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From the Lab
**Message from the
Assistant Director**
Nick Pretnar



Hello again! This issue of From the Lab features all of the papers presented at our fall 2025 conferences. We had a wonderful and lively set of discussions across three conferences, starting with the 4th Annual Junior Workshop in Macroeconomics at New York University, followed by two conferences in Santa Barbara. Our longest running annual joint venture — the 14th Advance in Macro-Finance Tepper-LAEF Conference — took place at the Upham Hotel and UCSB Alumni Center in Santa Barbara in late October of 2025. We then had the first in what hopes to be a new, annual collaboration with the University of Hong Kong at the UCSB Club & Guest House in early December.

The quality and quantity of seminars we were able to sponsor in fall of 2025 is testament to LAEF's ongoing initiatives to use our incredible resources to partner with other institutions in order to put together conferences that maximize research exposure along both the quality and quantity dimensions. We are able to do this thanks to incredible generosity from the UCSB administration, as well as a keen focus on partnering with other institutions to make these conferences possible. Researchers (and research more broadly) of all stripes benefit from a deep pool of opportunities to workshop ideas. At LAEF we believe now, more than ever, with artificial intelligence being used to accelerate the research process, it is imperative that researchers have increasing opportunities to present their work in front of live audiences of economic scientists and other experts. The feedback and discourse from an in-person seminar is a feature of the research process that cannot be automated and is crucial for helping economists hone their craft, improve the execution of their ideas, and ultimately lead to higher-quality research output to impact policies and press forward the frontier of knowledge within the profession.

As we continue to grow LAEF's conference footprint, please feel free to reach out to me (npretnar@ucsb.edu) with any questions, ideas, or collaborative proposals you may have.



4th Annual Junior Workshop in Macroeconomics

October 10–11, 2025; Kaufman Management Center, Room 2-100, NYU Stern, New York, NY

Attendees:

Conor Walsh — *Columbia University*
Shifrah Aron-Dine — *University of California Berkeley*
Lydia Cox — *University of Wisconsin-Madison*
Guillaume Sublet — *Université de Montréal*
Tatjana Kleineberg — *World Bank*
Sang Min Lee — *University of South Carolina*
Lucie Lebeau — *Wellesley College*
Diego Känzig — *Northwestern University*

Organizers:

Job Boerma — *University of Wisconsin-Madison*
Paolo Martellini — *NYU Stern*
Nick Pretnar — *UCSB, LAEF*



Growth, Firm Scale, and the Energy Intensity of Production

Presenter: *Conor Walsh*

Coauthors: *Kathryn McDonald, Noémie Pinardon-Touati*

We uncover a new mechanism that links growth and a decline in the energy intensity of production, observed globally since 1990. Using detailed microdata from India and a causal research design, we demonstrate that the expenditure share of energy declines steeply with firm scale, due both to physical scaling laws and technology investment. Given the fact that average firm size increases with growth, this scale dependence in energy demand implies that production endogenously becomes less energy-intensive with aggregate growth. We develop a model of this mechanism in general equilibrium, and quantify significant reductions in aggregate energy intensity as low- and middle-income countries (LMICs) like India grow. We conclude with a discussion of the future path of emissions in India.



Rebuild or Relocate? Recovery after Natural Disasters

Presenter: *Shifrah Aron-Dine*

This paper studies the distributional effects of natural disasters and the impact of post-disaster policies. Using flight data and original survey evidence from Puerto Rico after Hurricane Maria, I document that 7% of the population migrated to the mainland U.S. in the aftermath, though many later returned. High migration costs prevented an even larger number from leaving. Those who stayed faced widespread damages to housing, infrastructure, and the local economy. I find that age, wealth, and housing tenure shaped post-disaster choices: many homeowners with severe property damage defaulted on their mortgages, wealthier homeowners rebuilt with government assistance, and younger renters were most likely to leave the island permanently. These empirical findings inform a dynamic equilibrium model of migration, housing, and infrastructure with heterogeneous households. Homeowners with property damage experience significant welfare losses from direct reductions in home equity and housing consumption, while renters and undamaged homeowners also face welfare declines from infrastructure destruction and through general equilibrium price movements. Local infrastructure investment is a cost-effective policy, due to complementarities with both housing consumption and production. In contrast, rebuilding subsidies for homeowners, though effective in preventing mortgage defaults and mitigating housing shortages, are not cost-effective. Homeowners with property damage value these subsidies below cost because they are not guaranteed and do not provide any payout if the home is foreclosed on or sold. More flexible policies could yield large welfare improvements for similar costs.



The Macroeconomic Effects of the Buy American Act

Presenter: Lydia Cox

Coauthors: Miguel Acosta

We ask whether Buy American restrictions on government procurement lead to stronger macroeconomic effects of government spending. We propose a methodology based on a comprehensive understanding of Buy American regulations to identify government spending that is more and less constrained by domestic content restrictions. We validate our methodology in a novel firm-level dataset, and then apply it to federal spending at the state level. We show that government dollars that are not constrained by domestic content restrictions have a higher cross-sectional fiscal multiplier than constrained contract dollars. We rationalize our findings in the context of a New Keynesian model of U.S. regions. Though Buy-American restrictions reduce direct leakage of government dollars abroad, they cause government spending shocks to behave like negative labor supply shocks to the private sector, dampening the GDP response.



On The Optimal Allocation of Policy-Making

Presenter: Guillaume Sublet

Coauthors: Alessandro Dovis, Rishabh Kirpalani

How should society allocate policy-making between the legislative and the executive branches of government? We analyze a model in which biased and polarized policymakers set policy in response to shocks. We show that policy issues for which the policy-maker bias is small relative to the degree of polarization should be delegated to the legislature, while policy issues where the bias is large should be delegated to the executive. Moreover, when executive delegation is preferred, it is optimal to leave little discretion and impose a narrow mandate. This finding contrasts with conventional wisdom that executive delegation allows for greater flexibility. The main difference between the two institutional settings is the ability to restrict ex post bargaining under executive delegation. Thus, when the bias is large, executive delegation is preferred because it can effectively constrain policymakers' choices. In contrast, when the bias is small, the ability to bargain ex post allows for flexible responses to severe shocks while limiting political risk. We also study the credibility of these institutions and show that while delegating to the legislature is typically credible, executive delegation is typically not when the bias is exogenous but can be when the bias arises from time inconsistency problems.



Unequal Global Convergence

Presenter: *Tatjana Kleineberg*

Coauthors: *Shoumitro Chatterjee, Elisa Giannone, Kan Kuno, and Luca Looser*

We revisit a classical question: what is the role of structural transformation in determining regional convergence? To do so, we construct a novel global dataset of regional GDPs and granular sectoral employment for more than 1500 regions and more than 90 countries, which starts in 1980 and covers a large range of income spectrum. We document three main facts. First, regional convergence within countries decreases over time around the globe and stalls in the most recent decade despite residual spatial inequality. Second, this decline in regional convergence is associated with structural transformation toward high-skill services. Third, high-skill service employment exhibits a higher regional concentration than other sectors, including other services, manufacturing, or agriculture. Through the lens of a spatial equilibrium model which embeds the standard drivers of structural change, we find a reinforcing interplay between structural change and spatial development. As an economy transforms toward high-skill services, regional convergence declines due to agglomeration effects in the high-skill service sector. Agglomeration effects increase economic growth which further accelerates structural change toward services and, in turn, widens unequal regional dynamics..



College Education and Inequality Across Space

Presenter: *Sang Min Lee*

Coauthors: *Bipul Verma*

To what extent have the federal and state higher education policies—which have affected the supply and demand of college education—contributed to the growing cross-state wage inequality since 1980? To address this question, we develop and estimate a quantitative spatial model with endogenous college education and migration. The model features skill-biased technical changes and agglomeration effects, which means that a state's average wage rises as more residents attain college degrees or as college-educated workers migrate into the state. Counterfactual analyses reveal that tuition discounts and public appropriations by the federal and state governments have become more progressive. In the baseline, the standard deviation of log mean wages across states increased from 0.087 in 1980 to 0.117 in 2019. In contrast, had the higher education policies remained at their 1980 levels, the standard deviation would have risen by 73% more to 0.139 by 2019. Agglomeration effects played a significant role in this result: if they had been half as strong as estimated, the standard deviation would have increased by 17% more (instead of 73%) in the counterfactual than in the baseline.



The Macroeconomics of Labor, Credit, and Financial Markets Imperfections

Presenter: *Lucie Lebeau*

An increasing share of corporate loans, a critical source of firm credit, are sold off banks' balance sheets and actively traded in a secondary over-the-counter market. We develop a microfounded equilibrium search-theoretic model with labor, credit, and financial markets to explore how this secondary loan market affects the real economy, highlighting a trade-off: while the market reduces the steady-state level of unemployment by 0.6pp, it amplifies its response to a 1% productivity drop from 3.6% to 4.3%. Secondary market frictions matter significantly: eliminating them would not only reduce unemployment by 1.2pp, but also dampen its volatility down to 2.7%.



Green Business Cycles

Presenter: *Diego Känzig*

Coauthors: *Maximilian Konradt, Lixing Wang, Donghai Zhang*

This paper examines the relationship between green innovation and the business cycle, revealing that while non-green innovation is procyclical, green innovation is countercyclical. This pattern holds unconditionally over the business cycle and conditional on economic shocks. Motivated by these findings, we develop a business cycle model with endogenous green and non-green innovation to explain their distinct cyclical behavior. The key mechanism operates through a 'green is in the future' channel: green patents are expected to generate higher profits in the future, making green patenting less sensitive to short-term economic fluctuations. In general equilibrium, this channel is reinforced, making green and non-green innovation effective substitutes. We provide direct evidence supporting the model mechanism using data on marketimplied values of green and non-green patents.



14th Advances in Macro-Finance Tepper-LAEF Conference

October 17–18, 2025; The Garden Room at the Upham Hotel & the
UCSB Alumni Center, Santa Barbara, California

Attendees:

Yan Bai — *University of Rochester*
Yajie Wang — *University of Missouri*
Alessandro Dovis — *University of Pennsylvania*
Paolo Martellini — *New York University*
Fabio Bertolotti — *Bank of Italy*
Andrea Lanteri — *Duke University*
Julian Kozlowski — *Federal Reserve Bank of St. Louis*
Christian C. Opp — *University of Rochester*
William Fuchs — *University of Texas at Austin*
Mohammad Ghaderi — *University of Kansas*

Howard Kung — *London Business School*
Kaiji Chen — *Emory University*
Yu Yi — *Nankai University*
Yunzhi Hu — *UNC Chapel Hill*
Felipe Varas — *University of Texas at Dallas*
Javier Bianchi — *Federal Reserve Bank of Minneapolis*
Loupou Coulibaly — *University of Wisconsin-Madison*
Qing Liu — *Tsinghua University*
Zanhui Liu — *Tsinghua University*
Vivian Zhanwei Yue — *Emory University*

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Lars-A. Kuehn — *Carnegie Mellon University, Tepper School of Business*
Finn Kydland & Nick Pretzner — *UCSB, LAEF*
Liyang Shi — *Carnegie Mellon University, Tepper School of Business*
Ariel Zetlin-Jones — *Carnegie Mellon University, Tepper School of Business*
Shengxing Zhang — *Carnegie Mellon University*



Financing from Workers: Can Labor Market Power Mitigate Financial Frictions?

Presenter: Yan Bai

Coauthors: Yajie Wang

In times of financial crisis, firms' access to borrowing and external financing becomes severely constrained, with high-leverage firms facing the greatest frictions. These firms must turn to alternative mechanisms to absorb financial shocks. This study demonstrates that one such channel is financing through workers, whereby firms reduce wage growth to alleviate heightened financial constraints. The trade-off for these firms is that they lower real wages without increasing employee separations. The authors provide micro-level empirical evidence using U.S. Census employer-employee matched data and quantify the aggregate implications within a dynamic general equilibrium framework.

The key financial shock examined is a disinflation shock, chosen for two reasons. First, debt contracts are set before shocks are realized, so unexpected disinflation increases firms' real debt burden. Second, disinflation disproportionately impacts high-leverage firms. The authors construct unexpected disinflation at the state level as the difference between actual inflation and expected inflation over the next twelve months, using the University of Michigan's Survey of Consumers.

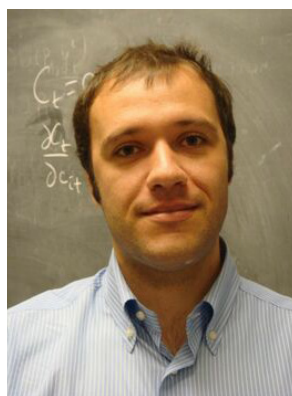
The main results are presented in Figures 2 and 3. Figure 2 shows the local projection of heterogeneous worker earnings growth following the shock. Workers' wage growth remains below zero for five years, with most coefficients statistically significant. This provides evidence that firms reduce wage growth during financial crises and continue to do so even after recessions end. Notably, wage growth never fully recovers, implying that firms do not compensate workers for prior losses. Figure 3 shows that separations remain statistically indistinguishable from zero, suggesting that firms retain employees but use wages as a buffer against financial strain.

The presentation emphasized the role of labor market power in enabling firms to use this financing channel. Firms with market power can suppress wage growth without triggering large separations, particularly when workers' outside options deteriorate during downturns. This dynamic allows firms to maintain output despite financial pressures. The authors also account for unionization and other measures of labor market power in their analysis, and their structural model explicitly incorporates firm-worker interactions to capture this mechanism.

The discussion raised several clarifying insights about the mechanisms linking financial frictions and labor market power. The presenters noted that while disentangling the effects of labor market power from those of financial frictions is empirically difficult, doing so may not be necessary, as

the key question concerns their joint impact on firms' ability to smooth financial shocks. They also discussed the types of debt considered in the analysis, noting that although the model abstracts from differences between bonds and loans, it uses Compustat data to measure overall leverage at the firm level. While this abstraction limits variation across debt types, the key mechanism remains robust.

Another important point concerned the persistence of nominal wage stagnation. Rather than a temporary adjustment, the data suggest that wage growth remains depressed for several years following a disinflation shock, indicating a persistent wage effect rather than a transitory nominal rigidity. Moreover, while unexpected inflation and disinflation might appear symmetric, the authors argue that disinflation provides a cleaner empirical setting. Nonetheless, both shocks can generate similar firm–worker dynamics, reinforcing the broader relevance of their mechanism. Inflation shocks, in contrast, often occur outside recessions and are therefore less harmful to high-leverage firms. Finally, the empirical findings indicate that a 1% disinflation shock results in a cumulative 3% loss in wage earnings over five years. About one-third of the typical debt-service burden faced by firms. This suggests that wage compression serves as a meaningful source of internal financing, enabling firms to smooth financial distress over an extended period. Importantly, the disinflation shock is not correlated with cost shocks, strengthening the interpretation that observed wage effects arise from financial constraints rather than shifts in production costs.



Long-Term Contracts, Commitment, and Optimal Information Disclosure

Presenter: *Alessandro Dovis*

Coauthors: *Paolo Martellini*

The role of consumer information in shaping firm behavior and policy design is more important than ever. This paper examines how a planner determines the optimal information disclosure policy to maximize overall welfare for both consumers and firms, given the commitment constraints faced by each. In a two-period setting, consumers receive contract offers from a set of firms in the first period. In the second period, they can receive an offer from the incumbent firm that perfectly observe the consumers type, and the competing outside firm who only receives a public signal from the disclosure policy. Figure 1, provides the timing of the contracts and observation of consumer's information. The learning of information by the incumbent firm mirrors how many firms learn about their consumers' type over time. The main question of this paper is to what extent should incumbent firms have to share information with competitors.

First, the authors examine a setting in which firms can commit to long-term contracts: the incumbent firm cannot exit in the second period, but consumers retain the option to switch to a new firm. In this environment, the optimal disclosure policy is to reveal no information. Withholding information maximizes welfare by enabling intertemporal consumption smoothing and cross-subsidization of lower-income consumers. A practical example arises in the context of health insurance markets, when the average consumer risk type is relatively low, the optimal policy prohibits conditioning on preexisting conditions. This framework serves as the baseline case, in which the authors characterize the second-period equilibrium given the set of contract offers extended by firms. These equilibrium conditions ensure that contracts remain immune to competitive poaching.

In the second scenario, both the firm and the consumer lack commitment in the second period. The firms are better off, but the consumers are worse off. The firms know exactly who the high-income types are and incumbents offer the least value possible to keep customers. The low-income types can't get a better offer elsewhere. These long-term relationships hurt the consumers. The main result here is that the benefits from cross-subsidisation are higher than the losses from adverse selection.

The discussion raised several important considerations regarding the implications of information disclosure in financial and insurance markets. A key example under debate is open banking, where consumers' financial information is shared across institutions. The authors question whether such transparency is ultimately desirable. That is, whether consumers are truly better off when more of

their private information, such as credit scores or health data, is disclosed. The presentation employed a modified mechanism, replacing written applications with repeated borrowing, to illustrate the model more intuitively. Despite this change, the core results remain robust, underscoring the strength of the theoretical framework.

The conversation also touched on parallels with the insurance setting, where there is no direct cost of acquiring or transmitting information. However, related work suggests that individuals often underinvest in information acquisition, which could influence the planner's optimal disclosure policy. An important determinant of equilibrium outcomes is the share of high-income or healthy consumers: as the proportion of high-type individuals rises, "cream-skimming" contracts emerge, targeting these consumers and affecting overall welfare distribution.

Further clarification was provided regarding the model's structure. The two subperiod, morning and afternoon, capture within-period credit decisions, while information operates across periods. In the credit setup, consumers transfer their endowment to firms, receive some return within the period, and potentially additional transfers later, representing intertemporal contracting. The incumbent firm does not condition on the consumer's private information because other contracts are publicly observable, making them relevant only for outside options. Finally, in equilibrium with partial information disclosure, even when pooling occurs and consumers with good credit scores are grouped with lower types, high-type consumers infer this and choose not to switch, reinforcing the stability of the pooling outcome.



Capital Replacement and Innovation Dynamics

Presenter: *Andrea Lanteri*

Coauthors: *Fabio Bertolotti*

The paper offers a timely and policy-relevant analysis of capital innovation and replacement, shedding light on how these processes influence investment dynamics amid transformative shifts such as the clean energy transition and the diffusion of artificial intelligence. The authors seek to understand the roles of capital replacement and embodied innovation in macroeconomic dynamics and their relevant policy interventions. They develop a quantitative model that is backed by empirical evidence on a number of crucial research sectors including aircraft innovation, vehicles, and computers.

The empirical evidence points to two main findings. First they find that during expansions, orders for new aircrafts rise and peak, and decrease quickly during recessions. Perhaps more interesting, innovation is also procyclical. New models are made at a higher rate in expansion periods, but decrease or hit zero during recessions. Building on this finding, the authors find that aircraft quality is also very procyclical as measured through fuel efficiency, but is robust to other outcome variables of interest as well.

After supporting evidence, the paper covers a calibration exercise using aircraft data. They establish a balanced growth path that they can then evaluate counterfactuals against. The paper presents the relationship between quality growth and replacement rate in Figure 3. The rate at which innovation grows with respect to aggregate demand is higher than the replacement rate. When testing response of aggregate dynamics to negative Total Factor Productivity (TFP) shocks, investment and replacement, new-capital quality, and output all experience dramatic drops that take several years to recover if at all. This shows the long-term impacts of productivity shocks on innovation and how it feeds back into the aggregate economy. This perhaps is one of the greatest takeaways of the paper. The complementarity of growth and innovation helps to explain lagging recoveries post shock. In a similar exercise with interest-rate shocks, investment can recover quickly, but the rate that new capital quality recovers and then overall aggregate output and capital lag shows a similar relationship of comovement.

The discussion covered several key points related to the mechanisms of capital replacement, innovation, and their macroeconomic implications. The authors emphasize that both demand-side and supply-side subsidies play an important role: demand-side policies encourage replacement of old durable assets with new ones, while supply-side measures, such as current subsidies for battery innovation,

stimulate technological progress. The complementary nature of innovation embodied in new capital goods contributes to the comovement between periods of heavy innovation and economic expansion.

Demand-side replacement policies tend to be highly expansionary in the short run. However, innovation-driven investment may lead to slower recoveries if the resulting improvements in quality are limited. A central aspect of the empirical analysis concerns the measurement of capital replacement, which is proxied by firms' orders that are interpreted as intended investment. This distinction is important, as weak output or cancellations of orders during recessions phases could obscure the underlying dynamics in the data.

Clarification was provided regarding the definition of capital goods in the dataset. It does measure planes, but really what it measures is how the set of features which is fixed changes over time. The model allows for heterogeneity in quality within asset types, reflecting variation in firms' choices over production attributes.

Theoretical discussion raised the possibility of multiple equilibria. While the calibration presented focuses on a single equilibrium, the authors acknowledge that feedback effects could, in principle, generate multiplicity. It was also noted that allowing assets to exit or depreciate completely does not qualitatively alter the main results.

Questions were raised about complementarities across firms in adopting new technologies. The model abstracts from these interactions, though the authors note that such complementarities likely exist in practice, especially in sectors with a limited number of firms. Relatedly, discussion of open-economy implications suggested that while innovation cycles are often highly correlated across countries, there are exceptions, such as China which could exhibit distinct adjustment patterns due to cross-border capital sales that allow them to mitigate some of the effects of recession.

Additional clarification was sought on the relationship between depreciation and quality investment. The authors note that when depreciation is high, replacement investment tends to increase, whereas lower depreciation rates are associated with less quality upgrading. The model can exhibit equilibria with or without this feature, depending on parameterization. Finally, the distinction between depreciation (treated as exogenous) and quality choice (endogenous) was highlighted as a recurring point of discussion, reflecting its importance for interpreting firms' investment decisions within the model.



The Cost of Capital and Misallocation in the United States

Presenter: *Julian Kozlowski,*

Coauthors: *Miguel Faria-e-Castro, Jeremy Majerovitz*

This paper makes two major contributions to the literature, both addressing the central question: how costly is it for a firm to invest in capital? First, the authors develop a corporate finance model that disentangles the lender's discount rate, the firm's cost of capital, and the social cost of capital. The second major contribution is the derivation of a sufficient statistic to measure misallocation and a direct application to credit registry data.

With regards to their first contribution, they begin by modeling the firms side of the problem whose objective is to maximize the net present value of their profits by choosing optimal capital investment and payments on existing debt levels. Lenders determine the cost of debt to the firm, which allows for the authors to calculate the firms cost of capital. Importantly, the firms have a heterogenous cost of capital because without the heterogeneity, there is no misallocation. These two together allow for the firm level output and investment to be aggregated economy wide. Then solving the aggregate problem as a planner, allows for the cost of misallocation and social cost of capital to be derived.

They then model and set-up the data using data on the 30 to 40 largest banks by holdings. In their paper, they have many interesting empirical findings, but their main headline is that misallocation has led to a modest 0.54% in output loss. This increased in particular during the 2020-2021 period to 1.11%. Importantly, they first show that there is a significant source of heterogeneity in firm interest rates, which drives this misallocation. The authors attribute the rise in the 2020-2021 period to many of the federal policies aimed at reducing the impacts of the COVID pandemic. These programs include Paycheck Protection Program and the Main Street Lending Program. The authors caution against over interpreting this rise in misallocation as it was transitory. The output loss has fallen back down to 0.76% since then and implies that in the steady state, the cost of misallocation is rather small.

The discussion focused on how financial frictions translate into misallocation and how the authors' macro-finance model captures these effects using detailed credit registry data. Misallocation in this context arises from distortions in firms' cost of capital, driven by shadow costs, fixed borrowing costs, and wedges reflecting imperfections in financial markets rather than differences in firm productivity or risk. The authors explained that their framework isolates wedges stemming specifically from debt mispricing, distinguishing it from previous studies that have emphasized equity market misallocations. The inclusion of general total factor productivity (TFP) shocks in the model ensures that

firm-level heterogeneity in outcomes is not simply due to aggregate shocks but reflects genuine financial distortions.

A key point of clarification concerned whether observed heterogeneity in borrowing costs merely reflects different levels of risk across firms rather than inefficiency. The authors argued that, while risk-based heterogeneity is expected, part of the observed dispersion in discount rates represents distortions arising from limitations faced by banks and credit markets. In their view, true misallocation occurs when differences in the cost of capital cannot be justified by differences in firm risk or productivity. Their model is designed to separate warranted variation from inefficient dispersion in discount rates, and the use of granular credit registry data allows them to measure dimensions of asset pricing and financing costs that are typically unobservable in aggregate datasets.

Several questions addressed the structure of the model and its assumptions. One concern was how borrowing costs could be attributed to capital misallocation rather than labor misallocation, particularly in the presence of working capital. The authors acknowledged that a version of the model with working capital could be constructed but maintained that the key mechanisms would remain similar. Another issue was whether the assumption of fixed exit decisions or limited liability could distort results. The authors explained that their setup, consistent with the broader literature, treats exit as an endogenous decision that interacts with firms' capital allocation choices, capturing both the intensive and extensive margins of misallocation.

Finally, some participants questioned whether the model's assumptions might overstate inefficiencies, suggesting that observed differences in default probabilities could reflect firms being more likely to fail in good or bad states rather than misallocation per se. The authors agreed that this is a strong assumption but argued that their empirical strategy that is grounded in matching lenders and borrowers through observed loan-level data, provides credible evidence that the distortions they identify reflect genuine financial frictions rather than mere differences in firm riskiness.



How (Not) to Identify Demand Elasticities in Dynamic Asset Markets

Presenter: *Christian C. Opp*

Coauthors: *Jules H. van Binsbergen, Benjamin David*

Presenter Christian Opp of the University of Rochester, with coauthors Jules H. van Binsbergen and Benjamin David, revisits the problem of estimating institutional demand elasticities for financial assets, critiquing identification strategies that rely on static industrial-organization frameworks such as Koijen and Yogo (2019). The authors argue that when investors trade dynamically, commonly used instruments—especially those inducing persistent or predictable price variation—violate exclusion restrictions and produce systematically biased elasticity estimates. Their model shows that static estimates can understate true elasticities by orders of magnitude and may even yield the wrong sign when instruments correlate with future price paths.

The presentation opened by framing the central question: how to measure demand responsiveness in markets where assets can be continuously resold. Opp emphasized that static IO methods implicitly assume product characteristics are fixed, but for financial assets, the “product” includes its expected future resale prices. Instruments shifting current prices while affecting future ones therefore change the asset’s intrinsic characteristics. The paper develops a dynamic general equilibrium model showing that valid instruments must (1) affect prices for only one trading period and (2) be unanticipated. Otherwise, estimated elasticities capture reactions to altered fundamentals rather than true demand responses to price changes.

Using this model, Opp presented analytic bias formulas. If price shifts persist across trading periods, estimated elasticities scale roughly with the resolution probability of the shock—e.g., if prices revert slowly, the estimated elasticity collapses toward zero. In cases of momentum-type price dynamics, bias is even more severe: the apparent elasticity reverses sign because investors rationally increase exposure to assets with rising prices. The empirical section tests these ideas using the instrumented market equity variable from Koijen and Yogo (2019). The authors show that cross-sectional variation in this variable does not generate corresponding short-horizon return differences. Instead, higher instrumented prices are often associated with higher subsequent returns. When unconstrained, nearly half of estimated elasticities become negative, consistent with the model’s prediction under momentum-like dynamics.

Opp extended the analysis to policy contexts such as quantitative easing. The authors argue that dynamic asset purchase programs cannot be summarized by a single multiplier because the price impact depends on the entire expected path of purchases, not just the initial trade. An illustrative calibration shows that persistent interventions require smaller initial supply shocks to achieve given

price effects, as rational investors adjust gradually when price changes are expected to last.

Audience discussion focused on whether the critique primarily targeted the empirical instruments of Koijen and Yogo (2019) or the broader static-IO approach. Several participants questioned whether the authors' necessary conditions were practically achievable, noting that few real-world price shocks fully resolve within one trading period. Others raised issues of interpretation in the presence of investor heterogeneity and institutional frictions. There was also interest in how the model's requirement for unanticipated shocks could be reconciled with the predictable nature of many policy interventions. One discussant suggested that the framework might imply a near-impossibility result for traditional elasticity estimation.

Opp clarified that the goal was not to discard the IO-based demand framework but to delineate the limits of identification in dynamic trading settings. He emphasized that valid elasticities could, in principle, be estimated if price variation is short-lived and exogenous in timing, though such settings are rare. The session concluded with acknowledgment that the paper's main contribution lies in articulating precise theoretical conditions for valid identification, setting a higher bar for interpreting estimated demand elasticities in asset markets.



A Trilemma for Asset Demand Estimation

Presenter: William Fuchs

Coauthors: Yi Li, Satoshi Fukuda, Daniel Neuhann

Presenter William Fuchs of the University of Texas at Austin presented *A Trilemma for Asset Demand Estimation*, a theoretical analysis of the limits to identifying asset demand from observational data. The paper demonstrates that it is impossible to simultaneously maintain three conditions central to empirical asset-demand estimation: (i) prices satisfy no-arbitrage, (ii) investors care about asset payoffs, and (iii) asset-level demand elasticities can be recovered from supply shocks to individual assets. This “trilemma” implies that empirical work must either rely on strong structural assumptions or observe as many independent quasi-experiments as there are dimensions in the space of asset payoffs.

Fuchs opened by contrasting the nature of demand in financial markets with that in standard goods markets. In macroeconomics, bundles of goods are relatively fixed, while in finance, assets can be flexibly bundled and unbundled across states of the world. This flexibility makes asset demand inherently instrumental rather than directly linked to consumption, since investors choose portfolios to shape their exposure to future states. The presenter emphasized that this difference underlies many difficulties in identifying how investors respond to price changes. To motivate the modeling environment, Fuchs described a stylized example where “a helicopter drops exogenous supply shocks” into the market—an analogy to how theory isolates changes in asset supply to trace out demand responses.

The core of the paper builds intuition using a simplified two-asset economy in which each asset pays off in a different state—labeled “green” and “red.” In this setup, asset prices encode both expected payoffs and the marginal utility of consumption in each state. Fuchs explained that when shocks shift supply in one asset, they alter not only that asset’s price but also the equilibrium state prices, which feed back into the valuation of other assets. As a result, attempts to estimate demand elasticities from individual asset shocks inadvertently capture these cross-asset spillovers.

Audience discussion focused on how this framework clarifies the interaction between aggregate and idiosyncratic shocks. One participant noted that overlapping payoffs between assets could imply overlapping responses to shocks, complicating interpretation. Fuchs confirmed that this overlap is central to the problem—the model shows that even small disturbances to one asset’s supply can propagate widely when assets share exposure to the same state prices. Several participants expressed confusion about how to conceptualize the “ideal experiment” for isolating a demand elasticity. One attendee suggested that a plausible scenario might involve a large foreign investor purchasing a fixed share of a stock market and later returning the proceeds as domestic consump-

tion. Fuchs replied that such a setting would fail to isolate demand because it changes both the composition of asset holdings and the overall consumption distribution.

Another exchange addressed why the model rules out the possibility of a single “perfect shock.” Fuchs explained that when markets span multiple states, any shock inevitably affects several assets simultaneously. To disentangle the impact on each asset, one would require as many independent shocks as there are assets—an informational requirement that is rarely met in practice. This observation links back to the paper’s trilemma: maintaining no-arbitrage and payoff-based preferences while hoping to infer elasticities from limited variation is internally inconsistent.

The session concluded with agreement that the paper’s main contribution is to formalize the identification limits inherent in asset-demand estimation. Fuchs emphasized that the trilemma is not a rejection of empirical work but a framework for understanding which assumptions must be relaxed to make progress. Depending on the context, researchers may need to permit small departures from no-arbitrage, restrict the scope of investor preferences, or impose additional structure to link observed price variation to demand responses.



Learning and Subjective Beliefs About Good and Bad Inflation Ranges

Presenter: *Mohammad Ghaderi,*

Coauthors: *Sang Byung Seo, Ivan Shaliastovich*

Presenter Mohammad Ghaderi of the University of Kansas discussed how he and his coauthors identify desirable and undesirable inflation outcomes by comparing survey-based and market-implied distributions of inflation. The presentation examined how investors form and update beliefs about inflation risk, focusing on the range of outcomes that investors view as favorable versus those they seek to avoid. By contrasting subjective beliefs about inflation drawn from surveys with risk-adjusted probabilities implied by option prices, the authors reveal how preferences toward inflation vary over time and across regimes. Ghaderi highlighted that investors tend to dislike both high inflation and deflation, while associating moderate inflation with relatively lower marginal utility losses—what the authors refer to as the “good inflation” region. This middle range shifts over time, offering insight into how changing expectations shape the observed inflation risk premium.

Ghaderi framed the analysis around two probability distributions: P , representing the subjective beliefs of investors, and Q , the risk-adjusted probabilities embedded in market prices. The relationship between these distributions identifies how investors value different inflation outcomes. When $P < Q$ in high-inflation states, investors perceive those outcomes as particularly undesirable and require compensation for bearing that risk, producing a positive inflation risk premium. In the moderate-inflation range, $P > Q$, indicating that investors find these states relatively favorable, which generates a negative premium. In the deflationary range, the premium is also negative—not because investors like deflation, but because inflation itself is below target, so payoffs tied to inflation-linked assets decline even as those states are considered unfavorable.

Ghaderi explained that the empirical exercise combines two survey sources with market data from inflation options. The Survey of Professional Forecasters (SPF) provides individual and aggregate forecasts of inflation, primarily from economists and analysts, while the Survey of Primary Dealers (SPD) captures expectations from major financial institutions active in fixed income markets. By comparing these belief-based distributions to the risk-adjusted distributions implied by inflation options, the analysis quantifies how much of the inflation risk premium reflects differences in beliefs versus differences in risk aversion.

An audience member asked about the precision of the belief distributions. The participant noted that survey respondents might be overconfident, reporting inflation expectations that are too narrowly distributed. Ghaderi acknowledged that overconfidence is a valid concern, particularly in household surveys, but emphasized that both SPF and SPD involve professional participants whose forecasts

tend to be more calibrated. Nonetheless, he noted that even professional forecasters may understate the probability of extreme inflation or deflation outcomes, and this limitation carries through to any empirical estimation using survey data.

During the presentation, another audience member was concerned about the time horizon of the subjective forecasts. Ghaderi addressed this, clarifying that the analysis focuses on inflation expectations up to five years ahead—the horizon over which both survey data and inflation options provide usable information. This window balances the availability of market data with the predictive power of survey expectations.

Another question concerned the use of Bloomberg-derived option data, with the attendee pointing out that the quotes do not correspond to actively traded instruments.

Apart from a few pointed questions on data sources and the width of the belief distributions, the presentation was well received. Participants appeared to agree that the framework provides a useful way to link survey-based expectations with market-implied pricing of inflation risk, clarifying how differences in beliefs and risk attitudes together shape the observed inflation risk premium.



Fiscal Redistribution Risk in Treasury Markets

Presenter: *Howard Kung*

Coauthors: *Roberto Gomez-Cram, Howard Kung, Hanno Lustig, David Zeke*

Presenter Howard Kung of the London Business School examined how fiscal expansions redistribute resources between taxpayers and bondholders, creating a distinct form of risk that contributes to government bond risk premia. The presentation focused on a simple model in which unfunded government spending acts as a transfer among heterogeneous agents, highlighting the policy trade-off between protecting taxpayers or bondholders during periods of fiscal expansion.

In the model, the government undertakes surprise fiscal expansion financed without immediate taxation, effectively redistributing wealth from bondholders—who fund the government through debt holdings—to non-asset holders who benefit directly from transfers. Kung emphasized that if all agents were identical, such transfers would be neutral: the government’s spending would simply move resources across accounts with no aggregate effect. However, because households differ in their asset positions and marginal propensities to consume, the redistribution generates real economic consequences. This heterogeneity gives rise to a fiscal redistribution risk premium embedded in government bond prices, as investors demand compensation for the risk that fiscal policy may favor spending over debt stabilization.

During the presentation, some audience members expressed confusion about the model’s simplifying assumption that “everything is transferred.” Kung clarified that this assumption isolates the redistribution channel by removing unrelated dynamics, allowing the model to focus on how transfers themselves affect bondholders’ real payoffs. The framework’s heterogeneity assumption implies that while some households gain directly from unfunded fiscal expansion, others—particularly bondholders—see the real value of their wealth reduced.

A key exchange developed between Kung and one audience member who challenged the model’s implication that non-asset holders are clear beneficiaries of fiscal expansion, which is commonly the result of an economic downturn. The participant argued that in reality, the poorest individuals are often hit hardest during downturns and that the model’s baseline seemed inconsistent with this evidence. Kung responded that the framework is designed to capture redistribution in a mechanical sense—transfers raise the consumption of those without assets relative to those holding debt. The exchange continued for some time, with the critic suggesting that the paper overstated the losses to bondholders, since many savers/investors fare relatively well compared to hand-to-mouth consumers. Kung acknowledged that the discussion pointed to a communication issue more than a modeling flaw, emphasizing that the model’s comparative results hold as long as transfers are

assumed to be uniform and fiscal spending is unfunded.

Several other points of clarification followed. One participant noted that many bondholders are foreign investors, who are not represented in the model but may significantly affect how redistribution plays out in practice. Kung agreed that this exclusion limits external applicability but maintained that focusing on domestic redistribution is essential for theoretical clarity. Another audience member asked how the framework might accommodate progressive taxation or transfer programs. Kung responded that the model currently abstracts from such policy details, assuming uniform transfers, though allowing for progressive or targeted policies would be an interesting extension.

When asked who ultimately bears the losses from the devaluation associated with fiscal expansions, Kung identified institutional investors—particularly receivers of pension funds—as the main group exposed to valuation declines.

The discussion was lively but focused, centered largely on distributional assumptions and interpretation rather than the model's mechanics. Apart from the extended debate over who gains and loses from fiscal transfers, the presentation was well received. Kung provided a clean theoretical structure for thinking about how redistribution between taxpayers and bondholders can itself become a priced source of fiscal risk in sovereign bond markets.



Held-to-Maturity Securities and Bank Runs

Presenter: *Kaiji Chen*

Coauthors: *Yu Yi, Shengxing Zhang*

The paper asks whether classifying long-term securities as held-to-maturity (HTM) makes banks safer or more fragile when interest rates rise, and what regulation should look like in that environment. HTM accounting keeps unrealized losses off book capital, which helps banks satisfy capital requirements without immediate equity issuance. The tradeoff is lower liquidity: if withdrawals force sales from the HTM bucket, the entire remaining HTM portfolio must be marked to market, causing a sudden hit to equity that can trigger a run. The mechanism is formalized in a two-period model in which banks choose HTM vs AFS before rate shocks, depositors observe conditions and decide whether to withdraw, and equity may need to be issued to restore capital. Silicon Valley Bank illustrates the exposure at the end of 2022. Since about 43% of total assets were HTM, with unrealized losses roughly as large as book equity, forced realization would have nearly wiped out capital.

The model distinguishes rate-driven outflows from panic-driven runs. When long-term rates rise, asset market values fall and uninsured depositors compare the bank's expected value with a cash outside option. If the expected value falls below that outside option, they run. HTM helps in the first step by avoiding a book-capital hit from an initial hike, but it worsens the second step because selling any HTM later reveals hidden losses at once. Empirically, using U.S. Call Reports from 2010 to 2023, the authors document that banks with lower equity ratios are more likely to load into HTM during hiking cycles, that higher HTM shares are associated with greater deposit sensitivity to policy rates, and that banks with more uninsured deposits offer lower deposit spreads yet see stronger outflows as rates rise. These facts line up with the model's prediction that HTM tilts short-run stability toward higher run risk if rates keep rising.

On policy, the paper argues that moderately capitalized banks benefit from HTM share caps and mandatory equity issuance to reduce run risk by limiting hidden losses and raising loss-absorbing capacity. Well-capitalized banks need little intervention, while thinly capitalized banks cannot be saved by caps alone. The overarching message is that HTM trades short-run capital relief for long-run fragility, so regulation should endogenize run risk when setting HTM limits and equity buffers.

The discussion clarified several points. Repos on Treasuries alleviate liquidity only at current market value, so they do not remove the mark-to-market problem once HTM assets must be sold. The framework differs from Diamond–Dybvig by adding interest rate risk on long-duration assets, which creates the hidden-loss channel specific to HTM accounting. Questions about whether equity issuance itself raises run risk hinge on feasibility and pricing: issuance is modeled as required to

meet capital rules, but if markets doubt viability, issuance can be hard or costly. These strategic constraints are discussed qualitatively and a strategic bank default is explicitly outside the model. Timing wise, rate-driven outflows can precede panic-driven runs. If selling HTM becomes necessary, the tainting rule converts accounting losses into capital shortfalls quickly. Practically, the risks appear most acute for mid-cap banks that over-hold HTM in hikes, strengthening the case for HTM caps paired with equity buffers to prevent small liquidity shocks from turning into solvency events.



Financial Flexibility under Financing Constraints and Non-Exclusive Lending

Presenter: Yunzhi Hu

Coauthors: Felipe Varas

Firms value financial flexibility, meaning the ability to raise funds when needed, but under non-exclusive lending that flexibility creates agency problems because new borrowing can dilute existing creditors. The paper explores the optimal contract that balances flexibility and creditor protection under non-exclusivity. Whereas most capital-structure work imposes exogenous contractual limits such as fixed leverage covenants, this paper endogenizes the restrictions in a mechanism-design framework to pinpoint which constraints make non-exclusivity generate frictions. Ultimately, this shows the problem reduces to a delegation problem between the firm *ex ante* and the same firm *ex post*.

The firm is initially penniless and must fund a project, so there is a minimum pledgeable level that must be raised to make the project feasible (a financing constraint). Later, the firm draws a privately observed liquidity shock and wants additional funds. Effort is chosen *ex post* and is subject to moral hazard, so higher total debt weakens incentives. Due to this *ex post* moral hazard, the firm's borrowing choice endogenously changes the effective interest rate it pays. The contracting exercise is cast as delegation. The date-0 "principal" maximizes total firm value, while the date-1 "agent" maximizes continuation value net of legacy debt. To isolate which instruments do the work, the authors solve with and without transfers. They analyze both unrestricted-transfer and restricted-transfer environments. This way, one can see when limits serve a restricting-for-purpose role rather than merely patching an infeasible transfer scheme.

Under non-exclusive lending with no repayment to initial creditors, the optimal policy is an endogenous total-debt limit chosen *ex ante*. This cap grants flexibility so with mild shocks the cap is slack and the firm over-borrows relative to the second-best, while with severe shocks the cap binds and the firm under-borrows. The logic is greater flexibility improves the shock response but increases dilution because new claims sit alongside old ones. The initial financing constraint always binds and the firm raises exactly the minimum to start the project. This occurs because taking on more initial debt would require a tighter future cap and destroy value. By contrast, with non-exclusive lending and repayment allowed, the mechanism is implementable via a debt-issuance sweep that channels proceeds to existing creditors. The sweep neutralizes dilution and achieves the constrained-optimal (single-lender) allocation, even with many lenders. These conclusions hold across both the unrestricted- and restricted-transfer formulations, clarifying which limits are essential and why.

The research finds that an optimal contract is a purpose-built leverage cap (and, when feasible,

a sweep) that balances financial flexibility against creditor protection precisely under non-exclusivity. It explains why real-world leverage caps and cash-flow sweeps are ubiquitous. They provide just-enough flexibility ex ante, accept over-borrowing in good states only to a calibrated extent, enforce under-borrowing in bad states to preserve incentives, and ensure the minimum feasible upfront pledge to launch the project.



The Optimal Monetary Policy Response to Tariffs

Presenter: *Javier Bianchi*

Coauthors: *Louphou Coulibaly*

The paper asks a simple policy question with loaded implications: when import tariffs push up prices, should the central bank tighten, hold, or ease? The presentation shows that, taking tariffs as given, the optimal response is expansionary. The central bank should allow positive PPI inflation and a positive output gap (“overheating”) to offset a trade distortion that tariffs create. The key insight is a fiscal externality that private agents perceive imports as more expensive, but part of that cost returns as tariff revenue to households. Left unchecked such as under strict PPI targeting, the economy under-imports inefficiently and contracts.

In a deterministic small open economy with sticky domestic prices and home/foreign goods, the authors isolate monetary policy’s role by abstracting from market power in goods and capital markets (so the optimal tariff is zero in the background and the only policy instrument is the interest rate). Tariffs create a wedge between private and social import prices. The Ramsey-optimal monetary policy leans against that wedge, stimulating income and import demand. Under this policy the nominal exchange rate depreciates and the trade surplus rises, consistent with a weaker dollar observed after the tariff announcement.

For a uniform 10% tariff, a “look-through” stance that keeps PPI inflation at zero implies about a 4% fall in employment. In contrast, under the optimal expansionary policy, employment stays roughly flat on impact while PPI inflation increases by ~0.4% (annualized) beyond the direct tariff effect. The expansionary prescription is robust to whether imports are consumption or intermediate inputs, whether tariffs are temporary or permanent, and whether terms of trade are exogenous or endogenous. The conclusion is to let inflation rise above and beyond the direct tariff pass-through to correct the under-importing distortion and sustain employment.

It was discussed that tariffs are taken as given due to political conditions, and the goal of the monetary policy to be able to respond independently. It was clarified that U.S. market power was excluded to isolate the core mechanism and introducing market power would change optimal tariffs. A discussant wondered “with very sticky prices, won’t inflation explode?” It was explained that greater stickiness raises the output–inflation trade-off and may widen dispersion, but the welfare first-order gains from correcting the externality remain so the exact magnitudes are quantitative. Overall, tightening or strict PPI targeting is contractionary while stimulus is optimal.



A Theory of International Official Lending

Presenter: Vivian Zhanwei Yue

Coauthors: Qing Liu, Zanhui Liu

International official lending is a major channel of global capital flows and is provided by official lenders such as the International Monetary Fund, the World Bank, and governments. The presentation seeks to answer why official credit coexists with private lending and expands in crises. The researchers develop a theory in which two frictions, limited enforcement (countries can renege) and moral hazard (borrowed funds can be diverted), make official lending necessary for the constrained optimal allocation. In the model, official programs can extend loans even to countries in arrears. This mechanism sustains liquidity when private capital retreats, a pattern observed during COVID-19 and amid the rise of Chinese official lending.

The constrained optimal allocation implies imperfect insurance and a need for dynamic incentives in optimal contracts. Because lenders cannot perfectly observe whether resources go to consumption or export production, efficient risk sharing requires dynamic incentives and monitoring. The authors show that the constrained-optimal allocation (COA) can be decentralized with an endogenous creditor mix. Multilateral official debt is non-defaultable and senior, supplying commitment. Bilateral official debt is concessional and tied to signals/conditionality, supplying monitoring. Finally, private debt is defaultable, supplying state contingency by allowing losses in bad states. Thus, since private claims alone cannot implement the COA under hidden actions, official credit is required.

Quantitatively, the model replicates how official lending is countercyclical while private lending is procyclical. When default risk increases, bond prices fall, making market borrowing too costly, so countries switch to cheaper concessional multilateral loans. Around adverse shocks and default episodes, spreads rise, imported intermediates and GDP fall, and the debt composition endogenously tilts toward official creditors. Additionally, the cost of default is endogenous. Default curtails imported inputs and production, so the framework disciplines borrowing without imposing ad-hoc penalties.

Discussion clarified the scope of the paper and comparisons to previous literature. The theory abstracts from geopolitical motives (e.g., China's foreign policy goals) and bargaining with dispersed private creditors. The structural differences that matter here are non-defaultability/seniority and conditionality for official debt versus loss-bearing, defaultable private claims. The question "why borrow privately if default is rare?" is answered by the option value of private debt's state contingency that absorbs losses in bad states, while official credit anchors incentives and maintains access in crises. In conclusion, official lending is the institutional technology that makes sovereign borrowing sustainable when countries can both default and divert.



LAEF-HKU Joint Conference on Growth and Inequality

December 5–6, 2025; Club & Guest House at UCSB, Betty Elings Wells Pavilion,
Santa Barbara, California

Attendees:

Chang-Tai Hsieh — *University of Chicago*
 Gorkem Bostanci — *University of British Columbia*
 Felipe E. Saffie — *University of Virginia*
 Andrew Abel — *University of Pennsylvania*
 Marta Prato — *Bocconi University*
 Basile Grassi — *Bocconi University*
 Bruce Meyer — *University of Chicago*
 Gustavo Ventura — *Arizona State University*
 Dean Corbae — *University of Wisconsin*
 Jonathan Heathcote — *Federal Reserve Bank of Minneapolis*
 Timothy Kehoe — *University of Minnesota*

Organizers:

Boaz Abramson — *Columbia University*
 Ayse Imrohoroglu — *USC*
 Yulei Luo — *University of Hong Kong*
 Yueyuan Ma — *UCSB*
 Simon Margolin — *UCSB*
 Laura Murphy — *UCSB*
 Nick Pretnar — *UCSB, LAEF*
 Peter Rupert — *UCSB*
 Xiaomei Sui — *University of Hong Kong*
 Lichen Zhang — *University of Hong Kong*
 Kai Zhao — *University of Connecticut*
 Anson Zhou — *University of Hong Kong*
 Xiaodong Zhu — *University of Hong Kong*



Trade Shocks in Distorted Economies

Presenter: *Chang-Tai Hsieh*

Coauthors: *Rodrigo Adao, Ana Fernandez, and Jose Quintero*

Consider a small open economy faces heterogeneous trade shocks across goods and firms: tariffs fall more for some products than for other products, and for the same product, it falls more for some firms than for other firms. These shocks will induce reallocation recourses between goods and firms. When the marginal product of resources differs across firms, allocative efficiency will be changed. Chang-Tai Hsieh and his coauthors measure the effect of heterogeneous trade shocks on allocative efficiency through the reallocation of resources between firms with different marginal products.

The authors use brand-new data to examine the effect. This firm level administrative customs data covers 57 countries and spans from 1997 to 2021. It records the quantity and the price that each firm buys stuff from the world so that the share of total imports of a narrowly defined good can be measured. The authors infer the markup of the firm by linking to its market share through differential import elasticities. They measure the aggregate and distributional effects of trade shocks by measuring covariance between import cost shock and markups across goods and firms. They find that in the data, trade costs went down and allocative efficiency fell in most cases. It is because costs typically fall by more for firms and sectors with low markups. Loss in allocative efficiency is larger than neoclassical gains and almost entirely due to fall in firm profits (especially the firm with large market share). However, consumers frequently gain even when aggregate allocative efficiency falls. This effect is larger in poorer/smaller countries.

In the model set-up, utility is a CES aggregate of goods and each good is CES aggregate of firms. The demand for a good supplied by a firm is a function of the price of this firm selling the good and the price index of the good. The reason that we have variable markups in this setup is because the price of the firm shows up in two places: the price of this firm selling the good and aggregate price of the product. The speaker confirms that they have a continuum of goods. The authors assume that the production function of a firm is a CSE aggregate of imports from different origin countries, which is rationalized by firm-origin specific productivities. Tariff on a specific origin country can have different effects on firms importing the same goods, which is one source of heterogeneous trade shocks. The speaker confirms that firms are in the Cournot competition.

By observing import quantity and the changes in tariff, the authors can estimate the output elasticity in response to changes in the marginal cost. Then they can infer the markup elasticity and the markup of the firm as output and markup elasticity are correlated with the market share of the firm. The speaker confirms that there is a single elasticity of substitution across all origins. One participant raises the point that assumption of orthogonality is needed for the estimation. The speaker clarifies that although there are many cost shocks, they only look at changes in tariffs that affect

firms and they need to assume that a particular cost shock is orthogonal to other sources of cost shocks and also idiosyncratic shocks to imports of a firm-good are orthogonal to changes in tariffs. One participant asks how to think about the model as it is different from a paper that does not have different markups and heterogeneity across firms, but they get similar messages. The speaker replied that the markups inferred in this paper could be a combination of the markup and some distortions (e.g. access to cheaper capital, pay workers differently); that will potentially generate differences in markups, but not generate varying markup and output elasticity across firms, which is the differences from that paper. When answering a question regarding the model, the speaker clarified that the model solves the static problem using balanced panel.

The speaker presents the change in aggregate consumption scaled by the total amount of the imports, which is a function of (1) covariance across products of average markup and tariff change and (2) covariance within products of markup and tariff change. They find that dispersion of the import share within goods is high in poorer and smaller countries. The driver is that they are more likely to have one or two firms that have very big share in the market. Between goods dispersion of HHI shows a similar pattern. Elasticity of imports to tariffs is smaller for larger firms. It implies that the markup will rise with the market share of the firm, and the markup elasticity will rise with the import share of the firm. Elasticity of import unit value to tariffs is zero regardless of the firm good import share. Finally, when the dispersion in the firm import market shares is higher, the dispersion in the firm markup is higher, same for the dispersion in the HHI across goods.



Changing Jobs to Fight Inflation: Labor Market Reactions to Inflationary Shocks

Presenter: *Gorkem Bostanci*

Coauthors: *Omer Koru, and Sergio Villalvazo*

Job-to-job transitions are key measure for efficiency of allocating workers across firms, because job switches are associated with wage and productivity increases. Gorkem Bostanci and coauthors focus on unexpected inflation movements that change incentives to look for job. Unexpected inflation happens when the professional forecast of inflation is different from the realized inflation. Their research question is how inflation movements impact job switches and aggregate productivity. The key idea is that unexpected inflation changes real wages if these wages are not indexed to inflation; then workers would respond to a positive inflationary shock by aiming for lower productive matches and increasing search effort. The quantity of J2J transition goes up, but the quality is not as high as before. So, the short-run output response is ambiguous. The speaker confirms that firm behavior is taken as given; in the model, there are firms of different quality and there is room for reallocating workers to higher productivity matches. A participant asks why it is less selective. The speaker explains that when workers' current situation deteriorates, they trade off the probability of getting a new job and increasing the wage, and they favor the higher probability of getting a new job at the expense of increasing the wages lower.

In IV estimation, the authors estimate the impact of inflation on job-to-job transition rates. In the first stage, they instrument the inflationary inflation with monetary policy shocks. In the second stage, they check how job-to-job transition rates respond to predicted inflation through these monetary policy shocks. The results show that 1% increase in inflation causes an increase in J2J rates up to 7%. A participant points out the case where people migrate to a city due to a lower price level and get a job there. The speaker replies that the underlying assumption in this paper is that the incentive of low price level always exists, which is captured by the natural rate of job-to-job transitions; so the question is whether inflation increases at different rate across places which generate additional incentives to change geographies and their assumption is there's not there in the model. A participant asks whether this logic works for unemployment-employment transition. The speaker replied that it depends on how the unemployed payoff responds to inflation; in their model, unemployed payoff will not be affected by the inflationary shock. Another participant asks whether firms pay new hires differently than the existing ones. The speaker replies that they see at the aggregate level, where in high inflation periods, switchers always have a better wage increase than the stays and the gap increases in inflation periods; in their model, they assume firms can post whatever wage they want, but they observe that the existing workers have their real wages reduced and new hires

wages in principle could respond to that (new hires wages will be perfectly flexible). The survey evidence shows that higher inflation expectation is associated with higher likelihood of job search and more offers. A participant asks what transitions are like for low-end to high-end wage market. The speaker replied that the model indicates more aggressively responding to the inflation or shock in the bottom of the wage market.

In the model they build, they investigate the productivity/output response to this inflation or shock. The model has endogenous search on the job, restrictions on the contract space, and potential for mismatch. In the market, workers and firms match through a function to match vacancies with aggregate search efforts. Vacancies differ in their productivity. A participant asks how the firm can discourage workers' searching or outside offer. The speaker replied that they will model the interaction between the firm and the worker as a Markov-Perfect equilibrium where the firm strategy in terms of wages can only depend on the existing wage of the worker's, productivity of the match, and the aggregate state. The timeline in the model is that firms will decide first whether to increase the existing wages, then firms and workers will search and form matches in the next year. The speaker confirms that the price level is not a state variable.

Main mechanism is that suppose a sudden decline in real wages, since workers' efforts are decreasing in their real wage, workers will start exerting more effort. Since workers' target wage is increasing in the real wage, workers start searching in market with smaller wages. Smaller wages will be posted by smaller productivity firms, which means indirectly workers will start searching for less productive firms than what they used to search for.

The authors calibrate the model to match the IV estimate. The speaker clarifies a question that the transition cost is something in addition to the search cost, that limits how far the workers can jump, which makes sure that the model is consistent with an average 8% wage increase in J2J transitions. The calibration results suggest that the output response is non-monotonic in the size of the inflationary shock: small shocks have positive net effect, and large shocks have negative effect.



Volatile Rates, Fragile Growth: Global Financial Risk and Productivity Dynamics

Presenter: *Felipe E. Saffie*

Coauthors: *Nile Gornemann, Eugenio Rojas*

Professor Felipe Saffie presented research examining why rising volatility in U.S. interest rates depresses long-run productivity trends in emerging market economies (EMEs) while leaving advanced economies (AEs) largely unaffected. He argued that global financial risk interacts with domestic financial frictions to generate permanent economic scars in EMEs, effectively converting temporary volatility shocks into persistent growth slowdowns.

The presentation centered on a small open economy model where endogenous growth is driven by firm innovation and entry. In this framework, firms rely on financing to fund the Research and Development necessary for productivity growth. Saffie emphasized that the core transmission mechanism operates through the valuation of these firms: households borrow against the present value of the firms' future profits to finance innovation. When the volatility of U.S. interest rates rises (a second-moment shock), risk-averse households discount these future profits more heavily. This devaluation compresses firm values and tightens collateral constraints, forcing deleveraging and choking off the investment required for long-term growth.

A significant portion of the talk was dedicated to the "asymmetry" of this mechanism. Saffie used policy function graphs to illustrate that the model generates non-linear responses to rate shocks. He explained that large interest rate hikes trigger binding constraints and severe "Fisherian deflation"—a downward spiral of falling asset prices and tightening credit conditions. However, rate cuts of equal magnitude do not provide a symmetric boost because constraints simply become slack; you cannot force agents to borrow more than they want. Consequently, higher volatility inherently lowers expected firm values because the downside severe tightening outweighs the limited upside of loosening. Saffie noted an interesting theoretical nuance here: without these binding constraints, volatility might actually act as a positive force due to convexity (Jensen's inequality), but financial frictions flip this relationship for EMEs, making volatility strictly detrimental.

The Q&A session was active, with the audience scrutinizing the model's structural assumptions. One participant challenged the calibration of credit spreads, asking why Mexico is treated fundamentally differently than a country like Spain regarding how their spreads react to global risk. The questioner noted that it felt like a "black box" assumption that EMEs simply have higher risk sensitivity. Saffie acknowledged that in the baseline model, this is a reduced-form parameter derived from empirical observation—EMEs historically face higher spreads when global risk rises. However, he clarified that the paper's appendix offers a structural microfoundation for this, based on financial intermediary

frictions, which justifies the reduced-form approach used for the main results.

Another key exchange focused on the specific mechanics of financing innovation. A participant queried the nature of the borrowing constraint, specifically asking whether it was the firm or the household that was constrained. Saffie clarified the general equilibrium structure: households own the firms and borrow against the firm's future franchise value. Therefore, when volatility spikes and firm values plummet, it is the household's borrowing capacity that evaporates, leading to a cutback in the funding allocated to firm entry and innovation.

In the final section, Saffie presented quantitative counterfactuals to isolate the role of financial development. He introduced a concept of "Advanced Mexico"—a calibration where the economy faces the exact same U.S. shocks and volatility history as the baseline EME but possesses the higher collateral pledgeability and lower spread sensitivity of an advanced economy. The results showed that if EMEs could adopt these "advanced" financial characteristics, the negative impact of volatility on trend growth would effectively disappear. He concluded that the fragility of EME growth is not because the world is inherently too risky, but because their financial structures compel agents to "innovate less" as a precautionary response to that risk.



Optimal Immigration and Long-Run Growth

Presenter: *Andrew Abel*

Coauthors: *Stavros Panageas*

Abel and Panageas present a theoretical framework that integrates immigration into a standard Overlapping Generations (OLG) growth model. Their core research question asks what ratio of immigration maximizes the utility of a representative native-born consumer in the steady state. The authors begin their analysis with a tractable one-period lifetime framework to establish analytic results, but they subsequently extend the model to two periods. This extension is crucial for two reasons: it allows for the incorporation of individual capital accumulation through savings, and it introduces the concept of dependency ratios, showing how immigration can improve the ratio of workers to retirees. In this model, the planner treats immigrants purely as a constraint: they must receive a minimum threshold of utility to be willing to enter this economy, but their welfare is not otherwise valued in the social objective function.

A critical feature of the model is the assumption of “birthright citizenship,” meaning children born to immigrants in the destination country are treated as natives. The presenter defended this assumption during the talk on two grounds: first, it respects the 14th Amendment of the U.S. Constitution; and second, without this assumption, the native population would mathematically vanish relative to the immigrant population in the long run.

Upon seeing the model’s setup, an audience member questioned whether the authors accounted for fixed factors of production, such as land, noting that in the real world, adding more people might diminish returns. The presenter clarified that this is a “bare bones” model that assumes a standard neoclassical production function, meaning output depends only on capital and labor, effectively ignoring land constraints. He further emphasized that the model assumes no Total Factor Productivity (TFP) growth; consequently, all economic expansion in the model is driven purely by population growth. Another participant asked for clarification on the term “immigration rate,” to which it was clarified that the “rate” refers specifically to the ratio of immigrants to natives.

In a standard closed economy, consumption is maximized when the return on capital equals the population growth rate. The authors extend this to show that the optimal steady state occurs when the net marginal product of capital equals the economy’s total growth rate, which is driven by both natural fertility and immigration. The planner’s problem resembles a modified golden rule that balances marginal benefits against marginal costs. The paper establishes a sufficient condition for

positive immigration: it is optimal to admit immigrants if their labor productivity (marginal benefit) exceeds the sum of three costs: the immigrant's private consumption threshold, their use of public goods, and the "capital widening" cost of providing enough capital for their children—who become natives—to maintain the optimal capital-labor ratio.

During the presentation, the authors showed that if the economy's capital share of income is 0.5 or higher, the optimal immigration rate is zero because the cost of equipping new workers with capital becomes too high. A participant commented that this finding could explain modern anti-immigration sentiment. He suggested that if the labor share of income has fallen (meaning the capital share has risen) over the last 20 years, the model predicts that natives would no longer benefit from immigration.

There was significant discussion regarding the non concavity of the planner's objective function. The presenter explained that this creates a "tipping point" dynamic: if the consumption threshold required to attract immigrants rises above a specific level, the optimal policy does not slowly decrease; instead, it jumps discontinuously from a positive level of immigration straight to zero.

To implement this optimal state in a decentralized economy, the authors propose a fiscal package including a consumption tax, government bonds, and an entry fee for immigrants. The role of government bonds in this framework is specific: they are not used to fund deficits but to manage aggregate savings, absorbing any saving in excess of the optimal capital stock to avoid dynamic inefficiency. During the Q&A, a participant summarized the logic of the entry fee by stating that without it, the destination country is "paying the immigrants too much." The presenter agreed with the sentiment but refined the phrasing, explaining that without the fee, natives fail to capture the "surplus" that immigrants would be willing to give up to enter the country.

In the concluding remarks, an audience member raised a point about the selection of immigrants. They argued that if the goal is to maximize the surplus (the difference between native utility and the immigrant's minimum requirement), the model implies the country should prioritize immigrants from the poorest nations, as their opportunity cost is lowest. Another participant suggested decomposing the immigrant's role into two functions: providing labor and providing children. They argued that while automation might eventually replace the labor function, the "children function"—which sustains population growth in the model—remains uniquely human.



The Geography of Innovative Firms

Presenter: *Marta Prato*

Coauthors: *Craig A. Chikis, Benny Kleinman*

This paper studies how the geographic footprint of innovative firms shapes U.S. innovation and growth, and whether firms expand across locations at socially optimal levels. Motivated by the observation that approximately 70 percent of patent output originates from firms operating R&D facilities across multiple local markets, the authors develop an endogenous growth model featuring multi-market firms that generate knowledge spillovers to geographically proximate entities. The model reveals that firms face a trade-off between deepening their presence in existing locations and paying fixed costs to expand into new ones, with the social optimality of this choice depending on how sensitive local spillovers are to a firm's local footprint. During the presentation, an audience member challenged the model's abstraction from the co-location of production and R&D, suggesting that logistical synergies might dictate location choices; the presenter defended the focus on R&D alone by citing data that only 40 percent of R&D labs currently share a location with production facilities, a figure that has been declining over time.

To quantify these effects and test the model, the authors link the theoretical framework to data on firm locations, patents, and citation networks, employing an event-study design to measure spillovers. The empirical analysis demonstrated that when a firm expands into a new local market, there is a measurable increase in spillovers, evidenced by local firms significantly increasing their citations to the entrant and subsequently boosting their own innovation output. To address concerns that the extra citations might just come from employees who moved between firms and were citing their own past work, the presenter explained that the results hold even after removing cases involving worker mobility. This suggests the citations reflect real knowledge spillovers, not just poached workers. A critical empirical finding discussed was that a firm's patent production scales more aggressively with its local employment size than the spillovers it generates do, a discrepancy that identifies that U.S. innovative firms operate in too few markets relative to the social optimum.

Based on these estimates, the authors conduct quantitative counterfactuals to compare standard R&D subsidies against policies promoting broader spatial scope. The analysis suggests that spatial expansion subsidies yield larger welfare gains than standard R&D subsidies because they directly address the spatial mismatch in knowledge diffusion. The presenter emphasized that while standard R&D subsidies can be regressive—disproportionately benefiting high-wage hubs—policies incentivizing spatial expansion reduce regional inequality by encouraging firms to enter mid-sized and smaller markets.

In the concluding discussion, an audience member pressed the presenter on how these findings square with the urban economics literature that typically favors the agglomeration of workers in dense cities. The presenter clarified the distinction, noting that while standard models optimize the spatial allocation of workers to maximize density benefits, this framework highlights the distinct welfare gains from dispersing firms to maximize the reach and diversity of knowledge spillovers.



The EU Miracle: When 75 Million Reach High Income

Presenter: *Basile Grassi*

This research investigates the economic consequences of the 2004 European Union enlargement, documenting a convergence miracle where the GDP per capita of ten new member states nearly doubled in the subsequent fifteen years. Using a synthetic control method to construct counterfactuals, Grassi estimates that approximately half of this growth—resulting in a level 32 percent higher than the counterfactual by 2019—is causally attributed to EU accession.

During the presentation, the robustness of this finding was scrutinized; the presenter acknowledged a visual break in the growth trend starting around 2000, attributing it to the anticipation of membership and the rigorous reforms required by the Copenhagen criteria. An audience member specifically flagged the inclusion of Cyprus in the aggregate analysis, arguing that its status as a small island economy with massive foreign direct investment inflows made it an outlier. Grassi conceded that Cyprus looks unique individually but argued that aggregating the ten countries mitigates such idiosyncratic shocks, a claim supported by robustness checks across various donor pools and weighting methods.

To parse the sources of this economic expansion, the author employs a standard neoclassical growth model with distortions to perform a growth accounting exercise. The analysis concludes that the primary driver of convergence was not capital accumulation or a reduction in static distortions, but rather a massive 43 percent increase in aggregate total factor productivity. This finding challenged the intuition of audience members who expected growth to stem from the removal of market frictions. Specifically, one participant asked if the results were driven by labor migration, referencing the “Polish plumber” narrative, but the presenter dismissed this, noting that migration flows were too small to account for the GDP gains and that Polish workers likely benefited more from the domestic boom. Another attendee suggested that the measured productivity spike could reflect a selection effect where inefficient firms exit, a mechanism the presenter agreed was consistent with the model’s interpretation of productivity gains.

A critical finding for the broader political context is that this dramatic growth in the new member states came at no significant economic cost to the older EU-15 members, characterizing the enlargement as a Pareto improvement. The presenter explicitly noted that no robust positive or negative effect could be detected for the incumbent members. The paper concludes that the 2004 enlargement stands as a testament to the economic power of peaceful, democratic integration, offering a promising precedent for the nine current candidate countries awaiting accession.



12 Facts About Poverty and Homelessness in the U.S.

Presenter: *Bruce Meyer*

Professor Bruce Meyer presented research providing “first-order facts” about poverty and homelessness, challenging common perceptions by utilizing the Comprehensive Income Dataset (CID). He argued that standard survey-based poverty measures are fundamentally flawed because they fail to account for taxes, in-kind transfers like SNAP, and significant underreporting of income. By linking survey data with administrative records from the IRS and social safety net programs, Meyer’s research revealed that accurately measured poverty in the U.S. fell by more than 60% between 1995 and 2016.

The presentation focused on a data-driven framework where material wellbeing is assessed through consumption and broad indicators rather than just nominal income. Meyer emphasized that the core problem in poverty research is the “black box” of survey underreporting; for instance, he noted that nearly half of elderly individuals who receive a pension do not report it in standard surveys. When these administrative gaps are filled, the data shows that the decline in poverty is much sharper than official statistics suggest, particularly for groups like the elderly, while single individuals have seen more modest improvements.

A significant portion of the talk was dedicated to the “persistence of deprivation” regarding homelessness. Meyer used linked data to illustrate that homelessness is rare—affecting roughly 0.2% of the population—and is typically a symptom of long-term, severe deprivation rather than a sudden economic shock. He explained that a binding constraint for this population is not a lack of connection to the safety net; in fact, over 90% of sheltered and unsheltered homeless adults are formally employed or enrolled in at least one program like Medicaid or SNAP. Consequently, homelessness arises when long-term low permanent incomes are met with even modest life disruptions.

Conference attendees scrutinized the research’s findings on geographic price indices. One participant challenged the assertion that high-cost cities like New York do not necessarily have more deprived populations than rural areas like Mississippi. The questioner noted that housing costs are a major burden, but Meyer clarified that when measuring broad wellbeing across 70 indicators—including health, mortality, and housing quality—the data suggests that urban amenities often offset higher prices. He acknowledged that while price indices are imperfect, broad wellbeing measures consistently show that the most deprived are often found in rural, inland areas.

Another key exchange focused on the specific effects of policy interventions. A participant queried whether government programs might inadvertently incentivize certain behaviors, specifically regarding welfare reform. Meyer clarified that the transition to work-conditioned benefits in the 1990s was a success; contrary to fears that it would “leave behind” the most vulnerable, the data showed that consumption for the bottom quintile of single-mother families rose the most. He argued that these programs moved agents toward employment while providing essential supports like childcare and health insurance, which improved long-term outcomes for children.

In the final section, Meyer presented evidence to isolate the role of unconditional cash assistance. He introduced findings from recent randomized control trials which showed that simply providing cash without conditions often has no significant effect on long-term wellbeing or child development. The results showed that if policy remains focused on “housing first” without addressing underlying issues like cognitive limitations or substance use, it may reduce visible homelessness but fail to improve mortality or health. He concluded that the success of the U.S. safety net is rooted in programs that encourage work and provide targeted in-kind support rather than just cash transfers.



Rules and Regulations, Managerial Time and Economic Development

Presenter: *Gustavo Ventura*

Coauthors: *M. Nazim Tamko*

Professor Gustavo Ventura presented research on the impact of time taxes—the fraction of time senior managers spend dealing with government regulations—on economic development and productivity. He argued that high-ability managers in middle-income and developing nations face a disproportionately high burden of regulatory red tape compared to those in advanced economies. By analyzing World Bank Enterprise Survey data, the research documented that senior management in poorer countries typically spends between 15% and 20% of their time on compliance, while their counterparts in richer nations like Denmark spend only around 5% to 7%.

The presentation focused on a growth model that incorporates a span-of-control structure with various management layers. In this framework, the most capable top managers supervise large plants and utilize middle managers to scale production. The core distortion occurs when time taxes specifically divert the time of these top-level managers, as their time is the most critical resource for plant coordination and overall efficiency. Ventura explained that these distortions effectively act as a tax on the most productive agents in an economy, leading to significant output losses.

A significant portion of the talk was dedicated to comparing these distortions across different countries, such as Denmark, Argentina, and Turkey. Ventura illustrated that the relationship between the time tax and firm size often varies; while some countries see a flat tax across all firms, others experience size-dependent burdens that penalize larger, more productive establishments. For instance, in nations like Italy and Turkey, the tax increases with firm size, which discourages high-ability managers from growing their firms and further depresses aggregate productivity.

The audience asked questions regarding the specific nature of management and measurement. One participant questioned whether regulatory tasks could be delegated to other employees in larger firms. Ventura clarified that the survey data specifically targets top-level senior management and includes activities like customs negotiations and high-level tax disputes that typically cannot be handed off. He further noted that the time tax remains a robust predictor of productivity gaps even when controlling for other factors like firm age and human capital.

Another key exchange focused on the differences in tax levels between developed and developing regions. Ventura emphasized that while the internal distribution of time taxes might look similar across countries, the absolute level is vastly higher in developing nations, creating a systematic

barrier to growth. He noted that this “level shift” is a primary reason why managers in countries like Argentina or Mexico are less effective at scaling their businesses than those in Scandinavia.

In the final section, Ventura presented quantitative counterfactuals to show the potential gains from regulatory reform. The results showed that if middle-income countries could reduce their time taxes to Danish levels, they could experience long-run output gains of 50% or more. He concluded that the fragility of growth in many developing regions is not just about a lack of resources, but rather how burdensome regulations compel the most productive leaders to waste their time on administrative requirements instead of production.



Credit Scores and Inequality across the Life Cycle

Presenter: *Dean Corbae*

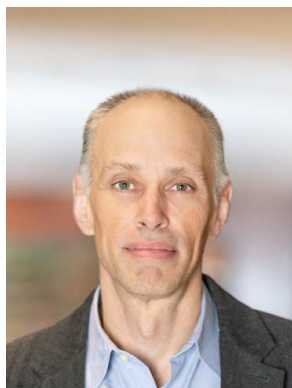
Coauthors: *S. Chatterjee, Dean Corbae, K. Dempsey, and Jose Victor Rios-Rull*

While a credit score measures the likelihood of various behaviors in financial markets, its role remains underexplored in quantitative macro models. Dean Corbae and his coauthors will build a model incorporating the credit score to answer the questions (1) how much reputational inequality contributes to consumption and income inequality, (2) what unobservables credit scores try to capture and (3) how changes in IT and regulation of credit history affect consumption inequality.

To study how income and unobservable type contribute to credit scores, the authors build a reduced form model where LHS is observable credit ranking and RHS are observable income and a noisy public signal of the individual's unobservable type. A participant asked why not regress on permanent income controlling for age. The speaker replied that they do not have data for this, but it's good to be done in the future. The implications are that unobservables increase in proportion of good risks over later age, and there is increased separation (learning) over almost all age groups, and less sensitivity of signal to income due to the accumulation of assets. A participant asks whether there is any selection for the young age (e.g. time to have a credit score). The speaker replied that they can decide when/whether to have a credit score and the model will have partial pooling to deal with those idiosyncratic shocks.

The authors build a model with adverse selection where the lender knows the type scores but underlying type, and borrowers choose their saving and whether to default. The speaker clarified that it's not able to perfectly separate people due to extreme value shocks. The optimal credit market behavior from this model is described by Bellman equations. A participant asks whether the only reason they make different savings choices in the first period is because of that type. The speaker replied that without extreme value shocks in the model the answer is yes. The implication is that the high types are more likely to save and the low types or more likely to borrow, but because of the extreme value shock, they can't be perfectly separated. For the moral hazard model, individuals with different discount factors will take different effort choices today, a causal link between type, income, dispersion etc. is generated.

In conclusion, credit scoring can lead to more consumption inequality. The mechanism is that due to pooling of types, consumption smoothing is not easy.



Quits and Optimal Unemployment Insurance

Presenter: *Jonathan Heathcote*

Coauthors: *Zhifeng Ca*

This paper asks whether workers who voluntarily quit their jobs should receive unemployment insurance benefits, and if so, how much. The authors argue that the current US policy of denying benefits to quitters is too extreme, but that quitters should still receive less generous benefits than workers who are laid off. Their optimal policy provides a 15.5% replacement rate for quitters compared to 40% for laid-off workers.

The paper begins by challenging two widespread assumptions about labor market separations. The first is that layoffs drive most transitions into non-employment. The second is that voluntary quits are predominantly job-to-job moves, with workers leaving one position only after securing another. Both views turn out to be incorrect. The authors document that quits account for at least as many separations to non-employment as layoffs do, and that most of these quits are temporary rather than permanent exits from the labor force. They also show that quitters tend to come from the bottom of the wage distribution, suggesting that economic hardship rather than voluntary leisure or better outside options motivates many of these decisions. The quit rate is strongly pro-cyclical, and contractionary monetary shocks reduce quitting, further indicating that economic considerations play a central role. Despite all this, quitters are generally ineligible for unemployment insurance under current rules and receive few benefits in practice.

To analyze the welfare implications of extending UI to quitters, the authors develop a series of directed search and matching models. The key innovation is that workers draw privately observed idiosyncratic shocks to their disutility of work. When a worker experiences a high disutility shock, they may choose to quit even though the separation is inefficient from a social perspective. If the shock were publicly observable, firms could offer contingent wage contracts that would prevent inefficient quits—for instance, temporarily raising pay for a worker experiencing a bad but transient shock, since the firm profits from retaining them. But because shocks are private information, this first-best outcome cannot be achieved. The result is that workers quit too often, and this excessive quitting depresses equilibrium wages. Extending UI benefits to quitters provides valuable insurance but exacerbates the quitting problem, pushing wages down further.

The authors build through four models of increasing complexity. The first is a tractable static model with linear utility, which generates high efficiency wages and low employment. In this setting,

reducing UI to discourage quitting increases welfare. The second model introduces concave utility, which creates a meaningful role for insurance. Here the optimal policy gives quitters positive benefits, but still less than fired workers receive. The third model adds dynamics with a representative worker and concave utility, showing that more generous UI leads to more quits and lower wages. The fourth and richest model is designed for quantitative analysis. It incorporates multiple sectors, which help identify variation in preference shocks; on-the-job search, so that workers can quit for better matches or higher wages; variation in match quality; and richer dynamic wage contracts that allow firms to backload pay or stochastically match outside offers to reduce turnover.

The quantitative results from the rich model deliver the paper's central policy conclusion. Under the current system with no UI for quitters, welfare is lower than it could be — the policy is too harsh. But providing equal benefits to quitters and laid-off workers is also suboptimal, yielding a replacement rate of about 20% for both groups. The best policy differentiates between the two: quitters should receive a 15.5% replacement rate while laid-off workers receive 40%.

During the discussion, attendees raised several important points. One commenter argued that the authors should examine consumption data directly, since the fundamental purpose of unemployment insurance is to prevent drops in consumption following job loss. From this perspective, quitting for schooling or an extended vacation does not necessarily constitute an insurable event. The presenter acknowledged the importance of consumption but noted that existing research finds puzzlingly small consumption declines among low-wage workers who separate from jobs, possibly because they can rely on other smoothing mechanisms such as spousal income. Another attendee asked whether private insurance was included in the model. The presenter confirmed that it was, though modeled simply, since government-provided UI is not the only mechanism available to workers for smoothing consumption. There were also questions about measurement, including concerns about error in the CPS data on separations. The presenter noted that alternative data sources suggest the quit rate may actually be even larger than CPS estimates indicate, strengthening rather than weakening the paper's motivation.



Growth and Redistribution with Heterogeneous Attitudes toward Risk

Presenter: *Timothy Kehoe*

Coauthors: *Aloisio Pessoa de Araujo, Juan Pablo Gama*

This paper develops a simple dynamic general equilibrium model to study the trade-off between economic growth and wealth inequality. The authors construct an overlapping generations economy with two types of dynasties: risk-averse households and risk-loving households. Dynasties are linked across generations through warm-glow bequests, and risk-loving agents have access to idiosyncratic investment projects that are risky but offer high expected returns. The model generates substantial wealth inequality and fat tails in the wealth distribution, and the authors use it to characterize optimal tax policy across several instruments including wealth taxes, bequest taxes, and consumption taxes.

The core mechanism driving the results is heterogeneity in risk attitudes. Risk-loving dynasties invest in risky projects that yield either a high return or zero with equal probability. Because the expected return on these projects exceeds the safe rate, risk lovers invest all of their wealth in the risky asset. Risk-averse dynasties, by contrast, invest only in the safe asset. Over time, lucky risk-loving dynasties accumulate enormous wealth while unlucky ones lose everything. This process generates the fat-tailed wealth distribution that matches key features of the data. When asked why heterogeneous risk attitudes were included in the model, the presenter explained that this is precisely the mechanism that generates wealth inequality and the heavy upper tail of the distribution.

Markets in the model are incomplete. Risk-averse households cannot lend to risk-loving entrepreneurs, even though such lending would seem mutually beneficial. The authors justify this assumption on empirical grounds — such lending arrangements are not commonly observed in practice — and offer several potential microfoundations. Risk-loving entrepreneurs may have private information about their earnings or effort that creates moral hazard or adverse selection problems, making it more profitable for risk-averse agents to simply invest in safe assets rather than attempt to contract with entrepreneurs. Additionally, founders may prefer not to diversify by selling shares to outsiders because doing so would make capital valuations public and trigger immediate tax obligations, whereas retaining ownership allows taxes to be deferred.

The authors characterize the unique balanced growth path and its invariant wealth distribution. To evaluate policy, they employ a social welfare function based on Atkinson (1970), which allows them to study how different tax instruments affect the trade-off between growth and equality. A

key finding is that it is not optimal to maximize the growth rate. While channeling all resources to risk-loving entrepreneurs would maximize growth, this policy generates extreme inequality that reduces social welfare. Warm-glow bequests further dampen the desire to pursue growth-maximizing policies because dynasties care about what they leave to their children, not just aggregate outcomes. The optimal policy instead balances growth against distributional concerns.

The results show that a positive tax rate on wealth is part of the optimal policy. These solutions represent constrained efficiency — they are the best outcomes achievable given that risk-averse households cannot lend to risk-loving ones. Different tax instruments play different roles: wealth taxes help reduce inequality, while bequest taxes can be used to support growth. The authors also consider consumption taxes as an alternative, partly motivated by the practical concern that entrepreneurs may be able to hide wealth from tax authorities.

The discussion raised several important questions and objections. One attendee challenged the wisdom of conducting public policy analysis in a model where policy changes affect the growth rate, noting that even small changes to growth have massive welfare implications over time. The presenter pushed back, arguing that maximizing growth is not optimal in this setting precisely because of the inequality it generates. Another participant asked what makes the wealth distribution stationary given that lucky dynasties appear to explode in wealth. The presenter explained that there is a countable number of wealth levels that remain a constant fraction of risk lovers, and that dynasties switching between risk attitudes provide enough mixing to ensure stationarity. There was also discussion about interpreting the model's equilibrium conditions in relation to the modified golden rule from standard growth theory. The presenter noted that this is an AK growth model without strict concavity, so the usual intuitions about equating the marginal product of capital to the growth rate do not directly apply — doing so would simply maximize growth while ignoring distributional costs.

The paper considers several extensions, including allowing dynasties to switch their risk attitudes over time, introducing non-homothetic preferences, using a CES welfare function, and permitting risk-averse agents to invest in the risky asset. Across these variations, the core message remains: wealth taxes help even out inequality while bequest taxes can be designed to support growth, and the optimal policy must balance these competing objectives rather than pursuing maximum growth alone.



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