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Editorial, NBER Macroeconomics Annual 1989

This fourth edition of the NBER Macroeconomics Annual contains seven papers. Two deal with topics in the news. Charles Bean and James Symons review the record of Mrs. Thatcher's first ten years in office. Frank Levy documents and analyzes changes in U.S. income and earnings distributions. Two papers deal with perennial issues in macroeconomics. David and Christina Romer reexamine and extend Friedman and Schwartz's evidence on the relation between money and output. John Campbell and N. Gregory Mankiw reexamine the evidence on consumption and the consumption function. Two papers explore new directions of research and start confronting them with data. Kevin Murphy, Andrei Schleifer, and Robert Vishny examine the role of increasing returns in economic fluctuations. Stephen Williamson examines the macroeconomic implications of different types of financial arrangements. Finally, in a shorter paper, James Stock and Mark Watson summarize their work on the construction of coincident and leading indicators. We limit ourselves in this introduction to brief descriptions of the papers themselves; an important contribution of the conference however is in both the formal and informal comments which follow each paper.

At the beginning of Mrs. Thatcher's eleventh year in office, Charles Bean and James Symons present a careful review of Britain's economic record since 1979 that avoids partisan excess in either direction. During that decade, inflation has fallen, the public sector deficit has turned into a large surplus, and the rate of productivity growth has risen to the extent that, in recent years, it is second only to Japan among the major industrialized countries. These improvements have however been accompanied by a large increase in the unemployment rate (which did

begin to fall sharply in 1988) and a significant widening of the income distribution.

Bean and Symons focus on four topics: the decline in inflation and the role of the Medium Term Financial Strategy; unemployment; the increase in productivity growth; and the distribution of income. In each area, they wrestle quite successfully with the difficulty facing all attempts at evaluating policies—the absence of a clear counterfactual. They deploy economic models, simple regressions, the extensive literature, and expert forensic skill to build their case.

During the Sixties and Seventies the woman in the street in Britain and elsewhere was inclined to blame much of the poor performance of the British economy on the unions. Economists would point to such facts as the relatively low number of days lost to strikes in the UK and look for other causes. Bean and Symons side with the person in the street in placing heavy emphasis on changes in labor relations and union behavior as responsible for higher productivity growth. They attribute part of the widening of the income distribution—which is true of the distributions of both pre-tax income and family income—to the ending of incomes policy. They suggest, however, that other factors must have been at work, noting the similarity of changes in the income distribution in the UK and the U.S. during that period. They are cautious in evaluating the prospects for continued high productivity growth in the UK, and are concerned that maintenance of high productivity growth may require increased investment in training and human capital. Their overall evaluation of the record to date is a favorable one, though.

The basic facts on which Frank Levy concentrates in his paper on recent trends in U.S. earnings and family income have made headlines in recent years. They have led some to announce the disappearance of the American middle class, and have led a presidential candidate to make "good jobs at good wages" a central campaign theme. One of the main contributions of Levy's paper is carefully to establish the facts: Income per worker in the U.S. has grown very slowly since 1973; much of the growth in aggregate income is due to a larger labor force and increased participation. The average income of male workers is roughly the same as in 1973 and the male income distribution has "hollowed out," with more weight going to both the high and low income groups. Female workers have fared better and there is also no evidence of hollowing out in the female income distribution. Finally, there is indeed greater inequality of family incomes. Levy also points to a number of related facts. Among them: the relative and absolute income of the elderly has risen significantly; the relative position of the poorest one-third of chil-

dren has declined sharply; the relative income of less educated workers has declined.

Levy stops short of a formal analysis of the causes of those shifts in earnings and income distribution. He suggests however that both supply and demand shifts are responsible for the recent trends. The contrast between the European and American experiences in the Eighties suggests that the U.S. has absorbed the very large increase in the labor force in part because real wages have not increased much. But demand shifts have played a role, in that the decline of manufacturing has had an adverse effect on the income of the less well educated young who have moved into services.

The paper by Christina and David Romer is an interesting and innovative contribution to the recently revived debate on whether money matters. That issue seemed to be settled a quarter of a century ago, after the appearance in 1963 of Milton Friedman and Anna Schwartz's classic Monetary History of the United States, 1867–1960, and related work by them, Karl Brunner and Allan Meltzer, and others. Most macroeconomists then accepted the view that money mattered, in the sense, for example, that the Fed could engineer a recession by sharply cutting the growth rate of money, or equivalently by sharply raising interest rates.

That consensus dissolved in the 1980s, mostly as a result of two developments: first, empirical work along the lines pioneered by Christopher Sims, using formal statistical techniques, suggested that the quantitative evidence was in fact much weaker than had been claimed by Friedman and Schwartz. Second, the logical possibility that the relation between money and income may reflect a causal relation from income to money was given a new life with the development of real business cycle theories, which concluded that they could explain most of the important business cycle facts while maintaining the assumption of money neutrality. (Both of those aspects were the subject of the paper by Eichenbaum and Singleton in the 1987 Macroeconomics Annual).

Romer and Romer go back to Friedman and Schwartz's classic volume and reexamine their results—particularly their argument that the Great Depression earned its name because of poor monetary policy. They give a number of reasons why one may doubt some of Friedman and Schwartz's conclusions. They then suggest a method which embodies the spirit but not the letter of Friedman and Schwartz's approach. The method is simple. They look, in the record of deliberations of the Fed's Open Market Committee for all the occasions when the Fed decided that inflation had to be reduced. On every such occasion, they show that

inflation was effectively reduced, and that output was lower than would have been predicted on the basis of normal behavior. As the discussion points out, their approach relies on the use of dummies rather than either money or interest rates, and thus does not tell us how monetary policy actually works. Skeptics may still argue that inflation, rather than the resolve of the Fed, is what triggers the ensuing recession. Nevertheless, their work represents an important methodological and empirical contribution.

Ten years ago, a paper by Robert Hall had a profound effect on empirical work on consumption. He suggested that, if the purpose of research was to test particular theories of consumption behavior, the best strategy was not to estimate consumption functions as had been done until then, but rather to test optimality conditions. This led to simpler and more focused tests. Largely as a result of his paper, the last ten years have seen a flurry of empirical work on consumption. In their paper, Campbell and Mankiw review and extend this empirical work and offer a characterization of aggregate consumption behavior. Aggregate consumption, they argue, can be viewed as the results of consumption decisions by two types of consumers. Roughly half of the consumers are forward looking and behave according to the life cycle hypothesis; they are, however, very reluctant to substitute consumption across periods in response to interest rate movements. The other half are "rule-of-thumb" consumers, consuming all of their income. They show how this characterization can explain three important empirical regularities. First, expected changes in income are associated with expected changes in consumption. Second, expected real interest rates are not associated with expected changes in consumption. Third, periods of low saving are typically followed by high growth in income.

It is clear that Campbell and Mankiw's interpretation should not be taken literally. It is likely that each consumer is in part forward looking and in part following simple rules-of-thumb. It is also clear that the division between the two types of consumers may not be invariant to changes in financial markets; what Campbell and Mankiw call rule-of-thumb consumers may be what others have called credit- or liquidity-constrained consumers. Nevertheless, the characterization they offer provides a useful description of the data, one that can be used to think about the effects of tax cuts, for example, or subsidies to savings.

The role of increasing returns in the macroeconomy is one of the hottest topics of research in macroeconomics today. In the 1987 edition of the *Macroeconomics Annual*, Romer examined the role of increasing returns in

growth. In this edition, Kevin Murphy, Andrei Shleifer, and Robert Vishny look at the role of increasing returns in generating business cycles. They construct a model which has two basic elements. The first is a downward sloping supply curve. They derive it from competitive pricing, with marginal cost declining with aggregate output. They note that this is a strong assumption, stronger than the more usual assumption of declining average cost. They suggest that an alternative derivation is one which assumes constant marginal cost but allows for imperfectly competitive pricing, where the markup of price over cost declines with the level of output. The second element of their model is that the goods which are produced are durable. This has two implications: the first is that the demand for goods at any point in time is very elastic, as buyers can time the purchase of the good to take advantage of low prices. The second implication, which has a long history in macroeconomics, is that recessions create forces which eventually lead to an expansion: a long period of low production leads to a decline in the stock, which eventually leads to an increase in demand to replenish the stocks.

Under those assumptions, the economy goes through cycles, which resemble actual cycles in many ways; they come from the endogenous alteration of high activity-high productivity and low activity-low productivity periods. The authors compare their results to the "real business cycle approach," which is in many ways similar to it, except for its maintained assumption of constant returns to scale and exogenous productivity movements. In another useful contribution, they discuss issues which must be confronted by any model that relies on productivity changes to explain fluctuations. One such issue is that of the positive comovement of employment across sectors which characterizes the business cycle. They discuss the role of limited labor mobility in explaining positive co-movements in employment across all sectors that result from movements in productivity in only a few of those sectors. Another issue they discuss is where in the economy these productivity changes actually take place; by looking at the behavior of relative prices, they conclude that, if prices reflect marginal cost, productivity shocks are taking place at the end of the chain of production.

The model of cycles proposed by Murphy, Shleifer, and Vishny is stimulating, but is unlikely to convince all macroeconomists. Indeed, one way of reading their paper is that it shows how stringent the conditions are for such cycles to emerge. There is no question, however, that the elements they identify, namely various forms of increasing returns and the role of durable stocks, play an important role, if not in generating cycles, at least surely in explaining their characteristics.

The implications of asymmetric information for financial arrangements and macroeconomic fluctuations are another recent topic of research. Stephen Williamson, in his paper, takes the theory to the data. He chooses to focus on Canada and the U.S. from 1870 to 1913. What makes that period particularly interesting are the differences in the financial structures of those two countries. While Canada had a well diversified branch banking system, and Canadian banks could issue large denomination notes unbacked by government securities, the U.S. banking system was one of unit banking, and all notes had to be fully backed by government bonds.

Williamson first constructs a theoretical model designed to capture those differences. The model, which is a dynamic general equilibrium model with asymmetric information, is, by nature, complex. But its basic structure is simple. The returns from investment by entrepreneurs are not directly observable; they can however be verified at a cost. This leads to the creation of financial intermediaries who borrow from primary lenders and lend to entrepreneurs using an optimal, debt-like, contract. The entrepreneur promises a fixed payment to the financial intermediary. If the entrepreneur later declares it cannot meet the payment, then bankruptcy occurs and the entrepreneur consumes zero. To the extent that risks are idiosyncratic, financial intermediaries can diversify and offer riskless lending to the lenders. Williamson then formalizes unit banking in the U.S. by assuming that, in the U.S., restrictions on financial intermediaries prevent them from being able to diversify and offer riskless lending. He formalizes restrictions on the backing of bank notes by assuming that this prevents some lenders from lending at all. He then characterizes the behavior of output, prices, and bank liabilities. Interestingly, he shows that the two restrictions tend to decrease, through their effect on investment, fluctuations in output. More intermediation leads to larger, but welfare-improving, fluctuations. Having derived those implications, Williamson goes back to the data. While his model does not fit the evidence in prices, the data support one major implication of the model: Canadian output varies relatively more than U.S. output, and this does not seem to be attributable to composition effects.

Like the paper by Murphy, Shleifer, and Vishny, this paper is more of a foray into uncharted territory than a definitive treatment of issues. But it breaks substantial theoretical and empirical ground and, in so doing, shows how endogenizing the structure of financial institutions may shed light on a number of macroeconomic issues.

In the last paper in this volume, James Stock and Mark Watson summarize their work on coincident and leading indicators. The initial set of

leading indicators was developed in 1937 by Burns and Mitchell. The indicators used today are the result of fifty years of trial and error, with little help from formal time series econometrics. The challenge taken up by Stock and Watson is to see whether modern econometrics can help.

They construct three indices, an index of coincident indicators (CEI), an index of leading indicators (LEI), and a recession index. The CEI extracts the common component of four monthly aggregate series, industrial production, real personal income, sales, and employee hours. This is based on the implicit theory that there is an underlying common component, the cycle, which is best captured by looking at a number of aggregate variables. The LEI in turn is designed to forecast growth in the CEI over the following six months. Through a process of elimination, Stock and Watson end up choosing seven series which, they conclude, together yield the best prediction of growth in the CEI. Interestingly, four of the seven variables are prices rather than quantities. Three are interest rates: the first is the yield on 10-year government bonds, the second is the spread on 6-month private versus public bills, and the third is the spread between the yield on 10-year and 1-year government bonds. The fourth variable is the trade-weighted nominal exchange rate. Finally, Stock and Watson compute a recession index that assesses the probability of a recession six months hence. As of the time their paper was written, this last index showed no sign of an impending recession. As was the case for the current NBER leading indicators, Stock and Watson's indicators will need to be time tested. As the authors are very much aware, doing well in a sample is no guarantee of success in the future. Their work however contains the promise of a reliable, statistically well grounded, set of coincident and leading indicators.

The Conference at which these papers were presented and discussed was efficiently organized by Kirsten Foss and Ilana Hardesty. David Cutler and Janice Eberly acted as editors of the papers, the comments and as rapporteurs for the general discussion. Their assistance was invaluable.

Olivier Jean Blanchard and Stanley Fischer

