EconomicDynamics Interviews Timothy Kehoe and Edward Prescott on Great Depressions.

Timothy Kehoe is the Distinguished McKnight University Professor at the University of Minnesota and Adviser of the Federal Reserve Bank of Minneapolis. Edward Prescott is the W. P. Carey Chaired Professor of Economics at Arizona State University and Senior Monetary Adviser at the Federal Reserve Bank of Minneapolis. Both are interested in the theory and the application of general equilibrium models. Kehoe's RePEc/IDEAS entry, Prescott's RePEc/IDEAS entry.

EconomicDynamics: Depressions have recently received a lot of interest, witness the special issue of the Review of Economic Dynamics in 2002 and now the book you have edited. Why this sudden interest?

Timothy Kehoe, Edward Prescott: In 1999 Hal Cole and Lee Ohanian published a paper in the Quarterly Review of the Federal Reserve Bank of Minneapolis that broke a long standing taboo. They analyzed the U.S. Great Depression using the neoclassical growth model. What they found was fascinating. Productivity recovered by 1935, but labor supply remained depressed by 25 percent and did not begin to recover until 1939. An important question is why. Another important question, of course, is why productivity fell so sharply starting in 1929.

The Cole and Ohanian study motivated us to organize a conference at Minneapolis Fed in 2000 at which people presented analyses of great depressions in other countries using the neoclassical growth model. Six of the studies were from the interwar period and the other three from the postwar period. We encouraged the authors to work more on their papers and to submit revised versions to RED. With the help of the graduate students in our workshop, we edited a special volume of RED with these studies. Just this past year, we have published a book with revised versions of Hal and Lee's original article and the articles in the RED volume, as well as six other studies.

The success of this enterprise is leading to a shift from studying small business cycle fluctuations to the study of big movements in the output relative to trend. With this shift, we have learned a lot. The studies in the RED volume and in the new book have identified important puzzles. The central message is that there is an overwhelming need for a theory of how policy arrangements affect TFP.

ED: The neoclassical growth model has been used extensively to study business cycles. Lucas described business cycles as being all alike, and thus the quest was for a single model of the business cycle. Are all depressions alike? If not, can we still use the same model for all?

TK, EP: The real business cycle model developed by Finn Kydland and Ed has been successful in capturing the regularities in business cycle fluctuations, not just in the United States, but in other countries. Business cycles are small deviations from balanced growth, driven largely by small persistent changes in TFP. In real business cycle theory, fluctuations in TFP are modeled as a Markov process.

Great depressions are large deviations from balanced growth. If we look at a graph of U.S. real GDP per working age person over the past century or more, we see small fluctuations around a path with growth of two percent per year. The Great Depression of the 1930s and the subsequent build up during World War II jump out of the graph as being something different.

We have found that great depressions are like business cycle downturns in that they are driven mostly by drops in TFP, but these drops are very large and often prolonged. Great depressions are not alike, and they are not like business cycles, but we have found that the general equilibrium growth model is very useful for identifying regularities and puzzles. In some depressions, TFP drives everything, and we need to identify the factors the cause the large and prolonged drop in TFP. In other depressions, such as the U.S. and German great depressions of the 1930s, labor inputs are depressed more or longer than the model predicts, and we need to identify the factors that disrupted the labor market.

ED: Thus, depressions can be characterized by deeper and more prolonged deviations from trend than usual business cycles. But the reasons for these deviations vary, contrarily to business cycles. Each depression is then a case study. How can the validity of such a case study be established? In particular, to use statistical terms, how can the lack of degrees of freedom and out of sample testing be overcome?

TK, EP: In fact, we think that it is the other way around: Our study of depressions has been so fruitful that we think that it is useful for studying the business cycle. We have found that we can use the methodology that we have developed to study the factors that gave rise to the relatively small movements that we call business cycles. Treating populations, tax rates, productivity paths, and other factors as exogenous, we are determining which of these factors give rise to particular small depressions and booms.

We are finding deviations from the theory and puzzles. One particularly interesting deviation from theory was the behavior of the U.S. economy in the 1990s. Another is the behavior of the Spanish economy from 1975 to 1985. Ed is studying the first with Ellen McGrattan, and Tim is studying the second with Juan Carlos Conesa. Even though these episodes are not great depressions, we are using the same methodology as in the great depressions studies.

Macro has progressed beyond accounting for the statistical properties called business cycle fluctuations to predicting the time path of the economy given the paths of the exogenous variables. The great depression methodology points to what is causing the problems in a particular economy, whether it be productivity, labor market distortions, credit market problems, and so on. This is progress.

ED: What is the specific contribution of the volume you edited in the study of aggregate fluctuations?

TK: EP: Great Depressions of the Twentieth Century has 15 studies that involve the work of 26 researchers and use the same basic theoretical framework to organize the data and interpret the behavior of the different economies during depressions. The list of collaborators on this project is an impressive list of economists from all over the world. Having this set of great depression studies that use the same theoretical framework in a single volume should be valuable for researchers, especially graduate students, in deciding which conjectures to explore. We hope and expect that this volume will stimulate research on important problems in macroeconomics.

Great depressions are not things of the past. They have occurred recently in Latin America and in New Zealand and Switzerland. Unless we understand their causes, we cannot rule out great depressions happening again.

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