone Zanella Cavallero*

Workers' wealth shapes career dynamics by influencing job search and migration decisions. While economic opportunities concentrate in large cities, high living costs often prevent many workers from taking advantage of them. I develop a framework where wealth interacts with spatial search frictions to explain why some individuals remain stuck in low-paying jobs at the bottom of the ladder while others climb to the top. High living costs in productive cities amplify the trade-off between wages and unemployment risk, strengthening precautionary motives that lead low-wealth workers to accept lower-paying jobs. Using French administrative data, I document two facts that highlight the role of wealth. First, the spatial job ladder is steeper for low-wealth workers. Second, financial constraints limit upward mobility by reducing access to high-wage jobs in productive cities. Altogether, the calibrated model accounts for about one-third of the residual wage inequality observed in the data, of which roughly two-thirds is due to local job ladder heterogeneity. Relaxing borrowing constraints increases the share of low-wealth workers in the most productive cities by around 30%. Finally, place-based policies that improve insurance against unemployment risk in high-productivity cities raise welfare by enabling financially constrained workers to access steeper job ladders.

Credit Constraints, Learning, and Spatial Misallocation

Presenter: *Elena Aguilar*

Human capital is a critical determinant of productivity in modern economies, and we have long understood credit market frictions to be a critical barrier for its accumulation. In this paper, I study location decisions as a particular form of human capital investment, where individuals trade long-term benefits for high upfront costs, most notably in the form of housing. I show that when locations differ in the learning opportunities they offer and agents are heterogeneous in their learning ability, credit frictions not only weaken positive sorting of learning ability across space but, under empirically relevant conditions, they will induce negative sorting among individuals that are credit constrained. That is, marginally better learners will optimally choose to reside in locations offering worse learning opportunities. I document the key mechanisms of the theory relying on a novel source of administrative data from Spain. I then build a dynamic heterogeneous agent spatial model to quantify the losses associated with the effect of credit frictions on the spatial distribution of labor. Importantly, these losses arise from distortions in the composition of skill in each city: the dominant source of inefficiency is the spatial misallocation of individuals with high learning-ability. In the presence of negative sorting, standard place-based policies strictly aimed to expand the size of productive cities may have limited effects, making it important to design policy that can better target the composition of heterogeneous workers across space.

Labor Market Dynamics after Cost-of-Living Shock

Presenter: *Yannick Reichlin*

This paper provides causal microevidence on how idiosyncratic cost-of-living shocks are transmitted to labor market outcomes. Using the case of energy price changes, I combine 20 years of German employer-employee data with a representative household expenditure survey and rely on regional differences in energy expenditure patterns to identify the pass-through of energy cost shocks into earnings. A one-standard-deviation shock raises annual earnings growth by 0.4 percentage points, offsetting 30-35% of local cost increases within a year and compensating for 80% over five years. Job-to-job mobility is a key mechanism: higher exposure to energy price changes both increases the likelihood of switching and makes switches more profitable. Through the lens of an equilibrium model of the labor market, I clarify that while labor market responses substantially mitigate the distributional impact of relative price changes, they impose additional non-pecuniary costs on workers.

Luxury for All:A Macroeconomic Theory of Public Provision

Presenter: *Charles Labrousse*

Coauthors: *Yann Perdereau*

Public in-kind provision of education, healthcare, or cultural amenities accounts for a large share of government spending, even though redistribution can be achieved with cash transfers and externalities addressed with subsidies. We propose a new macroeconomic theory of in-kind provision, grounded in two features: (i) these goods are luxuries, with consumption rising more than proportionally with income; and (ii) they generate externalities that depend not only on the total level of consumption but also on its distribution across households. In a tractable heterogeneous-agent model, we show that these features make direct in-kind provision welfare-improving, even when cash transfers and subsidies are available. Using household- and country-level data, we document that most publicly provided goods exhibit both features. We then apply the framework to the design of fiscal consolidation, showing in a calibrated model that optimal consolidation should reduce provision of goods without private counterparts more strongly, and that income-targeted in-kind benefits can generate substantial fiscal savings. Finally, we develop a welfare-based imputation method for in-kind benefits, to provide a more accurate assessment of the distributional impact of government spending.

Informality, Children and Female Occupational Choice

Presenter: *Adilya Abdrazakova*

This paper studies how childbirth reshapes women's occupational choices in a developing country with imperfect enforcement. Using Brazilian PNAD-C data, I show that childbirth lowers women's labor force participation and, among those who remain employed, raises transitions into informal entrepreneurship by 8 percentage points. The effect is concentrated among non-college women. To interpret these patterns, I develop and calibrate a life-cycle occupational choice model with exogenous fertility, heterogeneity in wage and managerial ability, spousal earnings, and child-related time and monetary costs. Formal wage employment is constrained by stochastic access to formal jobs and limited access to part-time contracts. The model reproduces the post-birth shift from formal wage work to informal entrepreneurship. Counterfactuals show that lowering monetary childcare costs mainly raises participation, whereas lowering time costs shifts mothers toward formal wage work; expanding part-time options has limited effects when formal-job access is unchanged.

Bankruptcy Resolution and the Macroeconomics of Cash Flow-Based Lending

Presenter: *Barnabás Székely*

This paper argues that high bankruptcy reorganization costs limit access to cash flow-backed borrowing, distort firm financing, and depress aggregate productivity. I develop a general equilibrium model with heterogeneous firms that may borrow against physical assets or future cash flows and bankruptcy outcomes reflecting Chapter 7 (liquidation) and Chapter 11 (reorganization) of the U.S. bankruptcy code. Due to high reorganization costs, smaller firms are at an elevated risk of liquidation, which prevents them from credibly pledging future earnings as collateral. As a result, asset-poor firms are constrained by insufficient physical collateral on the one hand and elevated liquidation risk on the other. Calibrated to U.S. firm-level data, the model shows that reducing reorganization costs narrows the financing gap between small and large firms, and raises aggregate productivity by promoting firm entry and reallocating capital. These results highlight the benefits of a reorganization-friendly bankruptcy regime. Size-based reforms, such as the 2019 Small Business Reorganization Act, can generate substantial macroeconomic gains by improving small firms' access to external finance.

LAEF

Laboratory for Aggregate Economics and Finance

Director – *Finn Kydland*

Assistant Director – *Nick Pretnar*

Design and Production – *Thill Creative*

LAEF
Laboratory for Aggregate Economics and Finance
2112 North Hall
University of California, Santa Barbara
Santa Barbara, CA 93106–9215
U.S.A.
econ-laef@ucsb.edu
www.laef.ucsb.edu