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# *Editorial, NBER Macroeconomics Annual 1994*

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The ninth edition of the *NBER Macroeconomics Annual* presents, once again, a mixture of applied frontier research and analyses of current macroeconomic problems.

The first paper by Christina Romer and David Romer, "What Ends Recessions?" combines frontier research with an analysis of the role of the Federal Reserve in stabilizing output. It starts by providing a description of what happened to the federal funds rate and to the ratio of the high employment surplus to potential GDP during the postwar recessions. Romer and Romer show that the nominal and the real federal funds rate consistently fell between peaks and troughs. The evidence on fiscal policy is more mixed, but there is a reasonably strong tendency for the ratio of the full employment surplus to potential GDP to fall between two quarters before the trough and the quarter after the trough. Thus, policy, but particularly monetary policy, becomes more expansionary as the economy declines toward a trough in activity.

Next, Romer and Romer show that these expansionary movements are *intentional*. The evidence is particularly clear in the case of monetary policy because the Federal Reserve *Minutes* show how keenly aware the Federal Reserve Board was of changes in economic activity and how intent it was on stabilizing it. Even in the case of fiscal policy, Romer and Romer show that the federal government was able in some recessions to react sufficiently quickly that there were deliberately antirecessionary small increases in government spending around most troughs.

The subsequent, substantially more controversial, sections try to gauge the extent to which these countercyclical actions had their desired effect, i.e., the degree to which they brought forth a more rapid recovery. This is done in two stages. In the first, Romer and Romer estimate policy multipliers by running either ordinary least squares or instrumental variable regressions of output growth on policy variables.

Whether these estimates really represent policy multipliers or whether they capture some endogenous reaction by the Fed was the subject of much discussion at the conference. While this issue was not settled, it seems that an analysis of Fed intentions like that pursued in this paper will be essential for reaching a conclusion.

In the second stage, Romer and Romer use these policy multipliers to measure the extent to which output growth in the four quarters after the trough exceeds what it would have been had interest rates (and fiscal policy) remained on a nonexpansionary "baseline" path. Because the policy multipliers they estimate for monetary policy are large, they estimate that the reductions in interest rates after the peak have a substantial effect on output growth. According to their estimates, these add between 1.5% and 3% to the growth in output during the first year after the trough. Thus, they attribute most of the unusually large growth of gross domestic product (GDP) in recoveries to the expansionary monetary policy that is pursued between peaks and troughs.

The paper by Eric Leeper and Christopher Sims, "Toward a Modern Macroeconomic Model Usable for Policy Analysis," also tries to gauge the role of policy, though it uses a very different methodology. It uses maximum likelihood to estimate the parameters of an extremely tightly parameterized model. This model has much in common with real business cycle models, although it also allows for sticky prices and wages. The existence of these sticky prices and wages means that government policy, and monetary policy in particular, is quite potent. Thus, their model is usable for understanding the role these policies have had in generating economic fluctuations. What is notable about the methods proposed in this paper is that they can in principle be fit to as much data as is usually considered in large macroeconomic models even though the model is much more tightly parametrized.

What the Leeper-Sims model has in common with real business cycle models is the notion that consumption and labor supply are determined by a representative agent with very simple preferences and that factor demands are determined by a representative perfectly competitive firm whose technology takes a very stripped-down form. The model also has a fairly large number of structural disturbances, each of which is assumed to follow a first-order autoregressive process.

In the first version of the model, Sims and Leeper fit only the behavior of consumption, investment, and hours. In this version they find three real shocks that account for the bulk of their fluctuations. In the second version, they also include a measure of real wages, the GDP deflator, real government purchases, real government revenues, the

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monetary base, the three-month Treasury Bill rate, and the size of the population. They obtain more satisfactory estimates for this second version when prices and wages are allowed to be sticky. The estimated parameters then imply that monetary policy is extremely potent. However, their estimates also imply that monetary policy shocks have been small in their sample so that monetary policy shocks have made only a modest contribution to output volatility. While the results are still preliminary, this paper suggests a potentially promising new way of modeling the aggregate economy.

Alan Auerbach's paper, "The U.S. Fiscal Problem: Where We Are, How We Got Here, and Where We're Going," starts from the question of why large deficit reduction policies—the 1990 \$500 billion Bush tax bill, followed by the 1993 \$500 billion Clinton tax package—have had so little apparent success in reducing the deficit. Despite the more than \$100 billion per annum average reduction in the deficit claimed by each tax bill, the U.S. budget deficit is still around \$200 billion per annum, or 3% of GDP. In addition, Auerbach asks how the current path of U.S. fiscal policy has been affected by the Clinton tax package and whether it is sustainable.

Auerbach shows that big errors have been made in predicting future budget deficits. He focuses on the projections of the Congressional Budget Office (CBO). Figure 2 shows most clearly what was predicted to have happened: The solid line gives the projections of future budgets made six years before the specified date, and the dashed line shows the impact of subsequent policy decisions. Given those projections and subsequent policy decisions, the budget should have been in surplus in 1991 and 1992, and again between 1994 and 1996. But, as Figure 3 shows, there was a forecast error for 1992 of nearly \$300 billion.

Among the valuable contributions of this paper is the detailed presentation of the projection methods of the CBO. Using CBO methodology, Auerbach breaks the forecasting errors for each year down into three categories, economic, technical, and interest, but he finds no single smoking gun—the largest single error arises from the savings and loan bailout. Auerbach discusses the question of whether there is a systematic optimistic bias in the CBO's projection methods and mentions the failure to include provisions for emergency spending, but he concludes here too that there is no clear simple mistake.

Auerbach then examines the different budget rules that Congress has imposed on itself to try to bring the deficit under control. Each of Gramm–Rudman–Hollings and the 1990 Budget Enforcement Act includes incentives for shifting spending between years. While he

discusses biases induced by these laws, Auerbach is skeptical that a much better budget rule could have been devised, pointing out that it is always possible to change the budget deficit through economically equivalent and legitimate budgetary adjustments.

The Clinton tax package has helped reduce the budget deficit, though a large share of the improved deficit picture results from ongoing spending cuts, mostly for defense. Finally, Auerbach's projections, like those of the CBO, show the budget deficit beginning to increase toward the end of this decade. The unfortunate news is that Auerbach projects that very large cuts in the primary (noninterest) budget deficit are needed if fiscal policy is to be put on a sustainable basis.

The Auerbach paper presents mainly bad news. Some of the discussants thought it was unduly pessimistic. Of course, one could always hope that the excessive optimism in earlier forecasts is now being replaced by excessive pessimism—but that is surely a very bad basis on which to make policy decisions.

In "Reconsidering the Costs of Business Cycles with Incomplete Markets," Andrew Atkeson and Christopher Phelan study the welfare consequences of output volatility. Lucas (1987) showed that the volatility of aggregate consumption would not be very costly if it affected everybody's consumption equally and if the typical consumer had a plausible level of risk aversion. Atkeson and Phelan investigate whether the volatility of aggregate consumption is more costly in models where individual consumption is much more volatile than aggregate consumption because insurance markets are incomplete. They find that this is not necessarily the case. Surprisingly, the benefits of stabilizing aggregate consumption may actually be smaller under incomplete markets than under complete markets.

The reason, at Atkeson and Phelan show, is that the stabilization of aggregate consumption need not stabilize individual consumption at all; instead, it may just reduce the correlation of individual consumption movements. They show this by considering a model where individual firms are subject to an unverifiable idiosyncratic technology shock. Because the shocks are unverifiable, wages do not adjust; instead, the firm responds to a negative shock by laying off workers. Of course, the fraction of workers that is laid off depends on the wage that is agreed on beforehand, and this wage depends in turn on whether the government stabilizes aggregate output or not. In the example they present, government stabilization leads to a higher equilibrium wage so that, as a result, the probability of becoming laid off remains the same. Thus, the stabilization of aggregate output affects only the correlation of individual incomes.

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Even then, the stabilization will have effects on asset prices. In particular, stabilization of aggregate output is likely to stabilize bond and stock returns, and this stabilization could have important welfare consequences. However, Atkeson and Phelan show that these asset price consequences need not have important welfare effects either. In their model, the welfare effects of these asset price consequences hinge crucially on the extent to which bond returns are stabilized (so that the cost of borrowing ceases to vary over the business cycle). Because actual bond returns are not very variable in the U.S. economy, the benefits from this stabilization would likely be meager.

John Page's paper on the East Asian miracle draws on the major study that he led recently for the World Bank. The underlying question is whether the high growing East Asian economies succeeded by following the orthodox growth strategy recommended by the international agencies and neoclassical economists, or whether—as critics of that view such as Alice Amsden and Robert Wade contend—they succeeded because they intervened extensively. The critics' view of the East Asian strategy is summarized by Amsden's memorable phrase, "getting the prices wrong."

Page examines policies and performance in eight HPAEs—high performing Asian economies: Japan; the four tigers of Hong Kong, South Korea, Singapore, and Taiwan; and Indonesia, Malaysia, and Thailand. The most spectacular performer of recent years, China, is excluded.

The miracle in these economies is twofold: Growth has been extremely rapid, and it has been equitable. In some cases, notably Hong Kong, Japan, and Taiwan, productivity growth has been high; in others, such as Singapore, it has been slow or negative. Indeed, in a paper in the 1992 *NBER Macroeconomics Annual*, Alwyn Young contrasted the performance of Hong Kong and Singapore, arguing that Singapore growth was extensive and that it could not continue in that way. Page confirms that the rapid growth of Indonesia, Malaysia, and Singapore is due entirely to high rates of factor accumulation. He takes the difference in productivity performance to show that the HPAEs have followed different routes to high growth. He also shows that even the negative growth rates of productivity in some of the HPAEs are above those of most developing economies.

Page then draws four lessons from the history of the HPAEs. Two are conventional: Maintenance of macroeconomic stability is necessary for growth; and broad-based education, "universal primary and broadly based secondary education combined with restraint of public subsidies to higher education," makes a major contribution. Everyone would agree so far. The third lesson that Page draws is that promotion of

manufactured exports contributed significantly to growth. The fourth is that industrial policies—picking of winners and losers, other than on the basis of export promotion—did not.

The paper's conclusion that export orientation is the key ingredient is based on regressions showing that outwardly oriented policies support growth. The claim that industrial policies failed is based on a calculation that the composition of industrial production had relatively little effect on growth. More detailed evidence in support of these conclusions is included in the book on which the paper draws.

The paper may seem to sidestep the question of whether countries have benefitted from nonmarket friendly interventions, such as direct credit allocation. It does not: While the regression evidence on outward orientation implies that it is better not to distort relative prices, Page concedes that selective interventions in favor of exports have succeeded. He then tries to answer the question of how the HPAEs avoided having the benefits captured by the participants. His answer is that the bureaucracies in several countries successfully set up contests based on performance in global markets. As Page notes, running such contests successfully requires a high level of government institutional capacity.

Virtually all the literature on the transition process in Eastern Europe and the former Soviet Union is descriptive or prescriptive. In their paper, "On the Speed of Transition in Central Europe," Philippe Aghion and Olivier Blanchard develop a relatively simple model of the transition process designed to provide a systematic basis for thinking about transition policies.

They start from the stylized facts in Poland, where GDP fell for three years, and has now started growing. Unemployment has increased over the years, to the point where it is now 16%. The state sector has shrunk, and the private sector has grown fast. However, Aghion and Blanchard point to two problems in the restructuring process: The private sector has essentially stopped expanding, and its growth has been almost entirely in very small firms, mostly in the services sector. Further, the privatization process in Poland has been very slow.

The Aghion–Blanchard model assumes that productivity in the state sector is lower than that in the private sector. Each state firm can privatize or restructure by downsizing, in the process having its workers' productivity increase. The rate of creation of new private firms is determined by the gap between the productivity of workers, their wage, and the rate of taxation of workers. The wages in turn depend on both unemployment benefits and the rate at which workers are being hired relative to the rate of unemployment. Unemployment benefits are

financed by taxes on workers. It is assumed that there is an initial stock decline in the size of the state sector. Therefore, the transition process is driven by the interactions of wages, unemployment benefits, taxes, and unemployment.

While the rate of privatization is initially assumed to be exogenous, Aghion and Blanchard later endogenize the privatization decision. They use alternative models of the firm's decision-making process, all based on the potential gains to workers within the firm.

The model has some pessimistic implications. When the rate of privatization is assumed to be exogenous, there are multiple equilibria, in one of which pessimism breeds a very high level of unemployment. Aghion and Blanchard believes this corresponds to a situation in which foreign and domestic investment is low because of pessimism about the country's prospects. In this model, high unemployment benefits slow reform, both by raising wages and by increasing taxes on labor. However, Aghion and Blanchard believe that the level of unemployment benefits is politically constrained. When the rate of privatization is endogenized, the existence of high unemployment becomes an impediment to restructuring. They argue that measures to speed private sector job creation, to reduce the rate of unemployment, are more urgent than measures to accelerate the rate of privatization.

The policy conclusions that Aghion and Blanchard are able to draw establish the value of the theoretical framework. The paper will surely generate further research, building on the concluding section in which the authors list special assumptions that should be relaxed.

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