**NBER's 39th Macroeconomics Annual Conference, held on April 18 - 19, 2024, in Cambridge, Massachusetts.**
**Organizers:** Martin Eichenbaum (Northwestern and NBER), John Leahy (University of Michigan and NBER), and Valerie Ramey (Hoover Institution, NBER, CEPR)

The NBER's 39th Annual Conference on Macroeconomics brought together leading scholars to present, discuss, and debate five research papers on central issues in contemporary macroeconomics. In addition, it included a panel discussion on "Industrial Policy". Martin Eichenbaum moderated the panel, which included Laura Alfaro, Réka Juhász, Greg Mankiw, and Dani Rodrik.

This conference volume contains edited versions of the five papers presented at the conference, each followed by two written discussions by leading scholars and a summary of the debates that followed each paper.

Many economies experience credit cycles in which credit booms are followed by credit busts accompanied by recessions. The paper by Martin Kornejew, Chen Lian, Yueran Ma, Pablo Ottonello, and Diego Perez studies the role of bankruptcy institutions in softening the real effects of credit busts in the wake of credit booms. The authors use data on a panel of countries to study how the efficiency of bankruptcy institutions, measured using surveys of legal professionals across countries, affects GDP during a credit bust. The authors estimate a state-dependent local projection model that projects GDP growth on the interaction of credit growth during the previous five years with a measure of bankruptcy efficiency. The authors find large, statistically significant effects of bankruptcy efficiency ---there is essentially no effect of a previous credit boom on GDP in countries with efficient bankruptcy institutions but large negative effects in countries with less efficient

bankruptcy institutions. These results hold up across numerous robustness checks.

The authors also present a stylized model to interpret their empirical analysis. The model considers the situation of a distressed firm whose continuation value is greater than its liquidation value, so that efficiency calls for reorganization rather than liquidation. In countries with more efficient bankruptcy institutions, reorganization is used more often than liquidation, which preserves more of the firm's value and therefore mitigates the negative macro effects of the credit bust.

Both discussants highlight the importance of the question and insights of the paper, as well as some limitations of the analysis. Dean Corbae points out that the authors assume only one type of error --- liquidating firms that are going concerns. Corbae presents results from an alternative model where inefficiency can also arise from the converse case --- allowing failing firms to continue to operate. His model reveals a host of fundamental issues, such as non-monotonicities that may not be captured by the authors' empirical specification. He also notes how bankruptcy institutions also affect the nature of the preceding credit booms. Carola Frydman focuses on the challenges affecting the empirical analysis. First, she discusses some weaknesses of the authors' bankruptcy efficiency measure and recommends checking robustness against alternative measures. Second, she discusses an important issue that affects any cross-country analysis --- omitted variable bias. In this context, it is likely that bankruptcy efficiency is correlated with many other aspects of a country's institutions, so we cannot be sure whether the effect measured is truly causal. Both discussants' comments suggest fruitful areas for further research into the interaction of credit cycles and bankruptcy institutions.

U.S. monetary policy has important effects on the global economy. The precise mechanism that generates these effects matters for policy in the U.S. and abroad. The paper by Santiago Camara, Lawrence Christiano,

and Husnu Dalgic uses time series methods and a sophisticated small open economy to understand how a U.S. monetary policy shock propagates to the rest of the world. Their model embeds the type of frictions discussed in the literature: sticky-in-dollar export pricing, balance sheet effects associated with exchange rate depreciations, and distortions to uncovered interest parity due to such factors such as risk appetite shifts.

Their time series results document that tighter U.S. monetary policy leads to economic contractions in non-US countries, with Emerging Market Economies exhibiting more pronounced contractions than Advanced Economies, as well as a decline in U.S. imports and a price index of those imports. The price index response suggests that the decline in U.S. imports reflects a decline in the U.S. demand for imports rather than a decline in the supply of those imports by other countries.

Camera et al. use their structural model to argue that the decline in U.S. imports plays a critical role in the monetary propagation mechanism. Without the decline in US imports, the model cannot explain why exports fall substantially in the rest of the world in response to a US monetary policy contraction. Financial frictions *do* play an important role: absent financial frictions, the decline in imports after a contractionary U.S. monetary policy shock would be small. In the presence of those frictions, the shock induces a contraction of investment and aggregate output in other countries that is quantitively consistent with their time series results.

Camera et al. use their models to explore the efficacy of exchange rate interventions by other countries in response to a U.S. monetary policy shock. They find that exchange rate interventions by other countries are ineffective in mitigating the effects of a contractionary U.S. monetary policy shock when that shock induces a decline in U.S. imports and inflation. However, exchange rate interventions are relatively effective in countering the contractionary effects of noise shocks in financial markets

or a hypothetical U.S. monetary policy shock that isn't accompanied by a decline in U.S. imports and inflation.

The first discussant, Jon Steinsson, reviewed the empirical results of Camera et al. and the associated methodology. He stressed that VARs may be associated with various biases and the potential advantages of local projections. He noted that the authors report results from local projections in the Appendix. He compared the VAR-based and local projection-based results. While the results are qualitatively the same, there are some interesting differences, especially in the response of exchange rates to a contractionary U.S. monetary policy shock.

Steinsson also discussed the key result emerging from the structural model, namely the importance of the trade channel. He highlighted features of the model that could be driving the result. He concluded that much more work on international financial frictions needs to be done before there can be a consensus on the nature of the international monetary transmission mechanism.

The second discussant, Sebnem Kalemli-Ozcan, begins her discussion by noting that the Camera et al. is `an impressive paper that should be standard reading for graduate students in this area.' However, she expresses skepticism about their conclusion that the trade channel is the critical element in the monetary transmission mechanism.

Kalemli-Ozcan agrees that most episodes of U.S. monetary policy contractions are associated with a decline in the U.S. demand for imports and a retreat of U.S. investors from foreign assets to U.S. assets. In her view, the international transmission mechanism is primarily about the fall in US investors' demand for foreign assets and the resulting decline in foreign investment demand.

Kalemli-Ozcan agrees that the authors' model incorporates a channel by which a contractionary U.S. monetary policy shock leads to an

increase in the demand of U.S. investors for U.S. assets and a decline in the demand for foreign assets. However, she disagrees with how the authors model the increase in the demand for U.S. assets. In her opinion, incorporating her preferred way of modeling the increase in the demand for U.S. assets would overturn the dominant role of the trade channel generated by the authors' model.

Like Steinsson, Kalemli-Ozcan concludes that (i) more empirical work is necessary to establish whether the trade channel or financial frictions is the dominant factor in the international mechanism, and (ii) the resolution of this issue has very important policy implications.

The steep rise in inflation starting in 2021 reminded policymakers that the America public hates even moderate rates of inflation. However, standard macro models have trouble generating large costs of inflation to households. The paper by David Altig, Alan Auerbach, Erin Eidschun, Laurence Kotlikoff, and Victor Yifan Ye explores an overlooked channel – the interaction of inflation with the myriad government tax and benefit programs --- and finds welfare costs of almost seven percent from a permanent rise in inflation from zero to ten percent. The paper uses a proprietary software, designed to help households make financial decisions with respect to government programs, along with information on all households in the Survey of Consumer Finances to analyze the effects of inflation on a representative cross-section of U.S. households. Imperfect inflation indexation in government tax and transfer programs leads to gains for some households but losses for many others. For example, taxation of nominal rather than real interest rates makes inflation costly for bond holders and lagged cost of living adjustments makes inflation costly for Social Security recipients.

Both discussants praise the authors' careful and comprehensive analysis of this understudied channel through which inflation affects households. Adrien Auclert puts the authors' estimates of the fiscal costs

in context by summarizing and quantifying the other channels discussed in the literature, such as the opportunity cost of holding money, price dispersion, and nominal wealth redistribution. He finds that the authors' calculations of welfare losses are at the upper end of the calculated losses from the other channels, highlighting the potential importance of this channel. Deborah Lucas highlights the fact that the authors' model does not allow behavioral responses on the part of households nor does it incorporate the important insurance aspects of government programs, two factors that could significantly change the welfare results. Both discussants also point out that the authors' exercise is partial equilibrium. While general equilibrium effects could significantly change the welfare cost calculations, perhaps the most important omitted element is the government budget constraint. Inflation leads to an aggregate increase in government revenue and a decrease in spending. Considering the possibility of rebating the net revenue to households would significantly reduce the welfare costs. Future research can build on the authors' analysis.

Recent experience has renewed interest in the determinants of inflation. In their paper, "The Dominant Role of Expectations and Broad-Based Supply Shocks in Driving Inflation," Beaudry, Hou and Portier argue that supply shocks operating through expectations of inflation are key to understanding what drives inflation.

The paper begins by demonstrating that expectation-augmented Philips curves estimated to fit the pre-pandemic period work well in explaining the recent inflationary episode. As these Phillips curves are "flat", they leave very little room for the output gap to influence inflation. The authors argue that the rise and fall in inflation is instead largely explained by a rise and fall in inflation expectations. In the standard model with rational expectations, however, expected inflation reflects the impact of future costs. This raises the question, "If costs do not affect inflation, how do future costs affect expected inflation?"

The second part of the paper proposes a theory based on incomplete information and bounded rationality in which broad based supply shocks

affect inflation not through costs but through their impact on expectations. In their model, agents believe that sectoral inflation is a combination of a persistent common component and an idiosyncratic sector specific component. Agents only see a subset of sectors, and when the idiosyncratic components on this subset of sectors align (a broad-based supply shock), agents misperceive sectoral inflation as aggregate inflation. Simulations of their model show that it can explain the recent experience.

Both discussants praised the paper as provocative and potentially important. Hazel noted the parsimony of the authors' analysis of inflation. Frequently, the profession has found that popular models of inflation needed to be completely rethought when confronted with new data. In this case, the standard expectations augmented Phillips curve continues to fit the recent episode. What we need is a new model of expectations.

Both Hazel and Chardorow-Reich pointed out that the authors' choice of household inflation expectations from the Michigan Survey of Consumers as their main measure of inflation expectations is critical to their success. Other measures of inflation expectations tend to leave a large portion of the recent run up in inflation unexplained. Both authors also commented that while the authors show that their model fits the data, other models might do equally well. Chardorow-Reich argued that one cannot reject a model with a non-linear Phillips curve, other measures of expectations, and role for tight labor markets. Hazell speculated that inflation expectations might have responded to the large fiscal stimulus rather than supply shocks. Both thought that more work to identify and disentangle these various channels is warranted.

There has been a recent explosion of research investigating the implications of microeconomic heterogeneity for macroeconomic dynamics. As part of this movement, Heterogeneous Agent New Keynesian (HANK) models have become ubiquitous. These models allow for the incorporation of realistic financial frictions and for the income distribution and wealth distribution to impact monetary and fiscal policy in rich ways. The cost is added complexity which often gives these models the feeling of a black box.

In "Heterogeneity and Aggregate Fluctuations: Insights from TANK Models," Debortoli and Gali show how to specify a two agent New Keynesian (TANK) model so that it can mimic the aggregate implications of the more complex HANK model. They then use this simpler model to

understand the many channels through which heterogeneity influences aggregate fluctuations. The main insight is to calibrate the TANK model to both the income share and the asset holdings of the constrained agents in the HANK model. In this way the TANK model can capture not only the impact of labor income on the consumption of constrained agents, but also the impact of asset prices and returns.

Both discussants value the contribution of the paper in highlighting the channels through which heterogeneity impacts aggregate dynamics. Both wanted to better understand the limits of the authors' approximation. Weiland asked whether the authors' approach would extend to more complex environments such as the inclusion of durable consumption or large fiscal transfers that are saved.

Both commented that the main difference between HANK and TANK models is the intertemporal marginal propensity to consume of the constrained agents, that is the marginal propensity to consume in one period out of income in another. In TANK models, this MPC is one for current income and zero for income in all other periods. In HANK models, this MPC often lies between zero and one. It peaks in the current period and decays as the gap between consumption and income widens. Rognlie argued shocks with a more forward-looking component – persistent shocks or news shocks – would exacerbate the differences between HANK and TANK models by loading more on the propensity to consume in one period out of income in another. Both discussants commented that more research is needed to pin down the intertemporal MPCs in the data.