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Organizers: Martin Eichenbaum (Northwestern and NBER), Erik Hurst (Chicago and NBER), and Jonathan A. Parker (MIT and NBER)

The NBER’s 34th Annual Conference on Macroeconomics brought together leading scholars to present, discuss, and debate six research papers on central issues in contemporary macroeconomics. In addition, James Stock, former Chief Economist and Director of Research at the International Monetary Fund, delivered a thought-provoking after-dinner talk on the economics of climate change. Video recordings of the presentations of the papers and the after-dinner talk are all accessible on the web page of the NBER Annual Conference on Macroeconomics. These videos, which make the content of the conference more widely accessible, are a useful complement to this volume.

This conference volume contains edited versions of the six papers presented at the conference, each followed by two written discussions by leading scholars and a summary of the debates that followed each paper. The volume also contains a paper, “Climate Change, Climate Policy, and Economic Growth,” by James Stock, based on his dinner talk. The paper provides an extremely useful introduction to the topic of climate change and climate change policy for macroeconomists. The paper makes four key points. First, simple time series regression models confirm that essentially all the warming over the past 140 years is due to human activity. Second, policy has a crucial role to play if we are to succeed in decarbonizing the economy. Third, current policies will not succeed in decarbonized the economy in time to prevent severe damage from climate change. Fourth, the politics, as opposed to the economics, of Pigouvian carbon pricing don’t work. We will have to pursue other policies. The paper argues in favor of policies that drive low-carbon technical innovation.

There was no discussant for the paper because of its origin as a dinner talk. We are grateful to James Stock for taking the time to write up his comments on this vitally important topic.
During the last two decades in the United States, production has become more concentrated with a smaller set of firms producing a larger fraction of aggregate output. During that same time, firm profits have increased, the labor share has fallen, and firm investment has decreased. Is increased concentration the efficient response to changing consumer behavior or firm technology? Or, is increasing concentration the inefficient result of increased barriers to firm entry?

These questions are explored in the paper “From Good to Bad Concentration? U.S. Industries over the Past 30 Years,” by Matias Covarrubias, Germán Gutiérrez, and Thomas Philippon. Covarrubias et al. draw on insights from the industrial organization literature and provide a simple framework to highlight that increasing concentration is a market outcome and can be the equilibrium result of either less market competition or more market competition.

Using a variety of aggregate data sources, the authors find that during the 1990s, increased aggregate concentration was correlated with rising productivity, falling prices, and higher investment. These findings are consistent with models where increased concentration is driven by increases in the returns to scale in firm production and/or increases in the elasticity of substitution across consumption goods. The authors conclude that the increased concentration in the U.S. during the 1990s reflected “good” concentration. However, during the 2000s, increased aggregate concentration was correlated with falling productivity growth, rising prices, and falling investment. These findings are consistent with increasing barriers to firm entry during the 2000s. The authors conclude that much of the increased concentration during the 2000s reflects an increase in “bad” concentration.

In the last part of their paper, the authors use cross-industry variation to shed further light on the causes of increased concentration during the 2000s. The authors conclude that the aggregate results may be too coarse to accurately reflect the underlying causes of increased concentration. By exploiting cross-industry variation, the authors conclude that multiple forces are responsible for the increased concentration observed in the U.S. during the 2000s. While increased barriers to entry are part of the story — particularly in some industries — changes in firm technology and consumer demand patterns are also an important part of the story.

Both of the discussants applaud the authors for their careful data work and for laying out a simple framework to discuss the potential causes of increased concentration. Both also agree
that the cross-industry results are more interesting in that they highlight that multiple factors are likely changing simultaneously within the U.S. economy during the 2000s.

Real wages among lower income groups in the United States have grown very little since the late 1960s, and, even more strikingly, there has been a reduction in life expectancy among white men born in the 1960s relative to the previous generation. Such declines are not supposed to happen over a generation in a healthy growing economy. Margherita Borella, Mariacristina De Nardi, and Fang Yang study this decline in wellbeing in “The Lost Ones: The Opportunities and Outcomes of White, Non-college-educated Americans Born in the 1960s.” The paper develops a structural lifecycle model to quantify the relatively bad economic outcomes of less educated Americans born in the 1960s.

The paper begins by confirming and documenting a number of important facts about less educated, white Americans, largely using the Panel Study of Income Dynamics. Real wages declined between these generations for less-educated women (who started from a lower starting point), and post-retirement, out-of-pocket medical expenses rose dramatically for this generation. Expected lifespans declined for both men and women.

The paper then analyzes these changes by estimating a rich structural model of lifecycle consumption and saving on those born in the 1960 cohort. Taking the estimated preference parameters as given, the authors then ask how this generation would have behaved and fared if instead they had faced the wages, medical costs, and health/longevity of those born in the 1940s. The results are striking.

The decline in wages that men born in the 1960s faced lowered their labor supply, while that of women increased slightly; the decrease in life expectancy reduced their saving, but the increase in out-of-pocket medical expenses increased by more. Thus, together, consumption falls significantly and the welfare decline is large, ranging from an equivalent of 7 to 13 percent of lifetime income depending on gender and marital status.

The discussants raised a number of important issues, including whether inaccurate measurement of price indexes implies that it is possible that actual inflation has been lower than what was measured, so that real wages for less educated white men have not fallen. Of course, such mismeasurement of inflation does not alter the declines in lifespans. Another issue that was discussed was how to measure the welfare costs of lower lifespans.
The financial crisis of 2007-8 and the ensuing recession led central banks around the world to lower short-term interest rates to values near their (rough) lower bound of zero. The Federal Reserve kept its policy rate at that level until the end of December 2015. As a result, the Fed could not use short-term interest rates to combat the recession or fight incipient deflationary pressures. In their paper, “On the Empirical (Ir)relevance of the Zero Lower Bound Constraint,” Davide Debortoli, Jordi Gali, and Luca Gambetti investigate whether this constraint affected the performance of the U.S. economy. They do so by assessing the extent to which the constraint affected the volatility of U.S. macro aggregates and the response of those aggregates to various shocks. They find very little evidence that the constraint materially affected the economy.

This finding is very surprising from the perspective of standard macroeconomic models like the New Keynesian (NK) model. One’s first reaction is that this is a power issue. But the paper’s evidence is persuasive that this is not the case. From the perspective of the NK model, one should be able to detect substantial effects on macro aggregates when the zero lower bound binds, even in sample sizes as small as those available to the authors.

How can we explain this important finding? According to the authors, the answer is that policymakers developed new tools that were effective in making the zero lower bound constraint not constraining. The prime examples are forward guidance and "unconventional" purchases of long-term assets. The paper’s findings are clearly very important, especially in a world where, going forward, short-term policy interests are likely to hit the zero lower bound much more frequently.

The first discussant examined factors, other than the effectiveness of the new tools developed by monetary policymakers, that could explain the authors’ main results. He also investigated whether the authors’ findings are consistent with other more direct evidence regarding the effectiveness of nonstandard policies. The second discussant raised important methodological questions about statistical inference in sign-restricted structural vector autoregressions, one of the methods used in the paper.

Many researchers and members of the commentariat have announced the death of the Phillips curve. This view is based on the apparent weak statistical relationship between inflation
and various measures of unused economic capacity. The latter include unemployment and estimates of the output gap. Such claims, if true, would pose an important challenge to the way macroeconomists think about fluctuations in economic activity and the paradigm within which central banks conduct policy.

In their paper “Optimal Inflation and the Identification of the Phillips Curve,” Michael McLeay and Silvana Tenreyro challenge the validity of these claims. Their argument is as follows. Suppose that policymakers seek to minimize welfare subject to a structural Phillips curve. In that world, policymakers will raise inflation when output is below its full potential. So the better policymakers are at their job, the harder it will be to see a positive relationship between inflation and output. Simple correlations between inflation and output are completely uninformative about the presence of a structural Phillips curve or its slope.

The authors explore the problem of identifying the slope of the Phillips curve under various assumptions about the ability of policymakers to commit to a policy rule, the nature of the shocks to the economy, as well as the availability of data from different parts of an economy subject to different shocks. The first part of their analysis is conducted within the confines of a simple New Keynesian model. To assess the robustness of their results, they also investigate the problem using a full-scale DSGE model. Finally, the authors consider practical attempts to overcome the problem of identifying the slope of the Phillips curve. One particularly promising approach is the use of cross-sectional regional variation in unemployment to estimate the slope of the Phillips curve.

In sum, the paper makes a very important contribution to a topic that is extremely relevant to the academic literature and ongoing policy debates.

Both discussants spoke enthusiastically about the paper, framing the analysis in terms of the classic problem of identifying a demand or a supply curve from market data. Like those curves, the Phillips curve is a structural relationship, not a reduced-form relationship. This simple but fundamental point is often neglected in popular discussions of the Phillips curve. Both discussants examined the theoretical underpinning of the structural Phillips curve and the practical difficulties of identifying that curve. In addition, one discussant contrasted the reduced-
form relationship between inflation and unemployment with the relationship between wage
growth and inflation, analyzing the latter in detail.

There has been a large rise in U.S. income inequality over the last four decades. In their
paper “Trading Up and the Skill Premium,” Nir Jaimovich, Sergio Rebelo, Arlene Wong, and
Miao Ben Zhang highlight a relatively unexplored mechanism that could be contributing to the
rising skill premium. Their mechanism stems from two assumptions. First, households “trade
up” to higher quality products as they become richer. Second, higher quality products are more
skill intensive. Together, the assumptions imply that as an economy grows, the demand for skills
will endogenously grow, providing an additional force generating upward pressure on the skill
premium.

Jaimovich et al. begin their paper by showing empirical support for the two assumptions
at the heart of their mechanism. First, using data from the Nielsen Homescan database and the
Consumer Expenditure Survey, the paper documents that richer households do, in fact, purchase
higher quality goods. Second, using data from Yelp matched with microdata from the
Occupational Employment Statistics, the paper shows that higher quality goods are produced
with a higher share of skilled workers. Both discussants emphasized that this empirical work is
an important contribution to the literature in that it shows potential evidence for the authors’
proposed mechanism.

The paper then sets out to provide a very simple model of trading up. The goal of the
model is to quantitatively explore the extent of skill-biased technological change that is needed
to generate the observed increase in the skill premium in the U.S. over the last 40 years.
According to their calibrated model, the extent of skill-biased technological change that is
needed to match the data is only 1.1 percent per year as opposed to 5.5 percent per year in a
model without skill upgrading. In their model, the endogenous skill upgrading results in a larger
change in the skill premium with lower amounts of skill-biased technological change. While the
mechanism is novel and should stimulate further research, both discussants stressed that the
authors’ model is too simple to provide a definitive quantitative assessment of the importance of
skill upgrading as an explanation for the rising skill premium.
Our final paper takes up the important topic of economic growth in China. China has undergone a thirty-year economic growth miracle despite economic and political institutions that look nothing like those that appear to be required for prosperity in most of the rest of the world. A fascinating paper by Chong-en Bai, Chang-Tai Hsieh, and Zheng Song, “Special Deals with Chinese Characteristics,” argues that the lack of formal institutional, legal, and jurisprudential constraints on politicians creates growth because it has been combined with high-powered incentives.

The paper proposes a theory in which local politicians compete against other localities to maximize local economic growth. The lack of formal and regulatory constraints on politicians means that local officials are free to favor certain industries and to promote particular businesses by handing out “special deals.” In many countries this lack of oversight leads to economic stagnation or worse. But in China local officials have high-powered incentives instead of formal legal oversight. Politicians’ careers benefit from growth, as their locality grows in importance and as their success increases their stature with the central Chinese authorities. They also benefit financially, as they often invest in the businesses in their locality that they are backing. When things go badly, the penalties for local officials can include criminal charges.

The paper brings a range of evidence to support its case. Most novel, in an almost ethnographic approach, the authors describe the workdays of local officials as akin to those of venture capitalists in a Western economy — visiting company headquarters, evaluating business strategies, pulling together financing, etc. The authors further elucidate their ideas in a model and show a number of facts about the Chinese economy that are consistent with their interpretation.

The discussants raise a number of concerns with this theory of Chinese growth, and argue that the sources of rapid growth in China remain mysterious. They question whether the incentives are really high-powered, and how they are maintained. Further, local politicians often erect barriers to intra-China trade, which would seem to work against strong economic growth.

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As in previous years, the editors posted and distributed a call for proposals in the spring and summer prior to the conference and some of the papers in this volume were selected from proposals submitted in response to this call. Other papers are commissioned on central and
topical areas in macroeconomics. Both are done in consultation with the advisory board, who we thank for their input and support of both the conference and the published volume.

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