

## *Editors' Summary*

THE BROOKINGS PANEL ON Economic Activity held its eighty-fourth conference in Washington, D.C., on September 6 and 7, 2007. The conference was a celebration in honor of William Brainard and George Perry, who retired this year as editors of the *Brookings Papers on Economic Activity*. Perry is a senior fellow at the Brookings Institution and had edited the journal since its inception in 1970. Brainard is the Arthur Okun Professor Emeritus of Economics at Yale University; he joined Perry as editor in 1980 after the death of Arthur Okun, the other founding editor.

George Perry and Bill Brainard made the *Brookings Papers on Economic Activity* one of the premier economic journals in the country. For almost four decades, the *Brookings Papers* has presented research on current, large-scale issues in macroeconomics, broadly defined. The analysis typically has been empirical, has taken real-world institutions seriously, and has been relevant to economic policy. In many respects the *Brookings Papers* has stood at the intersection of research and policymaking, encouraging economists to apply the profession's best knowledge to important policy issues and to use policy concerns as a spur to research that illuminates fundamental aspects of behavior. With insight and energy, Brainard and Perry recruited authors, offered counsel on their research, chose incisive discussants and Panel members, and edited and reedited papers for substance and clarity. Their skilled and dedicated stewardship enabled the *Brookings Papers* to play a central role in the economics profession and to have tremendous influence on the conduct of economic policy.

The celebratory conference in September was structured differently from usual meetings of the Brookings Panel. At the conference dinner, several long-standing participants reviewed the history of the journal and offered personal appreciations for the contributions of George Perry and Bill Brainard, and of Arthur Okun as well. This issue of the *Brookings Papers* begins with two of these sets of remarks, given by Robert Gordon

and Robert Hall. For the conference papers we asked leading scholars in a number of fields within macroeconomics to summarize the evolution and state of knowledge in their areas or to highlight new perspectives and intellectual challenges. The ten papers in this issue respond admirably to this request, offering provocative views about business cycle dynamics, inflation and unemployment, monetary and fiscal policy, financial markets, international capital flows, earnings inequality, time allocation, and the effect of energy shocks. The papers had no formal discussants, but a synopsis of the general discussion is included after each paper.

Robert Hall's paper on what he calls the "modern recession" begins with the observation that employment fell as far below trend during the past two recessions as in earlier recessions, even though output did not—that is, productivity did not decline in the two recent recessions the way it did in earlier ones. Hall also shows that the softening of the labor market during modern recessions is caused by declines in the job-finding rate for the unemployed rather than increases in the rate of job loss, and that all sectors of the labor market slacken simultaneously during modern recessions, as in earlier ones.

To explain the volatility of unemployment, Hall argues that the Mortensen-Pissarides model of job search and matching "holds out the tantalizing possibility of an equilibrium theory without excessively elastic labor supply." In particular, reducing the flexibility of the wage bargain between firms and workers in this model would allow small productivity fluctuations to generate realistic movements in unemployment. The paper reviews several ways of diminishing this flexibility. However, Hall warns that even this approach could not explain the past two recessions, in which productivity did not fall.

George Akerlof and William Dickens reconsider the macroeconomics of low inflation, a subject they explored in two earlier Brookings Papers with George Perry. In "The Macroeconomics of Low Inflation," the three authors examined the consequences of downward nominal wage rigidity; in "Near-Rational Wage and Price Setting," they examined the consequences of people thinking in nominal rather than real terms when inflation is very low. In both papers a trade-off emerges between inflation and unemployment in the long run as well as in the short run. As a result, inflation that is permanently very low generates a significant cost in terms of permanently higher unemployment. For example, in the benchmark simulation in the first paper, Akerlof, Dickens, and Perry found that a permanent reduction in

annual inflation from 2 percent to zero would increase unemployment by 1.5 percentage points.

In their paper in this issue, Akerlof and Dickens explore some “unfinished business” from those previous papers—namely, an intuitive explanation for the magnitude of this trade-off. The authors show that the magnitude depends crucially on the elasticity of the demand for labor. Microeconomic studies of labor demand traditionally find this elasticity to be small, but it is the macroeconomic elasticity of labor demand that affects the trade-off between inflation and unemployment. Akerlof and Dickens contend that both logic and an array of aggregate evidence imply that the macro elasticity is much larger than the micro elasticity.

Benjamin Friedman notes in his paper that aggregate economic performance has been quite good during the past quarter century and that economists’ understanding of both monetary and fiscal policy has advanced greatly during this time. But interesting and important questions remain. For fiscal policy, Friedman asks whether the systematic use of counter-cyclical measures would be a positive addition to policymakers’ toolkit. He also highlights a set of issues regarding the long-run impact of government debt.

For monetary policy, Friedman explains that the textbook story about how the Federal Reserve affects interest rates “bears essentially no resemblance” to how monetary policy is actually conducted, and he argues that developing a more realistic explanation is a challenge to economic thinking. He also describes important changes in the economy and the financial system that have altered the channels through which monetary policy affects nonfinancial conditions, thereby casting doubt on the traditional view of the monetary transmission mechanism. Lastly, Friedman expresses skepticism that inflation targeting would contribute to the transparency of policy or the accountability of policymakers, given the Federal Reserve’s dual mandate to promote both price stability and maximum employment.

Christopher Sims’ paper discusses the importance of using “probability models” in making monetary policy. He begins by drawing a contrast between these models, which are estimated consistently as systems of equations, and models traditionally used at central banks, which involve various ad hoc restrictions and are estimated partly as single equations later combined together. Sims argues that non-probability models may have a role in organizing policy discussions but provide no objective ways to assess their accuracy, to compare their performance with that of other models, or

to be improved through experience—all of which are embodied naturally in probability models. More generally, Sims contends that “the language of probability is the only clear means of communication” when groups of people inside and outside central banks need to talk about uncertainty and relate large amounts of data to the current state of uncertainty.

Sims also writes that the Bayesian approach to inference pioneered by Frank Smets and Raf Wouters is central to reintegrating probability-based inference and policy modeling. The Bayesian approach deals in a straightforward way with two relevant conditions: when policymakers need to combine information from data with their own judgment, and when the number of unknown parameters is large and some are poorly pinned down by the data. In addition, recent improvements in computational hardware and solution algorithms have made applying this approach much easier.

Richard Cooper disputes “two related propositions that are widely accepted as truths: that Americans save too little, and that the U.S. current account deficit is unsustainably large.” In contrast with this conventional wisdom, Cooper argues that U.S. national saving is quite adequate, especially if one accounts properly for investment in education and in research and development. Cooper also asserts that the size of the current account deficit is understandable in light of three factors. The first is increased international diversification by investors; indeed, the current account deficit would be even larger if there were no “home bias” in international investments. Second is the slower growth of the population and the labor force in other rich countries, which reduces desired investment there. Third is a comparative advantage on the part of the United States in producing marketable securities that appeal to investors with diverse portfolio tastes, and especially in exchanging low-risk, low-return debt for higher-risk, higher-return equity.

Cooper contends further that the current account deficit is welfare enhancing as long as the funds are invested productively in the U.S. economy, and that the deficit may remain large for years to come. Cooper acknowledges that the current deficit cannot rise indefinitely relative to GDP, that foreign-owned assets cannot rise indefinitely as a share of total assets, and that psychological factors could induce a significant depreciation of the dollar at any time. However, the turning point in so-called global imbalances may not be reached for a decade or longer.

Robert Shiller investigates the relationship between the low long-term interest rates and high asset prices that have prevailed in the past few years.

Many observers believe—and basic finance theory suggests—that these phenomena are connected: After all, low interest rates mean that future asset returns are discounted at a low rate, which pushes up the present value of the assets. However, Shiller contends that asset prices today are high not for this reason but principally because of changes in the model of the economy believed by the public.

The paper shows that although interest rates are indeed lower and asset prices higher than in the 1980s, the big movements in stock prices and real estate prices during the past decade do not line up with movements in long-term interest rates over the same period. This result for stock prices is consistent with much earlier findings by John Campbell and Shiller that stock prices are not well explained using present-value models with time-varying interest rates. The present paper also argues that the real interest rate, a central element of economists' analysis of asset prices, is not used or understood by most people. Instead people appear to connect asset-price booms with increased availability of credit: The phrase "awash with liquidity" appears in newspapers with much greater frequency during the mid-1980s preceding the 1987 stock market crash, during the stock market boom of the late 1990s, and during the housing boom starting in 2004. Shiller concludes that changes in popular economic models are more central to asset-price movements than economists generally recognize.

Claudia Goldin and Lawrence Katz explore long-run changes in the U.S. wage structure. Differences in wages across high and low earners declined from 1910 to 1950, were roughly stable in the 1950s and 1960s, and increased rapidly after 1980. The widening of wage inequality during the past quarter century occurred in two stages: Initially, wages at the top of the distribution rose fastest, wages in the middle rose less rapidly, and wages at the bottom rose least of all. Since the late 1980s, wages at the top have continued to increase relative to wages in the middle, but wages in the middle have not risen further relative to wages at the bottom. This recent polarization of wage changes is mirrored in employment, with shifts into high-wage and low-wage jobs at the expense of middle-wage positions.

In explaining these patterns, Goldin and Katz place most of the weight on changes in the return to education. They show that skill-biased technological change has generated rapid growth in the demand for more-educated workers for at least the past century. During much of this time, rising educational attainment generated even faster growth in the supply of skills, which narrowed wage differentials. However, the advance of educational

attainment slowed after 1980, with a stagnant high school graduation rate and only modest increases in the share of young adults completing four-year college degrees. This slowdown caused a sharp decline in the relative growth of skill supply, which led to wider wage differentials. Goldin and Katz also assert that computers are substitutes for the skills characteristic of many middle-wage jobs but are complements for the abstract tasks required in many high-wage jobs and have little bearing on low-wage jobs; this combination depresses employment and wages in the middle of the wage distribution.

In a related vein, the paper by Robert Gordon and Ian Dew-Becker surveys three aspects of rising inequality: developments within the bottom 90 percent of the income distribution, developments within the top 10 percent, and developments in the United States compared with other nations. Regarding the change in relative income between individuals at the 10th and those at the 90th percentile of the distribution, the authors conclude that eroding union power, increasing imports, rising immigration, a declining real minimum wage, and a reduction in top-bracket tax rates have all played a role, with different factors mattering more or less at different points since 1975.

In examining rising inequality at the top of the income distribution, Gordon and Dew-Becker distinguish three types of individuals: Superstars in sports and entertainment have benefited from advances in communications technology that have led to a magnification of audiences, which provides disproportionate rewards to the very best. Corporate executives receive compensation set by boards of directors that are often chosen by the executives themselves and include their peers; the authors contend that managerial collusion lies behind the large gains in CEO pay. Lastly, a third group of professionals—partners in major law firms, investment bankers, hedge fund managers, and some others—receive earnings that, unlike those of the first two groups, are both market-driven and not amplified by access to a mass audience. Cross-country differences in the rise in inequality may be driven by differences in institutional factors, including governance structures and the use of stock options in compensation.

Alan Krueger asks whether Americans are spending their time more or less enjoyably today than in earlier generations. His paper provides two alternatives to the traditional approach in which researchers use their own judgments to classify activities as work, home production, or leisure. The first alternative assigns activities to categories based on people's reported

affective experiences—feeling interested, stressed, happy, sad, pain, or tired—during various activities. The second alternative calculates the so-called U-index, which measures the percentage of time spent in activities during which people’s strongest emotion is a negative one. Both analyses use historical time-use data and recent responses to the Princeton Affect and Time Survey.

Krueger finds that the share of time spent watching television has increased substantially over the last four decades, while time devoted to household chores such as ironing has decreased. Men have experienced a gradual downward trend in the proportion of time spent in unpleasant activities, primarily due to a reduction in paid work. In contrast, women have experienced no clear trend in the balance of pleasant and unpleasant activities, as a reduction in household chores has been accompanied by an increase in market work. Time spent watching television, which people appear to find more pleasant than work or chores but less pleasant than socializing with friends, has increased considerably in the past forty years for both men and women, even as time spent in the most enjoyable forms of leisure activities has declined. Krueger concludes that understanding the causes and implications of this increase is a key objective for future research.

William Nordhaus’s paper investigates the explanations for what he terms the “surprising oil noncrisis of the early to mid-2000s.” When the United States invaded Iraq in March 2003, many economists feared that the war would lead to a sharp decline in oil supply, a spike in oil prices, and problems in the U.S. economy akin to those following the oil shocks of 1973, 1978, and 1990. Indeed, real oil prices more than tripled between the fourth quarter of 2001 and the third quarter of 2006. However, the economic problems associated with earlier oil-price increases did not appear. Instead output continued to grow relative to potential output after the shock, unemployment continued to fall, and there appears to have been no substantial pass-through of the energy-price increases into wages or other nonenergy prices.

Nordhaus identifies three possible reasons why the economy performed so much better after the oil-price shock of the 2000s than after the earlier shocks. First, the latest shock was less of a surprise and occurred more gradually. Second, the transmission mechanism between the shock and the rest of the economy was weaker, perhaps because the Federal Reserve reacted better and because individuals and firms thought the oil-price

increase was more likely to be transitory. Third, other macroeconomic forces—such as government purchases, exports, and financial conditions—were either neutral or working against the shock, rather than working with it, as happened in earlier episodes. Nordhaus concludes that oil-price shocks are likely to be less damaging to the economy than many analysts came to believe in the wake of earlier shocks.