FROM THE LAB

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From the Lab Apr. 2024

Director's Message
Finn Kydland

In this issue of FROM THE LAB, we will feature highlights of three conferences, rather than our usual two. What a bonus!

2nd Annual Junior Workshop in Macroeconomics

The Laboratory for Aggregate Economics (LAEF) at UC-Santa Barbara was proud to host the 2nd Annual Junior Workshop in Macroeconomics on October 20-21, 2023 in Santa Barbara. Junior researchers across various fields of macroeconomics presented and discussed papers encompassing both theory and policy. Topics included inequality, displaced workers, labor supply and labor markets, and monetary policy coordination. And much more, as you will see in this issue. The academic organizers were Job Boerma, Paolo Martellini, both Assistant Professors of Economics at the University of Wisconsin-Madison, and Nick Pretnar, Postdoctoral Scholar at the University of California, Santa Barbara.

3rd Labor Markets and Macroeconomic Outcomes

The 3rd Labor Markets and Macroeconomic Outcomes conference was held at Vanderbilt University in Nashville, Tennessee, for the first time April 12-13, 2024. Like many other southern universities, Vanderbilt's pristine campus contains beautiful, neo-gothic revival architecture, and attendees enjoyed their time and the southern hospitality both the university and Nashville itself had to offer. This event was sponsored by Vanderbilt University and LAEF. Adam Blandin served as the local organizer and was a member of the scientific committee, along with Ben Griffey, Nick Pretnar, and David Wiczer. This was the first labor and macroeconomics outcomes conference for which LAEF decided to issue an open call for papers. We were more than pleased to have received over 60 highly competitive submissions! Ultimately, the organizers selected ten papers for the two day conference, with topics of discussion ranging from minimum wages, job laddering, location problems in labor market dynamics, as well as wealth and income over the life cycle. LAEF is very pleased to be returning to Vanderbilt for the 4th Labor Markets and Macroeconomic Outcomes conference in April 2025.

LAEF on the Lakes Conference

For this conference LAEF collaborated with the economics department at the University of Wisconsin-Madison. The conference was held in Madison at the Fluno Center and organized by University of Wisconsin-Madison assistant professor Job Boerma, former UW-Madison (now NYU Stern) assistant professor Paolo Martellini, and Nick Pretnar, a postdoctoral scholar at LAEF. Again, LAEF sent out an open call for papers which was met with over 70 submissions. Topics of the final program included tax heterogeneity, strategic expectations, labor location problems, firm dynamics, as well as growth and innovation, particularly as they are related to consumer branding and research and development. This conference was held May 3-4, 2024.
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2nd Annual Junior Workshop in Macroeconomics
October 20 – 21, 2023

Titan Alon – *UC San Diego*

W.L. Bednar - *U.S. Treasury*

Kristina Manysheva – *Columbia Business School*

Louphou Coulibaly – *Federal Reserve Bank of Minneapolis*

Joel Flynn – *Yale*

Fabrizio Leone - *ECARES – Université Libre de Bruxelles*

Rishabh Kirpalani – *UW-Madison*

Danial Lashkari – *Boston College*

Finn Kydland – *UC Santa Barbara*

Chen Lian – *UC Berkley*

Kurt See – *Bank of Canada*

Christian Moser – *Columbia Business School*

Alessandra Peter – *NYU*

Job Boerma – *UW-Madison*

Julieta Caunedo – *Cornell*

Paolo Martellini – *UW-Madison*

Nicholas Pretnar – *UC Santa Barbara*

Nick Pretnar – *University of California Santa Barbara*

Alessandro Dovis – *University of Pennsylvania*

Venky Venkateswaran – *NYU Stern*

Persistence of Inequality after Apartheid: Assessing the Role of Geography and Skills

Kristina Manysheva, *Martí Mestieri and Johanna Schauer*

The underlying causes of inequality motivate a large and hotly debated literature in economics. Kristina Manysheva presented research, joint work with Martí Mestieri and Johanna Schauer, that attempts to explore this question using South African data, with a special focus on geographic factors. This research ultimately asks whether spatial factors are reinforcing inequality and why, and the authors determine that Black South Africans able to leave the once-segregated township areas of a city like Cape Town do not wish to return and experience income opportunities that are dramatically different than their counterparts who remain in the townships.

Manysheva demonstrates that although apartheid ended decades ago, the pattern of racial segregation in Cape Town still strongly conforms to the boundaries that were once strictly enforced by the White apartheid regime. A participant commented that this observation is not unique to South Africa, and that the notion of persistence of segregation is well-established in the United States context. He asked, given that theories already exist of about this persistent form of inequality as a residue of past segregation policies, whether this paper would be covering any new ground.

Manysheva said that ultimately she believed that South Africa is good setting to study this matter more carefully, but did not directly answer the question. She emphasized that the goal of the project was to understand how spatial or geographical segregation reinforces inequality. In other words, she wishes to test whether new discrimination is occurring or is the inequality that exists today a residual result from initial conditions. If true, that the dimensions on which we focus on rectifying inequality would be better understood as "township v. city," and not necessarily "Black v. White." Townships often have strong geographical barriers from the residential areas that are dominantly white, and this was by design during apartheid control where wilderness barriers were used to essentially fence these groups apart. Participants asked how this approach compares to the favelas of Brazil.

Manysheva documents how Black income growth was much higher than White income growth in the post-apartheid period, and that the drivers of this growth are likely education opportunities. She documents how location drives these education opportunities. The model that the authors use suggests even more clearly that within racial group inequality is determined by living in townships and experiencing education inequality. Black South Africans who exit the townships do not generally return. This implies, Manysheva suggests, that location decisions of Black South Africans are not a matter of people choosing to live in townships to be nearer to family, but rather that the choice is of location is often constraint by economic factors.

A participant asked whether the narrative of the study is one of selection or whether the authors are trying to imply something causal. He emphasized that the narrative as laid out is somewhat unclear, and that perhaps the study could be an instance of locational frictions. Where once the cost of leaving a township was infinite, it is no longer. Manysheva largely agreed with this framing and said that she wanted to emphasize that it is economic forces that are determining this, and that large costs of exiting the townships are perpetuating inequality. In fact, the costs of commuting are themselves very high in Cape Town, and this ultimately leads the authors to study policy implications by using their model to produce counterfactuals in which infrastructure is improved to lower these costs, such as busing, and in which school quality is improved in townships.

Can Deficits Finance Themselves?

George-Marios Angeletos, **Chen Lian,** *and Christian Wolf*

During recessions, such is the one that occurred during the COVID-19 pandemic, governments often turn to stimulus to boost consumption and help the economy turn the corner. Traditionally, this stimulus must be deficit spending to truly be stimulative and this can pose long term costs, as the debts incurred would eventually need to be repaid. Chen Lian presented "full self-financing" in which he and his co-authors argue that there may be conditions in which deficits theoretically finance themselves. What he means by financing themselves is that taxes would not need to be raised in the future to pay down the debt that resulted from a past stimulus payment.

This is not necessarily a new idea, as several audience members pointed out. The idea that a country's nominal debt could be inflated away is a well-established intuition in economics. Furthermore, as one audience member suggested, the idea that a government spending multiplier, whereby stimulus encourages a chain of consumption behavior, could make a stimulus sensible is well-established. The propensity of consumers to spend most or all the stimulus is what drives whether a stimulus is sensible or not. Lian emphasizes that he and his co-authors combine the effects of inflating away nominal debt with the expansion of the tax base via cumulative stimulative effects of initial spending.

These channels, of generating inflation and expansion of the tax base, to reduce or remove the need to pay down debts in the future, are not necessarily a good thing. It creates distortions in the economy, or, in other words, incentives that are harmful to proper long-term functioning of the economy or to societal welfare. Lian also says that their efforts in the paper are not normative, in that they are not recommending that governments should stimulate and incur debts, but simply that by their definition of self-financing, there are simply conditions in which taxes would not necessarily need to be raised.

A key requirement for this is called a failure or Ricardian equivalence. Ricardian equivalence suggests that consumers receiving a stimulus should not significantly alter their behavior, knowing that the stimulus will be essentially withdrawn at some future date. But if consumers disregard this idea, we should expect their consumption levels to rise upon getting a stimulus check. A second key requirement is that the point at which the debt needs to be repaid can be extended indefinitely. In order to have true self-financing, the date of repayment must be set infinitely far away, a requirement that raised some skeptical comments and questions among audience members about whether it was realistic. Finally, it's important in the authors' model for stimulative effect of deficit spending to be weighted toward the near-term, as opposed to further in the future. In other words, a spike in consumer spending would need to happen soon as a result of a stimulus check for self-financing conditions to hold.

There was some discussion in the slides and with audience participants about interest rates. Naturally an approach that relies in part on generating higher levels of inflation would feed back into interest rates. Applying a standard rule for interest rate policy, such as the Taylor Rule, would limit the degree to which a stimulus is truly self-financing, because the necessary interest rate increases would limit both the inflationary and consumer-driven effects of the stimulus.

Uncovering the Differences Among Displaced Workers: Evidence from Canadian Job Separation Records

Serdar Birinci, *Youngmin Park, Thomas Pugh and Kurt See*

To study the long-term economic implications of job losses, we often use data, to get a sense of how quickly these people can find work and recover, for example. but there is a measurement problem that needs to be overcome. If we just study the laid-off employees, we potentially are looking at a sample that is biased by selection. The traits of these employees are likely to be different than those of other employees. To address this, economists have long used the approach of studying mass layoffs, on the premise that mass layoffs are indiscriminate and less likely to suffer from these selection effects.

But with existing approaches on U.S. data, for instance, it can be difficult to distinguish voluntary from involuntary separations in the context of mass layoffs. Consider the fact that some employees may wish to leave in advance of mass layoffs, aware that things are going poorly at their employer. This can be difficult to observe because the date of a mass layoff is not often noted and the reasons for the separation are not required to be documented. The presenter thus turns to Canadian data, which provides researchers with both a precise date of separation and the reason for separation. This will allow the researchers to compare whether the existing approaches used in the literature are doing a reasonable job of identifying involuntary separations.

In addition to using this added detail provided by the Canadian forms to benchmark the efficacy of existing approaches, the presenter said that the detail will also be able to better characterize the impact of layoffs on those who are truly laid off, as opposed to voluntarily separating from their employer. In addition, they will be able to better characterize the timing of these various separations.

A participant questioned the reliance on the administrative forms, asking why an employer would have an incentive to report truthfully. The presenter responded that these forms are crucial for determining whether the former worker can obtain employment insurance benefits. The participant replied that there are then potential incentives to lie, to lower their cost burden in the future in the form of insurance premiums. The speaker replied that firms in Canada do not pay insurance premiums based on past layoffs as is done in the U.S., where firms may seek to oppose a benefit claim. The participant responded that there are then incentives to lie in the other direction: just give employees the benefits regardless. The speaker replied that then firms would have to pay workers some form of severance. Thus, there are incentives in both directions for firms to not be truthful. This exchange did not ultimately resolve the participant's initial question.

Using the richer data, the authors ultimately find that there are problems with extant approaches. In fact, 45% of what seem like separations are spurious and attributable merely to company name changes or organizational changes. Only 25% of separations are actual layoffs in the mass layoff event. The direct effects of such separation on earnings are much starker when we only consider the small subset of true layoffs. And those who are truly laid off experience more severe losses to earnings than those who quit in anticipation of a mass layoff. A participant asked whether this point was somewhat obvious. Another participant asked why this couldn't be done with U.S. data? The speaker said that these forms used in Canada are essential to their analysis.

The speaker went on to note other findings, such as the high number of separations that actually occur before a mass layoff event. About 50% of quits and

25% of layoffs happen before the mass-layoff month. And the earnings losses of those who are laid off in the wave prior to the mass layoff are much larger. These are less productive workers. There isn't evidence that more productive workers quit early.

Self-Employment Within the Firm

Alessandra Peter, *Vittorio Bassi, Jun Hyuk Lee, Tommaso Porzio, Ritwika Sen, and Esau Tugume*

Relative to the U.S., firms in Sub-Saharan Africa tend to have small numbers of employees. Economists typically assume this is due to external constraints, such as credit or labor market frictions. Alessandra Peter and her co-authors propose an alternative view that firm size is constrained by barriers to labor specialization within the firm. The implication is that these firms would be small even in the absence of external constraints, as the typical business model in Sub-Saharan Africa is not easily scalable. The authors use a novel data set on time use in Ugandan manufacturing firms to characterize the typical business model, which they then use to motivate a model.

The authors conducted a survey of three manufacturing sectors in urban Uganda: carpentry, welding and grain milling. Survey respondents provided detailed time-use diaries and identified themselves as either employees or entrepreneurs. Peter explained that unlike manufacturing in developed countries, manufacturing in Uganda typically takes place in an artisanal workshop, in which every product is custom-made for a particular customer. A participant asked why consumers buy more customized products in Uganda than in developed countries. Peter gave the example that carpenters make more customized products because building codes are not typically enforced, and therefore items such as doors cannot be sold in standard sizes. Another participant pointed out that IKEA sells many varieties of the same product and asked whether that can be considered customization in developed countries. Peter responded that a truly customized product is made to order.

The authors find little evidence of specialization across firms: within the same industry, 80% of firms make the same core product, perform the same steps in production, and spend about the same share of time on each production step. Within each firm, the data shows little specialization among employees. The entrepreneur who owns the firm performs more complex tasks, but the entrepreneur's employees typically all perform the same simple tasks. A participant asked what complex tasks the entrepreneur typically performs. Peter explained that these tasks include managing loans and training new employees. Another participant suggested that even if the entrepreneur is highly skilled, the firm could still be better off if the entrepreneur delegates some complex tasks to employees. Peter responded that the tasks defined as complex in the paper are skill-intensive and should be completed by the entrepreneur.

Motivated by these empirical findings, the authors develop a static model of industry equilibrium with occupational choice. Individuals in the model choose to be a worker or an entrepreneur based on their skill level. Entrepreneurs choose how many workers they would like to hire. Workers are randomly matched with job openings. The entrepreneur assigns tasks to workers, with the degree of specialization depending on the unbundling cost of delegation and the efficiency gain from specializing. A participant asked how wages are determined. Peter explained that the workers' wages depend on the entrepreneur's ability, but not on the number of workers at the firm. Another participant stated that wages typically depend on a worker's outside option, but the model shuts down this mechanism by not allowing workers to switch jobs. Peter pointed out that the model is static, and job switching would require multiple time periods. Another audience member pushed back against the assumption that workers randomly match with jobs. Peter responded that solving their model using a more complex matching approach

would be too difficult.

   Economists have two main theories for why firms exist, Peter explained. The first theory is that firms are a vehicle for entrepreneurs to leverage their own talent by delegating tasks to workers. The second theory, referred to as "self-employment within the firm," is that firms are purely a vehicle to share fixed costs. Efficiency gains from specialization are large under the first theory and small under the second theory. The authors find that the theory of self-employment within the firm best explains key features of Ugandan manufacturing, under the assumptions of their model.

The Wealth Elasticity of Aggregate Labor Supply: A Macroeconomics Approach

Titan Alon *and Cole Dreier*

The pandemic and the government responses to it introduced several strange features to the U.S. economic landscape. As the economy recovered from the initial shock, households experienced an increase in wealth, and aggregate employment was slow to return to its pre-pandemic trend. This potentially provides conditions for a natural experiment. Titan Alon and his co-author use evidence from the pandemic to estimate the wealth elasticity of aggregate labor supply.

While the literature provides individual-level evidence on how labor supply responds to a wealth shock, the impact of a widespread increase in wealth could differ from the estimates in the literature due to general equilibrium effects. For example, if the entire population receives a wealth shock, employers will increase wages to entice people to continue working. This aggregate wage increase could offset the labor supply effect of the wealth shock.

Alon described evidence that wealth increased and employment dropped since 2019. Household wealth increased 37% from 2019 to 2022, mainly from three sources: government stimulus, asset prices, and increases in savings. Job openings also persistently outnumbered unemployed workers during this period. A participant argued that the gap between unemployed workers and job openings is part of a longer-term trend, not a unique feature of the pandemic recovery period. Alon responded that while this gap has appeared before, it had never been so wide or persistent.

Alon introduced a general equilibrium heterogeneous agent model with incomplete markets, labor market frictions, and endogenous wealth. Wealthy households in the model hold more stocks than poor households and therefore benefit more from an increase in corporate profits. A participant expressed concern that the model fails to account for the equity premium puzzle and could therefore be unable to match asset pricing moments in the data. Alon responded that the goal is to model household wealth shocks, not asset prices. Another participant asked whether a wealth shock to rich households affects labor supply. Alon explained that the model allows the effect of wealth on labor supply to differ by household income, and that labor supply is expected to be more elastic for poor households.

To calibrate the model, the authors sought to match macroeconomic data on jointly distributed population characteristics and Frisch elasticity from microeconomic experimental evidence. The model matches most targets well, but the authors are still working to improve calibration. A participant asked how Frisch elasticity relates to the probability of accepting a job for a person who is unemployed. Alon responded that Frisch elasticity characterizes changes in hours for people who are already employed, and employment changes at the extensive margin are determined separately.

Using the calibrated model, they find that the wealth elasticity of labor supply would have increased in this period, even in the absence of government transfers. The authors argue that elasticity varies across the labor supply curve, and that workers most likely moved from an inelastic part of the curve to an elastic part. A participant asked whether government transfers in the model are funded by taxes. Alon responded that the model does not include a Ricardian budget constraint, and therefore agents do not pay taxes to fund government transfers. Participants suggested using an open economy model in which the government can borrow from other countries in order to model government transfers more accurately.

A Theory of Non-Coasean Labor Markets

Christian Moser, *Andrew Blanco, Andres Drenik, and Emilio Zaratiegui*

There is a rigid quality to wages that can create inefficiencies. Workers are loathe to see their nominal wage fall. Employers often face barriers to adjusting wages when an employee's productivity changes. Union agreements are an example of these barriers.

In the widely accepted Coasean tradition, wages are flexible and are always set at the efficient level. This paper argues for a non-Coasean view that rigid wages imply inefficient employment, and inflation can improve efficiency by pushing real wages down to the efficient level. A justification for this view comes from survey evidence showing that layoffs often occur when both the employer and employee would be willing to continue the match at a lower wage, but the employer is unable to lower the wage due to fairness norms or institutional constraints.

The authors introduce a theory of non-Coasean labor markets in which workers match with employers and then negotiate to set a wage. Once the nominal wage is set, it cannot be changed for the duration of the match. If the worker's productivity increases far above the wage, the worker will quit to seek a higher wage elsewhere. If the worker's productivity decreases too far below the wage, the employer will lay the worker off. Finding a job is costly for the worker and filling a job is costly for the employer, which prevents either party from ending the match when productivity diverges only slightly from the wage.

A participant asked why productivity would differ from the wage. Moser answered that firms can face productivity shocks, with workers suddenly becoming more or less productive. Another participant pointed out that under this framework, workers are laid off even when the surplus from the worker-firm match is positive, and that workers who quit should come to the same firm the next day asking for a new contract. Moser responded that the

participant understood the key idea, but search costs in the model prevent workers from immediately returning to the job they left at a new wage.

After introducing the model, Moser characterized the equilibrium in the game between worker and firm and showed evidence that a unique block-recursive equilibrium exists. A participant responded that the equilibrium is only guaranteed to be unique if the authors rule out the possibility of quitting and firing happening simultaneously, with the worker and firm mutually agreeing to end the match. Moser responded that the multiplicity of quitting and firing happening together is a trivial equilibrium which does not change the key implications of the model, but agreed that he should explain the conditions for uniqueness more precisely.

The entry wage in the model solves a Nash bargaining problem, with first-order conditions characterizing the share of match surplus that accrues to the worker. A novel feature of the model is that high wages are risky for workers, who will be laid off if their productivity falls too far below the wage, and therefore workers do not strictly want to maximize their wages. A participant asked whether the worker and firm consider inflation when setting the wage. Moser answered that when firms expect inflation, they price it into the contract, but they cannot account for inflation shocks when they set wages.

Moser concluded with a discussion of the effects of an inflationary shock in the model. Because wages are rigid, highly productive workers quit because their real wage falls below their productivity. However, layoffs are reduced because for workers with low productivity, their real wage decreases to better align with their productivity. A participant asked why Moser focused on an inflation shock rather than a shock to productivity. Moser explained that inflation shocks provide a clean demonstration of the

model's implications, as inflation shocks change neither productivity nor the nominal wage. The authors use labor market data from the Survey of Income and Program Participation to quantify their model and find that expansionary monetary policy shocks decrease employment in hot labor markets and increase employment in cold labor markets, as their theory predicts.

Global Demand Imbalances and Monetary Policy Coordination

*Javier Bianchi and **Louphou Coulibaly***

Inflation has surged around the world, and events like these are typically followed by tight monetary policy. Often a concern arises about whether synchronized tightening will lead to a global recession. Motivated by this, Louphou Coulibaly and his coauthor attempt to address whether cooperation calls for lower rates relative to Nash equilibrium and study the associated gains from monetary policy coordination. Focusing on the financial channel of monetary policy spillovers, they study the scope for monetary policy cooperation, where cooperation may call for lower or higher nominal rates.

The authors employ a deterministic model with sticky wages. There is a continuum of identical small open economies. There are two goods, one from a tradable sector, in which the Law of One Price holds, and the other from a non-tradable sector. In the model, households dislike working in either sector and maximize lifetime utility over a consumption bundle of tradable and non-tradable goods. Firms produce tradables and non-tradables under perfect competition, with higher labor intensity seen in the non-tradable sector. Wages start out rigid and become fully flexible later. Central bank policy is characterized by setting the nominal interest rate with a goal of stabilizing inflation. A participant raised concerns about the multiple factor inputs in the production function. The speaker responded that they implicitly assumed all other factors were fixed and that their story was not dependent on competition between factors, but rather the difference between sectoral labor intensity. Another question followed about whether land could also move freely between sectors. The speaker clarified that this would not matter for their setting.

The authors proceed to give two sufficient statistics for later determining monetary policy tightness, output gaps and the natural wage. In the non-cooperative environment, a central bank chooses its own nominal rate in period 0, taking the world and other countries' rates as given. A participant asked if everything was operating through a world rate rather than a bilateral relationship. The speaker replied that small open economies only cared about the world rate, and thus any specific bilateral relationship could be ignored, as long as the Law of One Price held. Targeting rules and management of trade balances are derived as monetary policy for a single country, where reallocation of hours toward non-tradables helps reduce inflation.

The authors then study the role for cooperation to improve the welfare relative to that in Nash equilibrium. In the cooperative game, individual central banks need to internalize effects of their collective action on the world rate. A participant asked whether their claims were based on the notion that the financial channel was the only spillover channel. The speaker affirmed. They find that Nash equilibrium features over- or under-tightening depending on the sign of output gap, differences in labor intensity and responses of trade balance to exchange rate depreciations. Specifically, when certain conditions hold, the Nash equilibrium displays under-tightening if the labor market is overheated and non-tradables are more labor intensive. When the labor market is overheated, the global planner raises nominal rates more, leading to a higher world rate and thus reducing overheating abroad.

Estimating Demand and Quality Change in Macro Data: Application to the U.S. Import Price Index

Marco Errico and **Danial Lashkari**

A critical task for policy-oriented macroeconomists is determining how the price, quality, and quantity of goods and services is changing. They are interested in aggregate volumes and prices, but irregularities for small units that change over time raises major challenges. Motivated by this, Danial Lashkari and his coauthor study the contribution of changing quality, as well as product entry and exit, to changes in aggregate prices. In an application to the price of U.S. imports based on customs records, they account for the entry and exit of imported varieties via an elasticity-of-substitution-based correction, as well as the improvements in the quality of imports.

Leading approach to estimation become invalid if quality and price are correlated. Because of this, the authors first develop a price index for homothetic aggregators accounting for price, quality, and entry or exit, and then propose a method to estimate homothetic demand systems in a panel of product prices and volumes. In response to a question on the definition of quality, the speaker clarified that it was the additional value created for consumers holding the prices constant and thus was closely related to the concept of residual demand.

In the authors' framework, consumers can observe product characteristics for a set of available products. A question came up about the identification of quality differences. The participant asked whether consumers would reveal their preferences when two products were at the same price or that the brands would have already been embedded in the prices. The speaker responded that both would be embodied in their model, where not only consumers would show different tastes over products at the same price, but that firms would raise the price accordingly.

The main challenge in their characterization of a price index is how to properly account for the contribution of entering and exiting varieties. They demonstrate their strategy in addressing how the instantaneous change in a price index can be linked to observable terms of product prices and market shares. A participant raised concerns about the ability to observe the exiting products. The speaker answered that exiting products could be identified when they appeared in the data with an industry code, but without any transaction record. The resulting unobserved price would not matter if it was above the choke price. Another question followed on whether their story would be the same when a new product was introduced because an earlier product became worse in quality.

Empirically, the authors study the aggregate price index for U.S. imports from 1989 to 2018. They construct data on domestic and imported volumes and prices across 156 industries. In the dynamic panel estimates, they find that market share is positively related to quality and negatively to own-price elasticity. A participant asked how to reconcile the findings with the common above-one own-price elasticity documented in the traditional firm profit maximization. The speaker replied that their results were for industry aggregates instead of individual firms and that they had not imposed any parameter restrictions. The authors' results suggest that quality improvements drastically reduce increases in import prices, but that variety only marginally contributes to gains from trade.

A Theory of Supply Function Choice and Aggregate Supply

Joel P. Flynn, *George Nikolakoudis and Karthik A. Sastry*

A common-sense economic observation is that firms must decide how much to produce without perfect knowledge of the future. This point is a building block of Aggregate Supply theory. Standard models commonly restrict firms to price-setting under sticky contracts, menu costs or information frictions, which results in only one supply schedule. By allowing firms to choose optimal supply schedules given their uncertainty in an otherwise standard environment, Joel P. Flynn and his coauthors study how allowing for richer supply behaviors at the microeconomic level affects the understanding of aggregate supply.

The authors introduce the supply function choice for a single firm in a partial equilibrium setting, in which a monopolist chooses a supply function while facing uncertainty and prefer to insulate themselves from surprises. The authors characterize an isoelastic demand and a constant-returns-to-scale production technology, where firms believe the macro and micro uncertainty are jointly log-normal. A participant asked how long firms held their supply schedules. The speaker clarified that the firm decision was for one period, leaving no nominal rigidity in the model. Another participant asked about their assumption on the timing of firms' pricing decision. The speaker answered that the firms choose a supply function based on their belief over joint distribution of uncertainties.

The authors illustrate that in an intermediate schedule between a pure price and a pure quantity setting, there is inverse supply elasticity that is mediating how prices respond and some supply elasticity for how quantities respond. A participant asked if they allowed for a contingent schedule. The speaker answered no and that the schedule set by firms only conditioned on the choices they made, which were price and quantity. The authors

derive the optimal supply schedule that is dependent on uncertainty and market power, which suggests that large demand shocks and high market power lead to flatter supply. A large inflation shock results in a steeper supply function.

The authors develop a monetary business cycle model with time-varying volatility, as well as supply schedule choice. Firms choose optimal supply schedule under uncertainty about micro and macro shocks. A general equilibrium is thus characterized by a collection of variables and a sequence of supply functions. Firms choose supply schedules to maximize expected profits, and households maximize expected utility. All expectations are consistent with the equilibrium laws of motion, and markets clear. The authors demonstrate that holding all else fixed, macro supply elasticity depends on micro supply elasticity. There exists feedback between endogenous supply curves and endogenous uncertainty.

As an empirical exercise, the authors quantify the model's implications for how uncertainty affects the Aggregate Supply elasticity in the U.S. from 1960 to 2022. Their model implies quite large variation in the elasticity over time. In response to a comment, the speaker acknowledged that they could not distinguish changes across equilibrium of different periods. Results suggest a steepening aggregate supply curve in the 1970s and 2020s, and a flattening one in the Great Moderation, the magnitudes of which are comparable to the existing empirical evidence.

3rd Labor markets and Macroeconomic Outcome
April 12 – 13, 2024

Adam Blandin – *Vanderbilt University*
Niklas Engbom – *New York University*
Limor Golan – *Washington University of St. Louis*
Ben Griffy – *University of Albany*
Emma Harrington – *University of Virginia*
Kyle Herkenhoff – *University of Minnesota*
Loukas Karabarbounis – *University of Minnesota*
Sean McCrary – *Ohio State University*

John Mclean – *Vanderbilt University*
Robert Millard – *Stony Brook University*
Sedar Ozkan – *Federal Reserve Bank of St. Louis*
Nicholas Pretnar – *University of California Santa Barbara*
Benjamin Pugsley – *University of Notre Dame*
Shu Lin Wee – *Bank of Canada*
David Wiczer – *Federal Reserve Bank of St. Louis*

Minimum Wages and Labor Markets in the Twin Cities

Loukas Karabarbounis, *Jeremy Lise, Anusha Nath*

The effect of the minimum wage is one of the most hotly debated topics in economics. Theoretically it should result in job losses. Karabarbounis and his coauthors researched how raising the minimum wage in Minnesota's Twin Cities (Minneapolis and St. Paul) from 2018 onwards affected wages and employment. Their study adds to existing research on minimum wages by focusing on local policy changes instead of state-level ones. They also used more accurate administrative data compared to previous studies. The authors employed three methods to analyze the impact: a time series approach using a synthetic difference-in-differences design, a cross-sectional approach leveraging variations in exposure among establishments and workers, and a structural model of establishment dynamics.

The researchers used unemployment insurance wage detail reports, which they connected to establishment-level data from the Quarterly Census of Employment and Wages. This linkage enabled them to track quarterly earnings and hours at the establishment level. One participant noted that the ability to identify workers with multiple jobs using this establishment-level unemployment data is a distinctive advantage of this study compared to previous research.

The authors utilized a synthetic difference-in-differences approach, using a donor pool comprising all cities in Minnesota except Minneapolis and St. Paul. Their analysis indicated that the minimum wage increases resulted in higher wages across most industries, accompanied by significant job losses in the restaurant and retail sectors. During a conference, a participant raised concerns about potential bias from spillover effects on neighboring cities. Karabarbounis assured that the results remained robust even after excluding cities bordering Minneapolis and St. Paul from the donor pool. Another participant inquired about the potential increase in the use of robots in the restaurant industry, given the higher wages incentivizing automation. While Karabarbounis acknowledged the possibility, he mentioned the lack of data on automation to verify this theory, but agreed that automation could contribute to job losses.

While both the time series and cross-sectional analyses indicated wage increases and job losses, the estimates from the cross-sectional approach were approximately half the size of those from the time series approach. The authors suggested that the larger estimates from the time series analysis may be influenced by other city-level events coinciding with the minimum wage increases, such as significant protests in Minneapolis in 2020. These external shocks do not impact the cross-sectional estimates, which rely on variations in firm exposure to the minimum wage for identification rather than policy differences across cities. Firm exposure varied based on firm size, with larger firms facing higher minimum wage requirements. A participant raised a question about whether job losses could be a result of firms laying off workers to downsize the firm and fall into a lower minimum wage category. Karabarbounis mentioned that he would investigate potential clustering around the firm size thresholds.

Karabarbounis wrapped up his presentation by discussing an industry model of diverse establishments that the authors created to reconcile the time series and cross-sectional estimates. In this model, firms make decisions on market entry or exit, pricing, and resource allocation. They differ in productivity, wage distribution, factor shares, and entry expenses. The authors' modeling exercise led them to the conclusion that neither the time series nor the cross-sectional results can be definitively deemed more plausible. Instead, they suggest that the two sets of estimates should be viewed as upper and lower bounds on the actual effect sizes.

The Long-Term Decline of the US Job Ladder

Niklas Engbom, *Aniket Baksy and Daniele Caratelli*

Moving between companies to get better-paying jobs is an important factor in how wages grow over a person's working life and helps make sure people are in the right jobs. However, we don't know much about how this kind of job-switching has changed over a long time. This study suggests a way to measure this job-switching using data from the Current Population Survey from 1979 to 2023 and creates a basic model to study this idea.

The authors have identified three key trends in job-switching between employers: it has decreased by more than half since 1979, this drop is linked to a reduction of over 1% in yearly wage growth, and the impact varies among different groups - particularly affecting women, individuals without a college education, and recent generations. During a discussion, a participant raised a question about the role of moving to different locations. Engbom explained that while geographic mobility has decreased less than job-switching between employers, it is unlikely to be the main factor behind this trend. Another participant mentioned that the average time people stay in a job has stayed the same in the Current Population Survey, and asked how this aligns with the decline in job-switching between employers. Engbom clarified that the stability in average job tenure hides changes in the distribution, as there has been a decrease in jobs with very short or very long tenure.

Engbom proposed three ideas to explain the drop in job-switching between employers. First, it could be that workers are now better matched with jobs compared to before 1979. However, this idea is not backed by the fact that when workers receive job offers from outside, their likelihood of accepting them has not decreased. Second, it's possible that the labor market is becoming less effective at connecting employed workers with job offers from outside. This decline in effectiveness

would reduce the chances of both employed and unemployed workers finding new jobs, but this trend was not observed in the data. Third, the decline could be due to increased market concentration, meaning there are fewer companies available, giving workers fewer options to switch between firms. The authors found evidence supporting this third idea, indicating that increased market concentration explains half of the drop in job-switching between employers.

Engbom then described the paper's law of motion for the proportion of workers employed at a specific wage level. This law considers the movement of workers into a firm through poaching and hiring unemployed individuals, as well as the movement out of a firm due to poaching by other companies and transitions to unemployment. By applying this law of motion, the authors can estimate job-switching between employers using data from the Current Population Survey. Initially, the authors assumed that workers only accept job offers that offer higher pay than their current positions, but relaxing this assumption yielded similar results. During the discussion, a participant raised a question about whether the growth in the labor force during this period, leading to more individuals in lower job positions, could be driving the decline in job-switching between employers. Engbom clarified that labor force growth is not a significant factor in explaining the decline in job-switching between employers, as the impact is much smaller compared to the flows into and out of unemployment.

Engbom wrapped up the presentation by discussing a state-level examination utilizing labor market concentration data from the Business Dynamics Statistics. Through this analysis, the authors discovered that states with greater rises in market concentration

also witnessed more significant drops in job-switching between employers. By leveraging the findings from their state-level analysis to forecast national impacts, the authors were able to explain around half of the nationwide decrease in job-switching between employers."

Superstar Firms Through the Generations

Benjamin Pugsley, *Yueran Ma, Kaspar Zimmermann*

How do the largest companies, ones that we might call "superstar firms," achieve and maintain their status? This study explores whether new superstar firms emerge consistently over time or only during specific periods, as well as the enduring dominance of existing firms. Pugsley highlighted that the primary contribution of the paper lies in the dataset, compiled from the Fortune 1,000 list of the top 1,000 U.S. firms by sales in 1955 and 2018 across various industries. By gathering details on each company's founding year, industry, and merger and acquisition history, the authors aim to track the evolution of these top firms.

During discussions, a participant inquired about how mergers and acquisitions impact the authors' ability to monitor firms over time. Pugsley clarified that in cases where merging firms vary in size, they continue to track the larger entity. Moreover, excluding scenarios where merging firms are of equal size does not alter the observed patterns.

In the 2018 data, firms classified as superstars exhibit a relatively even distribution of birth years. However, upon segmenting these firms by industry, a notable concentration of birth years around 1900 emerges for manufacturing firms. This trend is consistent with manufacturing superstars from 1955, whose modal birth year was also around 1900. If the birth distribution were stable over time, one would expect the 2018 data to showcase a modal birth year in the 1960s. When asked about the decline in new manufacturing firm formations compared to other industries, potentially due to the sector's decline, Pugsley mentioned that the paper incorporates a model to address the impact of structural transformation on limiting new firm entries. Despite the consistent modal birth year for manufacturing firms since 1955, the specific firms at the top of the distribution have undergone changes over time.

Pugsley introduced a firm dynamics model aimed at elucidating the emergence and persistence of superstar firms. Expanding on the conventional Hopenhayn model, the authors incorporate distinct firm generations that embrace capital-intensive modern technology and a learning-by-doing mechanism, where firms enhance efficiency over time through technology utilization. The adoption of this new technology is exclusive to new market entrants. Within this framework, a firm's productivity is linked to its age. Firms that entered the market during the technology's inception hold a lasting advantage over newer firms adopting the same technology, owing to the learning-by-doing effect. The enduring dominance of manufacturing firms established in 1900 can be attributed to the rise of large-scale production during the second industrial revolution, necessitating novel production methods and enhanced management practices.

When asked how the model can elucidate the evolution of specific firms born in the special generation that become superstars, Pugsley explained that while all firms can enhance their productivity through experience, individual firms may experience varying firm-specific shocks that accumulate over time, influencing their trajectory.

Another participant highlighted the absence of top 1,000 firms in certain sectors and inquired about the potential insights that a more detailed analysis of heterogeneity by sub-sector could offer regarding returns to scale. Pugsley noted that the available data at the sub-sector level is insufficient to draw definitive conclusions. However, he acknowledged the significant role of returns to scale in the sector-level examination.

The Power of Proximity to Coworkers: Training for Tomorrow or Productivity Today?

Emma Harrington, *Amanda Pallais, and Natalia Emanuel*

The surge in remote work has sparked inquiries into how workers' productivity and access to mentorship are influenced by reduced proximity to colleagues. This study utilizes data from software engineers at a Fortune 500 company to investigate the effects of increased remote work on mentorship and output. Prior to the pandemic, some engineering teams were physically co-located in the same building, engaging in frequent face-to-face meetings, while others were dispersed across different buildings and primarily interacted online. With the transition to remote work during the pandemic, the level of in-person interaction among coworkers decreased more significantly for the co-located teams compared to the split teams, creating a variation that the authors leverage to estimate the causal effects of reduced proximity to coworkers using a difference-in-differences identification strategy.

Harrington introduced a mentorship model where each worker experiences two periods: a junior phase as a new employee and a senior phase as an experienced staff member. The model pairs junior and senior workers, with seniors providing feedback to juniors. The feedback process is minimally required and observable to the firm, typically through comments left by senior engineers on junior engineers' code. Mentorship is voluntary, involving juniors requesting additional feedback and seniors deciding whether to accept or decline these requests. Providing feedback diminishes seniors' output, potentially leading to reduced compensation. On the other hand, receiving feedback poses costs for junior colleagues, who may feel hesitant to seek mentorship and are more inclined to request feedback in person rather than online. During a conference, a participant inquired about the ease of asking for feedback in person. Harrington explained that while both in-person and online requests could

entail costs, the daily meetings among engineers in this context make in-person requests the most straightforward method to seek feedback. Another participant suggested that changes in delegation, rather than mentorship, might influence productivity differences during remote work. Harrington noted that the available data does not allow for a clear distinction between mentorship and delegation.

The model puts forth two testable predictions. Firstly, co-located seating arrangements enhance mentorship, but lead to decreased programming output and lower pay. Secondly, past co-location fosters the accumulation of human capital, resulting in higher pay and a greater likelihood of leaving for better job opportunities. To test these hypotheses, the authors employ a difference-in-differences methodology. Their dataset comprises 1,055 software engineers at a Fortune 500 company spanning from August 2019 to December 2020. The data allows for the observation of various metrics including code production, online mentorship through peer feedback on code, team proximity, salary adjustments, and job transitions. The empirical findings substantiate the model's two predictions for the average worker.

The authors conduct heterogeneity analysis to explore potential gender differences in the observed effects. Their findings reveal that the impact of proximity varies by gender, with women experiencing more pronounced effects compared to men. Specifically, junior female engineers exhibit a more significant reduction in mentorship when distanced from coworkers, while senior female engineers allocate less time to mentorship, resulting in greater enhancements in their productivity and compensation. During discussions, a participant raised a question regarding the overall team output changes, considering that improvements among senior engineers could potentially offset any decline in

output among juniors. Harrington clarified that teams not seated together demonstrate higher total output. However, she and her coauthors plan to integrate additional data on code quality to gain deeper insights into the overall shifts in team performance.

A Job Ladder Model of Firm, Worker, and Earnings Dynamics

Sean McCrary

Labor economists typically study how companies evolve and how workers advance to better jobs using separate models. One type of model looks at how company size changes over time based on productivity, while another type focuses on how workers progress to higher-paying positions within a company or by switching to other firms. In this paper, McCrary combines these two ideas into a single model. This model considers companies with multiple workers, the concept of diminishing returns as a company grows, and how workers search for better job opportunities while already employed.

In the model, labor markets have frictions, where firms incur costs to fill job vacancies. For a firm, the job's worth is the current value of the surplus generated by a worker, and the firm will only advertise a job if its value surpasses the vacancy cost. Worker wages are influenced by the firm's productivity and the availability of job options at other firms. During a conference, a participant inquired about the relationship between firm size and wages in the model. McCrary explained that firm size impacts productivity, which subsequently influences the wage offered to workers.

In the model, workers engage in on-the-job search and can switch to another firm offering a higher wage, but they are unable to leverage a new offer to negotiate with their current employer. When asked why a worker wouldn't negotiate with their current firm using an outside offer, even if the poaching firm is less productive, McCrary clarified that the model assumes all workers within the same firm receive equal pay, preventing individual bargaining for higher wages. Workers within the firm act as a collective unit, negotiating with the firm as a group to determine both wages and the number of job openings the firm will advertise.

Regarding how hiring an additional worker impacts wages, McCrary explained that when a new worker is hired, wage negotiations are revisited for all workers, leading to continuous wage adjustments within the firm over time. In response to concerns about the paper's contribution to the literature, particularly its limitations in fully capturing wage dynamics due to the absence of individual wage variations and the use of external offers for negotiations, McCrary acknowledged these constraints but emphasized the model's unique focus on collective bargaining dynamics within firms.

McCrary fine-tunes the model by aligning it with aggregate data on job flows and the distribution of firm sizes. The calibrated model successfully captures four key observations: firms expand by increasing job openings, wages impact workers' decisions to join or leave firms, a worker's career progression hinges on wages rather than firm size, and the growth of firms predicts the wage growth of workers transitioning between firms. Within the model, firms vary in productivity levels and wage offerings.

During discussions, a participant recommended that McCrary present data on productivity and wage disparities from existing literature to compare with the estimates generated by his calibrated model. Using the calibrated model, McCrary investigates the repercussions of a negative shock to total factor productivity. His analysis reveals a slight uptick in unemployment alongside a 15% rise in job openings. Wages decrease across the board, with a more pronounced decline observed for new hires compared to existing employees. Following the productivity shock, firms scale back their recruitment from rival companies more than their hiring of unemployed individuals. Given that being poached leads to wage increases for workers, the wage growth for employed individuals is notably curtailed. This insight from McCrary's model sheds light on why the wages of job switchers are particularly sensitive to economic fluctuations.

Estimating a Life-Cycle Model of Pay and Task Assignment: Productivity, Discrimination, and Racial Gap

Limor Golan, *Jonathan James, Carl Sanders*

Income disparities between Black and white male workers escalate throughout their careers, a phenomenon not entirely accounted for by educational attainment or test scores. The wage gap amounts to $30,000 after five years in the workforce, soaring to $107,000 after 15 years. This study delves into the reasons behind the widening pay discrepancy between Black and white men over their lifetimes. During a conference, a query arose regarding whether a similar gap exists among women. In response, Golan explained her focus on men, citing that, based on test scores, Black women outperform white women in the labor market and exhibit stronger labor market engagement.

The authors have crafted a dynamic discrete choice model that explores employment dynamics and career progression, incorporating key factors contributing to the growth of inequality over individuals' lifetimes. These factors include initial skills, unexpected events (shocks), and various forms of racial discrimination encountered during hiring, wage negotiation, and promotion phases. Within this model, workers strategically select occupations to optimize their lifetime utility, with earnings rising over time through accumulated general and occupation-specific experience. Initially uncertain about their productivity, workers gradually acquire insights that enable them to align with more suitable roles. During discussions, a participant inquired about the model's treatment of the high incarceration rates among Black men. In response, Golan clarified that incarcerated individuals are grouped with other non-employed individuals in the analysis. The model distinguishes between Black and white workers based on differences in labor market entry costs, occupation-specific requirements, and the distribution of both observable and unobservable skills.

The authors employ a two-step estimation procedure for the model, leveraging data on workers' occupations, job requirements, earnings, education, and test scores. Initially, they estimate wages, the distribution of productivity beliefs, and the worker's policy function in the first stage. Subsequently, utilizing the outcomes from the first stage, the authors estimate the remaining model parameters through the maximum likelihood method in the second stage. Occupations are categorized into eight groups based on task complexity, with Occupation 1 representing the least complex tasks and Occupation 8 involving the most intricate responsibilities."

Upon analyzing the estimated model, the authors discover that Black workers face higher entry costs when entering Occupations 5-7 compared to white workers, attributed to racial disparities in networks, information access, and discriminatory hiring practices. These elevated entry barriers lead to a higher likelihood of Black workers opting for roles with less complexity and lower remuneration. During discussions, a participant raised a query about whether Black workers work fewer weeks per year and how this reduced work duration contributes to the cumulative earnings gap over their lifetimes. Golan acknowledged that Black workers indeed work fewer weeks annually, although the current model does not incorporate variations in annual workweeks. Another participant inquired about the impact of skill depreciation during periods of unemployment on the earnings gap. Golan clarified that the current model does not consider skill depreciation but suggested its potential inclusion in future iterations. The authors conclude that the widening wage gap over individuals' lifetimes aligns with race-based discrimination prevalent in training opportunities and performance evaluations.

Intergenerational Mobility and Credit

J. Carter Braxton, Nisha Chikhale, **Kyle Herkenhoff,** *Gordon Phillips*

The effects of greater access to credit can be complex. In the 1970s, the United States saw an increase in access to credit, making credit limits higher and bankruptcy more affordable. This study investigates how this shift in credit accessibility impacted intergenerational mobility. Herkenhoffer and his co-authors utilize a new dataset comprising five million TransUnion Credit Reports from 2001 to 2014, containing details on balances, credit limits, and delinquency statuses. These credit reports are linked with two additional datasets: the 2000 Decennial Census for identifying family structures and the Longitudinal Employer-Household Dynamics survey for earnings and employment information.

The authors analyze the impact of increased parental credit access on children's earnings using an instrumental variables approach, where the age of the oldest credit account and derogatory flag removal serve as instruments. Parental income is controlled for in the analysis. During a conference discussion, a participant suggested incorporating an interaction between income and credit limit in the analysis, which Herkenhoff confirmed he has conducted and intends to include in the study. Results from standard regression analysis indicate that a 10% rise in parent earnings boosts children's earnings by 1.45-1.58%, while a 10% increase in parents' unused credit raises children's earnings by 0.12-0.17%. Upon introducing instruments, the effect of parental credit access increases to 0.3%. Analysis of variations reveals larger effects for parents and children without a college education. Participants noted that the estimated intergenerational effects are relatively modest in size. In response to a query about the measure of parental income, Herkenhoff mentioned using the average income from 2000 to 2002, with plans to explore the Kalman filter method to extract the permanent income component for an alternative measure.

The authors employ an overlapping generations model featuring diverse households to delve deeper into the underlying mechanisms influencing these effects. In the model, parents vary in human capital, assets, bankruptcy history, and age, while children differ in human capital levels. Parents invest in their children's human capital and provide a one-time financial transfer when the child leaves home. They make decisions on saving, borrowing, and investing in their children's development. By aligning the model with the data, the authors investigate whether the rise in credit limits or the reduced bankruptcy costs in the 1970s had a more significant impact on children's outcomes. They simulate a scenario where credit limits remained unchanged in the 1970s and another scenario where bankruptcy costs did not decrease. Restricting credit limits results in decreased mobility as parents invest less in their children. Conversely, raising the cost of bankruptcy leads to higher savings and investments in financial assets and children, ultimately enhancing children's outcomes.

When asked about the consistency of these results across different household types, Herkenhoffer explained that the model assumes each household has two children, prioritizing an accurate representation of the credit market over household structure complexity. The authors conclude that the reduced cost of bankruptcy, which lowered intergenerational mobility, outweighed the benefits of increased credit limits.

Entrenched Beliefs, Slow Learning and Labor Force Participation

Shu Lin Wee *and Ben Griffy*

There is an intriguing phenomenon where people tend to hold overly optimistic beliefs about their job-finding prospects. This paper introduces a model that aims to explain the tendency for average beliefs about job-finding rates to be overly optimistic, surpassing the actual observed rates, and how individual expectations regarding job prospects are influenced by the aggregate outcomes of their demographic group. The authors construct a model where individuals belonging to the same demographic group utilize imperfect public signals, like the group-specific labor force participation rate, to gauge their own job-finding prospects. During a conference discussion, a participant inquired about whether individuals also rely on signals from smaller groups such as family or close friends. Wee clarified that although the paper does not explicitly define groups, it is best to consider them as large demographic categories.

Wee initially utilized data from the Survey of Consumer Finances to outline the two key observations. The first observation is supported by an eight percentage point difference between the perceived and actual probabilities of finding a job within the next three months. During the discussion, a participant inquired whether these perceived and actual job-finding rates are simple averages across all time periods, possibly indicating a reversion to the mean, or if they represent differences within the same month between expectations and reality. Wee clarified that these statistics are currently simple averages but agreed to include within-month differences as an additional measure.

The second observation is substantiated by a regression analysis linking the expected job-finding rate to the local labor force participation rate of one's age group in the year of labor market entry. The study reveals a positive correlation between the local initial labor force participation rate and the expectations of finding a job. Another participant suggested that individuals might primarily consider labor market outcomes within their specific occupation or industry, rather than across their entire age group. Wee noted that the data does not contain detailed industry-specific information.

Wee then introduced the model where each agent is aware of the aggregate productivity in the economy and possesses a private signal indicating their individual productivity. Additionally, agents receive a noisy public signal regarding their group's productivity, with the signal's accuracy influenced by the level of within-group labor force participation – being less accurate with lower participation rates. An individual decides to enter the labor market if their individual productivity surpasses a specific threshold, which is contingent on expectations of group-level productivity. During the discussion, a participant suggested that variations among agents could manifest in wage discrepancies. Wee explained that delving into wage variation would necessitate a comprehensive search model, which she preferred to avoid, but she acknowledged that having agents draw wages from a distribution could help incorporate this suggestion.

The authors proceeded to calibrate their model to establish a steady state in the economy. The model's projections indicate that the average perceived job-finding rate is two percentage points higher than the actual rate, representing only a quarter of the disparity observed in the data. Through calibration, the model reveals that cohorts entering the labor market during severe recessions tend to harbor persistently pessimistic beliefs about job-finding rates, whereas cohorts entering during robust economic expansions maintain persistently optimistic outlooks.

Early-Onset Disability, Education Investments, and Social Insurance
Robert Millard

Disability insurance serves as a crucial safety net by ensuring a minimum income for individuals unable to work. However, it can also create a disincentive to work as individuals may opt to work less to qualify for disability benefits. This study delves into the balance between insurance coverage and work incentives for individuals with disabilities that manifest before turning 18, known as early-onset disabilities. These disabilities impact the motivation to pursue higher education, contrasting with late-onset disabilities explored in prior research. Millard investigates the key factors contributing to the educational gap between early-onset disabled individuals and their non-disabled peers, then constructs a life-cycle model encompassing education, employment, and social insurance benefits.

Analyzing data from the Longitudinal and International Study of Adults, which connects disability status with disability insurance claims, employment, and education in Canada, Millard discovered an 18 percentage point disparity in post-secondary education completion between individuals with early-onset disabilities and those without disabilities. During discussions, a participant raised a question about whether the education gap would be evident only for mental disabilities and not for purely physical disabilities. Millard clarified that the education gap exists across all types of disabilities, with varying degrees based on the disability type. Another participant highlighted that some disabled individuals may genuinely struggle to finish college, while others might be influenced by moral hazard. Millard concurred, noting that disabilities also differ in visibility, leading to varying levels of moral hazard based on the likelihood of being accepted into a disability insurance program.

Millard constructs a dynamic life-cycle model encompassing education choices, employment decisions, disability insurance, and means-tested social support. Within the model, individuals vary in disability status, work capability, and preferences. They make decisions regarding college attendance at age 18, whether to work for income or rely on social assistance, and whether to apply for disability benefits. These individuals are considered hand-to-mouth consumers, meaning they do not save any income. During discussions, a participant highlighted that hand-to-mouth individuals lack the ability to self-insure against future income fluctuations or changes in disability status, intensifying the impact of a disability. Millard explained that individuals with early-onset disabilities typically do not amass significant savings or assets based on the data, justifying the hand-to-mouth assumption. While the model aligns well with data on education choices, it tends to overestimate employment among individuals with early-onset disabilities.

Utilizing a Shapley-Owen Decomposition, Millard identifies the specific contributions of different factors to the education gap. This analysis reveals that human capital plays the most significant role in the gap, as individuals opt for postsecondary education based on their inherent abilities. Millard further employs his model to conduct a policy experiment aimed at reducing social assistance generosity to promote self-insurance through education. The reduction in benefits results in a 2% increase in education rates and leads to higher employment levels, labor force participation, and tax revenue.

Several participants suggested that Millard should enhance his model by incorporating various types of disabilities, either through a continuous measure of severity or by categorizing disabilities as "moderate" and "severe." In response, Millard explained that the early-onset disability subgroup is relatively small, making it challenging to estimate outcomes for a subset within this group.

Why are the Wealthiest so Wealthy?
New Longitudinal Empirical Evidence and
Implications for Theories of Wealth Inequality

Serdar Ozkan, *Elin Halvorsen, Joachim Hubmer, and Sergio Salgado*

In many countries, wealth is disproportionately held by a small portion of the population, leading to significant wealth inequality. This unequal distribution of wealth has prompted discussions on whether taxing wealth is necessary. Understanding the economic factors that contribute to wealth accumulation is crucial for developing effective policies to tackle wealth inequality. This study utilizes comprehensive Norwegian administrative data to investigate the pathways through which the wealthiest individuals obtained their wealth.

The authors analyze the Norwegian data to track changes in wealth over a 22-year period and break down the wealth disparity into components such as initial wealth, returns on investments, saving rates, earnings, and inheritances. They focus on the wealth gap between households in the top 0.1% of the wealth distribution and the median household. The study reveals that wealth inequality diminishes throughout individuals' lifetimes, with the reduction primarily driven by median households catching up rather than a decrease in wealth at the top. The authors categorize individuals at the pinnacle of the wealth distribution as either "old money" or "new money." Old money individuals, constituting half of the top 0.1% at age 50, were already part of the top 1% by age 29, often due to substantial transfers from affluent family members. In contrast, new money individuals typically amassed wealth through founding highly successful businesses.

A participant highlighted that the top 0.1% comprises only around 2,000 individuals and expressed concerns about the potential impact of a single extremely wealthy person leaving the country on wealth measures within this small group. Ozkan responded by noting that averages within the top

group tend to change gradually over time, rather than experiencing abrupt fluctuations that would indicate sensitivity to the departure of one individual.

Following the documentation of the wealth gap, the authors employ a Shapley-Owen Decomposition to analyze the contributions of different wealth components to this gap. Their analysis reveals that labor income explains only 4.7% of the disparity between the top 0.1% of households and the median household, while returns on investment account for 29%, the saving rate for 37.5%, and inheritances for 29.8%. During discussions, a participant inquired about how the decomposition accounts for the interdependence of these wealth components. Ozkan clarified that while the decomposition does not capture the influence of structural factors, a modeling exercise offers a deeper understanding of the relationships among these components shaping the wealth gap.

Another participant raised a question regarding the external validity of the results, noting that many of Norway's wealthiest individuals are involved in the oil sector. Ozkan responded by indicating that the findings are specific to the country and its context.

The authors proceed to test various quantitative models drawn from previous literature. Each test introduces an additional element, such as heterogeneity in rates of return, to a foundational model of wealth accumulation featuring individual labor income risk and incidental bequests. However, the authors discover that none of these modified models can adequately account for the observed wealth accumulation patterns in the data. In response, they develop an alternative model centered on diverse entrepreneurs operating under diminishing returns

to scale technology and driven by a bequest motive. This new model aligns most closely with the wealth accumulation trends observed in the data. The authors suggest that conventional models overly emphasize the role of bequests and advocate for incorporating the influence of new money in shaping wealth distribution dynamics.

LAEF on the Lakes
May 3 – 4, 2024

Adam Blandin – *Vanderbilt University*
Sadhika Bagga – *Columbia Business School*
Job Boerma – *University of Wisconsin-Madison*
Jaroslav Borovicka – *New York University*
Gian Luca Clementi – *New York University*
Maarten De Ridder – *London School of Economics*
Brian Higgins – *Harvard*
Gregor Jarosch – *Duke University*

Paolo Martellini – *University of Wisconsin-Madison*
Sedar Ozkan – *Federal Reserve Bank of St. Louis*
Jeremy Pearce – *Federal Reserve Bank of New York*
Mathieu Pedemonte – *Federal Reserve Bank of Cleveland*
Noémie Pinardon-Touati – *Columbia University*
Nick Pretnar – *UC Santa Barbara*
Elisa Rubbo – *University of Chicago Booth*
Sedar Ozkan – *Federal Reserve Bank of St. Louis*

Heterogeneity in Production Technologies
Serdar Ozkan

As companies undergo expansion, they often discover methods to streamline operations and reduce costs, thereby enhancing the efficiency of producing goods and services. However, this drive for efficiency can result in a concentration of market power among fewer companies, potentially exacerbating economic inequalities. Serdar Ozkan's research delves into the exploration of various production technologies employed by companies and their impact on economic efficiency. The primary focus of the study revolves around how differences in production methods and economies of scale influence economic misallocation and the broader implications for economic well-being and policy formulation.

Leveraging Canadian administrative data, the study scrutinizes nonparametric production functions to examine how economies of scale and overall productivity vary across companies of different sizes. The findings indicate that larger companies tend to reap greater benefits from economies of scale, signifying an enhancement in efficiency as they expand. This diversity in economies of scale holds significant importance as it directly affects the costs linked to resource misallocation. Disparities in economies of scale and productivity among companies lead to diverse impacts on economic efficiency when resources are not optimally allocated.

Throughout the presentation, attendees raised thought-provoking questions and provided feedback that shed light on the broader implications of the study. A notable inquiry centered on the reliability of the empirical methods employed in the research. In response, Ozkan underscored the robustness of non-parametric estimation techniques, highlighting their effectiveness in accommodating different production

scales without assuming a specific functional form. This methodology offers valuable insights into the production processes at the company level, which are pivotal for comprehending economic trends. Some participants suggested further exploration into the effects of varied production technologies within specific markets or industries, potentially unveiling more nuanced insights into the dynamics of economic misallocation.

In summary, the presentation underscored the critical role of diversity in production technologies, particularly economies of scale, in assessing and mitigating the costs associated with economic misallocation. It advocates for the development of advanced economic models that account for these diversities to better grasp and address the challenges in economic policy and resource allocation. The research effectively demonstrates that larger companies, by leveraging economies of scale, could potentially exacerbate economic inequalities unless appropriate policies are enacted to level the economic playing field.

Robust Bounds on Optimal Tax Progressivity
Jaroslav Borovicka

Governments often aim to use taxes as a tool to address social issues, such as the growing levels of inequality seen today. However, determining the optimal tax structures in the face of uncertainty about individual characteristics poses a challenge. Jaroslav Borovicka delves into this dilemma, focusing on uncertainties surrounding labor productivity and labor supply elasticity distributions. The research aims to investigate how such uncertainties influence tax policy, particularly the progressivity of income taxes.

The authors suggest that conventional models advocating for progressive tax systems with high top marginal rates may not be ideal when faced with uncertainty. Through a robust decision-making framework, the presentation demonstrates that recognizing potential errors in the tails of productivity distributions can lead to significantly lower optimal top marginal tax rates. This approach seeks to make tax systems more resilient to inaccuracies in economic modeling and data estimation, potentially enhancing economic efficiency and welfare.

A key insight from the presentation is that uncertainty, especially concerning earnings potential and preferences distributions, calls for less progressive tax schedules. The model's results show a substantial decrease in optimal top tax rates when potential misspecifications in economic distributions are taken into account. The simulations indicate that adopting a robust tax design approach can help avoid welfare losses associated with traditional progressive tax systems.

During discussions, questions arose about the methodology used to quantify uncertainty and its impact on the resilience of proposed tax schedules. The audience sought clarification on the technical aspects of the model, particularly regarding the derivation of worst-case distributions and their implications for policy design. Borovicka highlighted the use of relative entropy as a measure of statistical distance to model uncertainty, explaining how this approach enables the government to develop tax policies that perform well across various plausible scenarios.

When asked about the broader implications of the findings, Borovicka suggested that the research could guide the development of more resilient economic policies that can withstand errors in data and modeling. He acknowledged the need for further research to refine the models and explore their implications in different economic contexts.

The Expectations of Others
Mathieu Pedemonte

In times of high inflation, policymakers are particularly concerned about individuals' future inflation expectations. If these expectations stray from low levels, they can trigger a harmful inflationary cycle. Mathieu Pedemonte's presentation delves into the influence of social networks on individual inflation expectations. This study aims to bridge a gap in existing literature by incorporating the impact of social interactions into traditional models of inflation expectation formation, which typically focus on individual experiences.

The research introduces a fresh framework that integrates "social memory" into the process of shaping inflation expectations. This approach considers the shared experiences within social networks, such as those observed on platforms like Facebook, and how they shape individuals' economic beliefs. It also utilizes a comprehensive dataset that combines inflation expectations data with social network connections, encompassing over 1.9 million observations from March 2021 to July 2023.

Social networks exhibit a significant positive influence on individual inflation expectations, particularly in networks where individuals share common demographic traits like gender, income, or political affiliation. These findings suggest that people are more likely to be influenced by those who are similar to them demographically. The empirical analysis employed various methodologies to ensure the robustness of the results. Instrumental variables were utilized to address potential endogeneity issues, confirming the causal link between social network influences and inflation expectations. A key takeaway from the study is that while social networks amplify inflation expectations, they do not destabilize them. However, notable shocks, such as significant changes in gas prices, can strongly propagate through these networks and bring expectations closer to instability.

During the conference, participants actively engaged with the presentation. One attendee inquired about potential variations in network effects across different demographic groups, with Pedemonte highlighting the stronger influence observed in demographically similar networks. Another participant raised questions about the stability implications of the findings, sparking a discussion on how significant shocks are more likely to magnify expectations through social networks.

Suggestions from the audience included exploring the role of various types of social networks and the impact of digital versus traditional social interactions on inflation expectations. Participants also recommended further research on how policymakers could utilize these insights to better manage inflation expectations, particularly by identifying and mitigating the effects of significant shocks that could propagate through social networks.

The Crowding Out Effect of Local Government Debt: Micro- and Macro-Estimates

Noémie Pinardon-Touati

In the concept of crowding out, the expansion of government size can influence the remaining components of a market economy. Noémie Pinardon-Touati presented research focusing on the negative repercussions of local government debt on the private sector, specifically through financial crowding out. The main worry is that the heightened demand for government debt diminishes the availability of corporate debt, leading to reduced corporate investment and output. The study quantifies the crowding out effect by examining the impact of local government bank debt on corporate credit, investment, and output across G20 countries from 1990 to 2019. During this period, local government debt-to-GDP increased from 12% to 22%, with 80% of this debt being in the form of bank debt.

To tackle empirical challenges, the research employs an identification strategy to isolate financial crowding out. The methodology involves analyzing the causal link between local government borrowing and corporate loans, as well as the resulting investment effects. The study reveals that local government loans notably crowd out corporate loans, with a 1 euro increase in local government loans leading to a 0.2 euro decrease in aggregate output. The impact is more pronounced when borrowing from banks facing tighter constraints. The study emphasizes the significance of the method of financing government debt. Pinardon-Touati also discusses the robustness of the findings, including various tests and controls to ensure the validity of the results. Additionally, it highlights the asymmetric effects, noting that crowding out is more pronounced when local government debt rises compared to when it decreases.

The audience actively engaged with the presentation, posing questions ranging from inquiries about the robustness of the findings to the implications for banking practices. One question centered on whether the increased deposit base from local government funds could counteract any crowding out by enhancing banks' lending capacity. Pinardon-Touati addressed these queries by discussing the identification strategy, which aimed to consider these and other factors. Comments from the audience raised concerns about the applicability of the findings across different banking systems, especially in contexts where banking practices and regulatory environments differ significantly from France.

A discussion on the external validity of the findings followed and how these results might be relevant, or require adjustments, when considering other G20 countries. Another audience member brought up the potential implications for monetary policy, suggesting that understanding the dynamics of local government borrowing and its impact on the private sector could inform better fiscal policies. This was particularly pertinent in the conversation about how governments could structure their debt strategies during economic downturns to prevent exacerbating financial constraints on the private sector.

Dynamic Monopsony with Large Firms and Noncompetes
Gregor Jarosch

Noncompete agreements have been a focal point of discussion in recent months, with national regulatory bodies considering the prohibition of these contracts that aim to limit employees from joining competitors after leaving a job. Gregor Jarosch presented research that delves into the impact of noncompete agreements on market dynamics, specifically focusing on wage suppression and employment levels.

Jarosch introduced an innovative framework that integrates wage posting with on-the-job search and the presence of large employers to analyze anti-competitive practices in labor markets. The model illustrates that noncompete agreements can significantly suppress wages, with estimates suggesting that banning noncompetes in the US could potentially lead to a 4% increase in wages. This effect is particularly pronounced in markets characterized by high training costs, inelastic demand, and widespread utilization of noncompete agreements. Jarosch emphasized that noncompete agreements diminish competition within the job hierarchy, resulting in lower wages and potential misallocation of labor, as firms employing noncompetes tend to grow inefficiently large. Furthermore, the model predicts substantial spillover effects on firms that do not employ noncompetes, further exacerbating wage suppression across the market.

During the presentation, a participant raised a question regarding the model's assumption of firm homogeneity and its implications for the generalizability of the findings. In response, Jarosch explained the model's robustness and its ability to account for firm diversity. Another attendee inquired about the potential long-term effects of banning noncompete agreements on employee turnover and market efficiency. Jarosch acknowledged that while the ban might lead to increased worker turnover, it could also foster wage competition, potentially offsetting some of the efficiency losses associated with higher turnover costs. Drawing on evidence from hospital mergers and Oregon's 2008 ban on noncompete agreements for low-skilled workers, which closely align with the model's predictions, Jarosch highlighted that hospital mergers resulted in a 4 to 7 percent wage decrease without significant changes in employment, thus validating the model's assumptions and outcomes.

This research contributes significantly to understanding labor market power dynamics and the impact of legal frameworks on economic outcomes. It suggests that policy interventions aimed at restricting noncompete agreements could yield substantial benefits for wage levels, particularly in concentrated labor markets. By shedding light on the implications of noncompete agreements on market dynamics, this research provides valuable insights for policymakers and stakeholders seeking to enhance competition and fairness in labor markets.

Job Amenity Shocks and Labor Reallocation
Sadhika Bagga

In the news, we often hear about employers and employees clashing over the return to office measures. Sadhika Bagga's research dives into how changes in the value of job perks, especially remote work, have shaped the job market after the pandemic. The study looks at how job markets adapt to shifts in worker preferences for job perks, with a focus on remote work, which has become more popular since the COVID-19 outbreak.

Bagga's study constructs a comprehensive job search model that considers both monetary compensation and non-monetary job perks, emphasizing the transition from traditional workplace benefits like safety measures to more contemporary offerings such as flexible work hours and remote work arrangements. The model aims to capture the labor market's response to aggregate shocks in workers' preferences for remote work, providing valuable insights into the atypical trends observed in the labor market following the pandemic. The significant shift towards a preference for remote work induced by the pandemic resulted in a noticeable uptick in job resignations as workers sought positions that offered remote work options. This shift posed challenges in filling certain job vacancies, particularly those perceived as less desirable without the flexibility of remote work. Supporting evidence from various surveys, including the Real-Time Population Survey indicating a 21% increase in job switchers transitioning to remote or hybrid roles, and data from LinkedIn showing a substantial interest in remote job postings, further underscored the impact of these changing preferences on the job market.

During the engaging discussions that followed the presentation, participants raised thought-provoking questions and provided valuable feedback. One attendee inquired about the potential impact of varying worker preferences for remote work across different sectors. Bagga acknowledged this query and highlighted that the model does indeed consider sectoral differences, noting that industries with lower prevalence of remote work witnessed a surge in job vacancies and resignations. Another participant sought insights into the model's assumptions regarding the enduring appeal of remote work as a valued job amenity and its implications for long-term wage dynamics. Bagga elucidated that the model incorporates a persistent shock to the valuation of job amenities, a crucial factor in explaining the observed trends in job resignations, vacancies, and wage patterns. The audience feedback emphasized the importance of examining both short-term and long-term impacts of evolving job amenities on labor market dynamics, advocating for further exploration and refinement of the model to enhance understanding of these complex interactions.

This research offers a compelling framework for comprehending the labor market's response to the increasing significance of job amenities, providing valuable insights into the post-pandemic economic landscape and highlighting key areas for future policy considerations and strategic planning.

Aggregate and Cross-Sectional Spending Multipliers
Elisa Rubbo

In recent years, there has been a significant increase in government spending globally, prompting discussions on the effectiveness of different types of spending in achieving desired outcomes. Elissa Rubbo delves into the impact of targeted government spending on economic output, focusing on how directing spending towards resources with higher elasticity in the economy can influence overall results. While traditional New Keynesian models typically view fiscal spending as a means to boost output through a wealth effect on households, encouraging increased work without changes in wages, Rubbo introduces a fresh perspective suggesting that spending should ideally target elastic resources to maximize output, especially in cases where monetary policy may not be as effective.

The analysis uncovers a wide range of multipliers across various sectors and occupations. Multipliers refer to the effect that a change in government spending has on overall economic output. For instance, federal spending shows a near-zero multiplier for healthcare support but around two for architecture and engineering. A multiplier of zero indicates that the spending has no impact on economic output, while a multiplier of two suggests that for every dollar spent, two dollars are added to the economy. Similarly, industry-specific output multipliers vary, with minimal impact on the oil industry but a substantial multiplier of about one for software design. This means that spending in the software design sector has a positive impact on economic output.

Rubbo also distinguishes between short-run and long-run effects, noting that there is no immediate trade-off between output and employment. In the short run, an increase in government spending can boost output without affecting employment levels. However, a trade-off emerges in the long run if capital is more elastic. Capital elasticity refers to how responsive capital (such as machinery, equipment, and buildings) is to changes in economic conditions. If capital is more elastic, it can be easily adjusted in response to changes in the economy, potentially impacting employment levels in the long term.

During discussions, the audience raised questions about the policy implications of the long-run trade-off between output and employment. Rubbo acknowledged the significance of considering capital elasticity in long-term planning and policymaking. Another participant inquired about the implications for specific industries, particularly those with low multipliers like healthcare support. Rubbo explained that while the focus is on overall trends, sector-specific policies could benefit from understanding these dynamics. Queries also surfaced regarding the role of different financing schemes and their impact on wealth distribution and spending efficiency. Rubbo stressed the importance of financing neutrality to prevent redistributive effects that could distort the intended outcomes of government spending.

This research underscores the importance of directing government spending towards elastic resources to optimize output. The paper also underscores the nuanced distinctions between short-term and long-term economic effects, emphasizing the necessity of carefully considering sector-specific elasticities and financing mechanisms in policy development.

The Dynamics of Firm-level Pay: Theory and Evidence from Portugal

Gian Luca Clementi

In today's world, where there is a noticeable gap in wealth distribution in many prominent countries, economists are actively exploring ways to address this concerning trend. Gian Luca Clementi recently shared research that delves into the reasons behind the substantial decrease in income inequality in Portugal since the mid-1990s. The main focus of the study is to understand why Portugal experienced a decline in income inequality while other developed nations saw an increase.

The research relied on high-quality data from Quadros de Pessoal and Sistema de Contas Integradas das Empresas to study how pay at the firm level evolved over time. The findings revealed that the reduction in income inequality in Portugal was primarily driven by a narrowing of pay gaps between different firms, rather than changes in individual worker characteristics or how workers were matched with firms.

Clementi highlighted some key points about income inequality in Portugal. Initially, income inequality rose from 1986 to the mid-1990s but then sharply decreased. The variance in log earnings dropped by more than 20% from its peak in the mid-1990s to 2019, showing an annual decline of around 1%. By using a specific regression framework, researchers linked the decrease in firm pay disparities to a decrease in the differences in pay policies among firms. The substantial increase in Portugal's minimum wage since the mid-1990s played a crucial role in narrowing pay gaps between firms, as lower-productivity firms had to increase wages, thereby reducing wage disparities across different firms. The study also suggested that factors other than wages became less influential in workers' decisions, leading to a more flexible labor supply for firms, resulting in lower wage discrepancies.

The presentation generated significant interest and discussion among conference participants, prompting various comments and questions. One attendee asked about the impact of geographical labor market divisions on the narrowing of pay gaps between firms. Clementi noted that improved transportation infrastructure and a higher concentration of the urban workforce likely contributed to reducing these divisions. Another participant raised questions about the assumptions in the model, particularly regarding non-wage benefits. The presenter explained how the model considered these factors and why their importance decreased over time.

The policy implications of the research findings became a topic of discussion, with participation from the audience, particularly regarding minimum wage increases. While acknowledging the role of minimum wage hikes, the presenter emphasized that other factors like labor market dynamics and educational levels also played a part in the observed trends. Furthermore, an audience member suggested exploring additional factors influencing the narrowing of pay gaps between firms, such as changes in firm productivity and competition, which the presenter agreed were worth investigating further.

Racial Segmentation in the US Housing Market
Brian Higgins

The purpose of the presentation is to explore the aggregate effect of racial barriers in the US housing market and their changes since 1960. The central research question addresses the persistent racial disparities in housing outcomes, particularly focusing on house prices, rents, and homeownership rates among Black and White households. The implications for welfare and the overall impact of these barriers on market segmentation are key concerns.

The paper employs a dynamic housing assignment model to quantify market segmentation and its effects on welfare. The model uses household choices data to infer differences in house quality and quality-adjusted prices. The paper found that Black households have lower house price-to-income ratios, rent-to-income ratios, and ownership rates compared to White households. These gaps correlate with measures of prejudice and have only partially converged since 1960. For instance, house price and rent gaps have halved, but the ownership gap has increased. Black households pay higher quality-adjusted rents and prices, often ending up in lower-quality homes. The cost of homeownership for Black households remains higher. Wealthier Black households lose out by living in lower-quality homes, while poorer Black households suffer from higher prices. In 1960, Black households needed 4.5% more consumption to compensate for these disparities, and still 1% in 2019.

Attendees discussed the assumptions underlying the model, particularly regarding how racial prejudice is quantified and its impact on housing quality and prices. One participant questioned the assumptions regarding the uniformity of housing quality within segments. Higgins explained that while the model assumes a uniform quality index, it also accounts for variations in house characteristics and neighborhood attributes. Some participants highlighted the need for policy interventions to address the identified disparities and suggested areas for future research, such as the role of government policies in mitigating these gaps. Several questions were raised about the data sources used, including the robustness of Census data and the inclusion of various control variables to ensure accurate results. Higgins highlighted the use of various control variables and robustness checks to ensure the reliability of the findings.

The presentation provided valuable insights into the ongoing issue of racial segmentation in the housing market, emphasizing the need for continued research and policy intervention to address these long-standing disparities.

Growth Through Innovation Bursts
Maarten De Ridder

One of the oldest and most significant questions in economics revolves around what boosts productivity growth. Maarten De Ridder delves into this inquiry by examining how firm-level product innovation dynamics influence overall productivity growth.

De Ridder and his team build upon Schumpeterian theories that highlight firm innovation as a key driver of growth. They focus on the externalities associated with product innovation, such as knowledge spillovers and the effects of businesses adopting new innovations. Introducing a model that considers bursts of innovation and the life cycles of products, they aim to grasp the quantitative implications for firm dynamics and growth. Their simulations reveal that the process of creative destruction, where old products are replaced by new innovations, significantly fuels firm growth. They also find that the interplay between creative destruction and the concentration of product innovation is crucial.

In terms of empirical evidence, the study utilizes product-level data from French manufacturing firms to unveil new insights about product innovation. The results indicate that product innovation tends to be concentrated, with a small number of firms driving the majority of innovations, which substantially contributes to overall firm growth. Furthermore, they observe that revenue growth from existing products diminishes as the products progress through their life cycles.

During the discussion, attendees raised various comments, questions, and suggestions. Some participants queried the model's assumptions, particularly regarding the distribution and impact of innovation bursts. There was also interest in whether the model could accommodate variations in innovation rates across different industries. De Ridder acknowledged the significance of industry-specific factors and mentioned plans to extend the model to encompass industry-specific innovation dynamics beyond French manufacturing firms.

Questions were also posed about the reliability of the empirical data. Attendees sought to understand if the patterns observed in French manufacturing firms could be generalized to other countries and industries. De Ridder noted that while the data pertains to French manufacturing firms, the observed trends align with findings from diverse contexts, hinting at broader applicability. Efforts are underway to collect similar data from other countries to test the model's generalizability.

Some participants expressed curiosity about the policy implications of the research findings. They inquired about how the insights from the model could guide government policies aimed at fostering innovation and economic growth. De Ridder emphasized that policies supporting an innovation-friendly environment, such as backing research and development initiatives and reducing barriers to market entry, could enhance the positive impacts of creative destruction. Targeted policies could potentially distribute the benefits of innovation more equitably across firms and industries.

Brand Reallocation, Concentration, and Growth
Jeremy Pearce

In the realm of large corporations, it's not unusual to witness changes and discontinuations in brands, especially when ownership of the brand transitions to new hands. Jeremy Pearce shared research that delves into the impacts of brand capital and brand reallocation on market concentration and welfare within the consumer-packaged goods industry. Pearce and his research partner delve into the interplay between firm productivity and brand capital, with a specific focus on the consequences of transferring brand ownership.

A significant finding is that brand reallocation often leads to heightened market concentration as larger firms leverage brand capital more effectively, bolstering their market dominance. This shift can result in welfare setbacks due to increased markups and the mismanagement of brand capital. Pearce introduced a model that intertwines firm productivity and brand capital, highlighting how firms with scalable productivity and robust brand capital tend to assert their dominance in the market. The empirical analysis draws from a unique dataset that merges U.S. trademark data with Nielsen scanner data to explore the impacts of brand reallocation events on revenue and prices. The results suggest that brands undergoing reallocation witness upticks in both sales and prices, indicating the substantial role brand reallocation plays in firm expansion and market dynamics.

During the discussion, attendees raised queries about the model's assumptions, particularly concerning the scalability of productivity and the significance of brand capital. Pearce provided insights into the model's underpinnings and its alignment with real-world data. Some participants expressed interest in the practical policy implications of Pearce's research. They deliberated on potential policy interventions to alleviate welfare losses stemming from heightened market concentration. Pearce proposed that targeted policies separating brand capital from core productivity could enhance market efficiency. He stressed the need for nuanced policy frameworks that acknowledge the unique attributes of brand capital and productivity. The audience noted the varying impacts of brand reallocation across different market segments and firms. Pearce acknowledged this diversity and highlighted the importance of factoring in such variations when designing policies. He elaborated on how his analysis accounted for the differing effects on various firms and sectors.

The discussion underscored the significance of integrating empirical and theoretical perspectives to comprehend the intricate dynamics of brand reallocation and market concentration. Pearce's detailed responses addressed the audience's queries, enriching the dialogue and reinforcing the credibility of his research findings. The interactive session highlighted the multifaceted nature of brand reallocation's effects on market dynamics, emphasizing the need for nuanced policy approaches to address the challenges posed by changing brand ownership in the consumer-packaged goods industry.

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