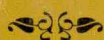


Towards a Reconstruction of Macroeconomics

Problems of Theory and Policy



William Fellner

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Preface

Many of the problems discussed in these pages were briefly touched upon in a recent article of mine published in the *Journal of Economic Literature*.¹ But in the article these problems were merely touched upon, while in this volume quite a bit of elaboration will be found. The analysis is based on the empirical information I consider relevant.

Also, several problems will be discussed here that remained completely outside the scope of that article. The book includes, for example, an attempt to come to grips with the difference between "neo-Keynesian" and "monetarist" leanings in macrotheory, because I believe that in its present stage that controversy has many confusing aspects. Further, the reader will find in the volume my interpretation of the valid core of the hypothesis of the "induced bias" in innovation theory. The theoretical and empirical analysis of that problem is presented here in a framework in which the variable-proportions properties of the so-called neoclassical production functions are viewed as resulting from inventions and their industrial application (innovations) rather than as developing at a "given" level of technological and organizational knowledge. I need not go on surveying the problems discussed in the book, since the Table of Contents is fairly detailed.

While working on this book in Washington, I had the benefit of continuous professional contacts with economists in whom productive scholarship and academic interests have become

¹ "Lessons from the Failure of Demand-Management Policies: A Look at the Theoretical Foundations," *Journal of Economic Literature*, March 1976, pp. 34-53.

blended with expertise in the appraisal of available current information on the American economy. I must express my particular gratitude to Arthur M. Okun for the constructive and detailed suggestions I received from him when the first draft of the volume was finished. With at least one conclusion presented in the volume he is known to disagree (and he might disagree with more). Okun does not share my great skepticism about what I call the intermediate area between comprehensive wage and price regulations on the one hand and complete abstention from administrative wage and price controls on the other. Or, at least, he is much more hopeful than I am that ad hoc cost-price policies, bearing directly on money-wage and price trends, could be made effective and would not have the consequences discussed in my analysis. This disagreement relates to a matter about which we both have strong convictions. Yet we both seem to have the equally strong conviction that, regardless of how firmly our own views are held, they are not the only professional views that deserve to be expressed and articulated.

For valuable help in completing the research on which the analysis in this book is based, as well as for preparing the typescript, my thanks go to Waltraud Anderson.

Washington, D. C.
May 1976

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I

The Main Theme and the Nature of the Approach

1. Sketching the Content

This book has a thesis, and since it is a short book I hope that the thesis will become clear to the reader. An even briefer summary than will be found in the pages of the volume runs the risk of distorting rather than clarifying, but I will try such a further abridgement because this is necessary in order to get a methodological question out of our way at the outset. To do this requires saying a few words about the main theme of the analysis even at this stage.

Macroeconomic theory, which owes a huge debt to Keynes's work of 1936, has a deficiency from which it should be freed to be useful for more than an analysis of the policy requirements of a past period with very special characteristics—the 1930s. A theory of macroeconomic equilibrium can easily be developed into a theory of equilibrium growth paths, and as such can serve as a valuable frame of reference, but only if it clearly recognizes that in the neighborhood of such a growth path there cannot occur significant and sustained deviations of actual movements of the price level from expected movements. The employment policy results and other economic and social consequences of major unexpected movements of the price level are exceedingly damaging, even if it takes a short while for the damage to be clearly observable. Keynes and the Keynesians have paid little attention to what this implies for economic theory as well as for

policy. Their monetarist critics, who have shown awareness of the problem, have not placed it in the center of the debate on the fundamentals of macroeconomics and have not worked it out or clarified it sufficiently. The fact that the world has recently suffered the consequences of significant inflationary disturbances, which in the United States have by now lasted for about ten years and have grown exceedingly difficult to cope with, has much to do with the influence of a macroeconomic theory that has not been adequately reconstructed.

If demand management policies will not succeed in *conditioning* market expectations to a reasonably predictable behavior of the price level—that is, if the public's expectations will not be formed according to credible price-level targets of the authorities—then we shall be heading for comprehensively controlled societies, administered with reliance on significantly enlarged police power. The issue has by now become a dramatic one, and it is wrong to talk around such a crucial issue by using evasive terminology on controls. Implied in the conditioning effort that is required for avoiding a transition into such a state is the need to recognize that the relation of the authorities to the public has an essential *game-of-strategy* aspect.

The authorities must act on assumptions about the public's responses, and members of the public must act on their assumptions about the responses of other members of the public and on assumptions about the reactions of the authorities to these. It is not enough to recognize that "rational expectations" are formed in view of the presumptive future behavior of the authorities rather than simply on the basis of the past behavior of the variables to which the expectations relate. A further essential fact is that the public attaches probability judgments to the way the behavior of the authorities may become influenced by the behavior of the public itself.¹ This is why credibility is of utmost

¹ The position developed in this book about expectations overlaps significantly with the views underlying the "rational expectations" hypothesis, but the analysis I shall present implies also that the problems we need to face contain a crucial element of games strategy. The games-strategy element derives from a justified suspicion on the part of the public that it depends on the public's behavior whether the authorities will persist in their mode of behavior. Further, it will be explained why I consider it inadvisable

importance—a fact that has gradually become clearer to at least some policy makers, but that has not been recognized as an essential element of a usable macroeconomic theory.

In their behavior in such a strategy situation, the authorities must be aware that no demand management policy can be successful in trying to validate an expectational system such as develops in markets without regard to the price level objectives of the policy makers. To try to validate an internally inconsistent and unstable expectational system is a hopeless effort. Nor will the effort to condition the markets to sustainable price-level expectations be successful if the determination of the authorities lacks sufficient credibility, because in that case the effort will lead to protracted “stagflation” that, in turn, is apt to lead the authorities to give up. Lack of credibility is self-justifying.

This position involves rejecting recent policy procedures based on the idea that we should take for granted money-wage and price-setting practices that developed in view of the public's past price experience during an inflationary period; and that we should aim for the money GNP that corresponds to an acceptable real GNP and to an acceptable employment level, given such pricing behavior by the public. Except for a short-term payoff to policy makers which is provided by the temporary fooling effect of unanticipated inflation, such an “accommodating” policy has proved self-defeating. It is self-defeating because it renders the expectational system that is so accommodated unstable upward, thereby destabilizing the economy and giving rise subsequently to the high costs of suppressing an accelerating inflationary process. The so-called Phillips trade-off between inflation and unemployment is a purely short-run phenomenon that must not be allowed to serve as a basis for demand management policy.

Footnote 1 (continued)

to follow Lucas and Rapping [29], Sargent [44], and Sargent and Wallace [45] in connecting the hypothesis of rational expectations with the hypothesis of the “natural rate of unemployment.” In my view the hypothesis of the natural rate of unemployment cannot be carried over from the theory of perfect competition to “given imperfections” of actual markets (on some implied and inevitably arbitrary definition of a state in which these imperfections remain “given”).

Demand management through monetary and fiscal policy can prove successful only if it succeeds in conditioning the public's price level expectations by creating an environment of appropriate restraint to which decision makers in the markets must adjust to avoid heavy losses. To imply that markets will continue for long to be guided by the past price behavior observed during a period of lax policies, and will do so regardless of how firmly convinced the public is that there has been a change in policy, means building on assumptions that are not borne out by historical experience; these are the assumptions that provide excuses for postponing again and again the changeover from lax to sustainable policies. It is, of course, inevitable that the transition from a period in which the expectational system was allowed to "run wild" to a period of conditioned price-level expectations should involve uncomfortable adjustments; but the more the adjustments are postponed, the costlier they become. The question to what extent the discomfort of the adjustment can be reduced by a policy of gradualism will be considered later.

Macro-equilibrium requires that the output decisions in the markets should be guided by price level expectations to which the decision makers have become conditioned by those in charge of demand management policies (monetary and fiscal policies) and it requires that the behavior of the price level to which expectations have become geared should be a sustainable behavior that can in fact be validated by the appropriate policies. To repeat: it is hopeless to try to validate by means of policy measures a fluid expectational system that develops independently in the markets and is not grounded outside itself. If the economy is to move in the neighborhood of an equilibrium path, the expectational system needs to be anchored in consistently pursued objectives of demand management policy.

2. Combining Methods of Approach

These opening remarks suggest that what we are trying to do here is to focus on a state of macroeconomic equilibrium—a state that can be fitted into a sequence of similar states in a growing

economy. A theory relating to macroeconomic equilibrium needs to be distinguished from a theory relating to disturbed states of the economic system. I believe it is desirable to draw this distinction and to focus the analysis accordingly. But to say this means, of course, recognizing limitations on our knowledge about the economy.

The reader will rightly tell himself that the economy in which we live is always in a disturbed state, and that not much can be gained from putting a theory of macro-equilibria in better shape if no method is offered for comparing reality with the theory's frame of reference. The answer given here is that it is possible to create the required link in a number of ways that are not mutually exclusive but that this, at the present stage of knowledge, can be done more or less successfully only by methods that lack the formal properties characteristic of a general theory. We can place confidence of a limited sort in various models employed by short-term forecasters, the more successful among whom invariably use loosely organized information and personal judgment in addition to their models. At the same time we may be inclined to recall on occasion the prototypes of cyclical developments that were described in the "old-fashioned" business cycle theories of the pre-econometric era, and we may try to make up our minds on which of these basic types—or which combination of them—is likely to guide us best in the actual circumstances in which we are encountering the problem. In the post-Keynesian era, Hicks—building in part on Samuelson's work [41]—contributed to business cycle theory along these lines but, in contrast to most older contributions, with reliance on mathematical analysis: he derived a basic type of possible cyclical sequences in a growing economy, using the multiplier and the acceleration principle as the main ingredients of his model [22]. Further, we may place a moderate degree of confidence in various advance indicators that may suggest continued expansion or contraction or turning points and that may give clues also as to whether the tendencies they identify are forceful. It is possible to combine these methods, and it is necessary to use at least one of them.

The now prevalent method of appraising dynamic paths and future prospects combines a careful look at the results obtained

from econometric models with a substantial amount of ad hoc "judgmental" adjustment. We shall see that, particularly for money GNP, the results so obtained have certainly not been "all bad," but it would be wrong to claim that such results are derived from a general theory. They are derived from a loose combination of types of analysis, even though elements of the mix (the models of the professional forecasters) would be highly formalized and complex dynamic theories, were the need for significant ad hoc adjustments not recognized by all whose appraisals have proved useful.

On the other hand, we want a more general theory of macro-equilibria for describing the frame of reference to which we relate the actual course of our economies and the outcome of policy measures. A sequence of such macro-equilibria represented by a normal growth path is an abstraction expressing an undisturbed basic tendency, given the market structures of an economy. In this sequence the aggregate supply of goods and services at levels at which this supply is forthcoming in a "sustainable" fashion is determined in accordance with the available resources and their real supply prices, and aggregate demand is kept equal to the supply so determined. The idea of a basic tendency with these characteristics abstracts from a large number of complications that stand in the way of useful generalization about the detailed course of economic processes.

The objection that basic tendencies do not exist "in reality" is unconvincing inasmuch as these tendencies are quite generally sensed by a population unless large deviations from them last a long time. It is reasonable to regard the manifestation of such underlying tendencies as part of our experience. And it would not be convincing to argue that we should simply plead ignorance about mechanisms that might keep an economy in the neighborhood of a path represented by macro-equilibria. We are, of course, unable to specify all the variables essential to these mechanisms, and even less can we make dependable numerical estimates of the set of relevant parameters. But experience with periods of significant instability on the one hand and with periods approximating stability on the other does carry strong suggestions about the bearing of major categories of variables on the

differences between periods. Sustained deviations of the actual from the expected price level clearly belong among the disequilibrating factors: they have no place in analytical constructs describing equilibrium paths which are to serve as acceptable frames of reference.

Keynes was aware of the distinction between presumptive conditions of macro-equilibria and a complete dynamic theory. What he tried to formalize was a theory of macro-equilibrium conceived as a single stage in a sequence of similar stages that may be viewed as elements of a growth path. Keynes did have quite a bit to say about disequilibria—a fact rightly emphasized in Leijonhufvud's work [28] and, largely under his influence, also in more recent contributions. But it would be a mistake to overlook the fact that the technical apparatus introduced in the *General Theory* is directed at a state of macro-equilibrium and that the observations presented in that work on disturbed states of the economy supplement the technical analysis at a much less formalized level. Two references will be sufficient to support this interpretation here.

When in Chapter 18 Keynes gave a summary of the *General Theory*—and called it a “restatement” of the theory's main content presented earlier—he was clearly explaining how the basic functions of his system determine the properties of an equilibrium state. That state is, of course, a state of “equilibrium” only in the sense that the economy settles down in it given the characteristics of the markets: nevertheless, despite Patinkin's criticism of this terminological practice [35], I find it useful so to interpret the concept of macro-equilibrium in the present analysis. Also, what Keynes does in Chapter 10 with the Multiplier is to explain the distinction between (1) the validity of the

formula
$$\frac{dY}{dI} = \frac{1}{1 - \frac{dC}{dY}}$$
 as the expression of a relationship be-

tween equilibrium states with different values of I and thus with different Y and (2) the possibility of deriving that formula as the limit of a geometric progression which unfolds itself in the course of the dynamic process described earlier by Kahn [24]. Keynes was obviously using the concept in the first of these

two senses. Indeed, in the *General Theory* he derived the formula without bringing in the "dynamics" reflected in the geometric progression that had been formulated by Kahn several years earlier. The comments Keynes added thereafter were intended to avoid the confusion that could be caused by a lack of understanding how Kahn, on the one hand, had arrived at the formula and how Keynes, on the other hand, was deriving it in his book in 1936. The formal apparatus of the book is that of an equilibrium theory, given the specific market characteristics described in the analysis.

Yet to follow through on the distinction between a theory of macroeconomic equilibria and the supplementary observations on disturbed paths does raise two problems calling for explanation before we turn to our detailed discussion.

(1) In the first place, there exist obvious reasons why at present a relatively "rigorous" analysis of macro-equilibrium cannot guide us if our approach does not also include a more loosely knit analysis of disturbed paths. We must start conditioning the price level expectations to policy objectives in a significantly disturbed state of the economy. Here the fact that we do not possess a rigorous theory of such paths does, of course, create a difficulty. The policy makers can overcome this difficulty only by developing a strategy about whose success past experience justifies a good deal of confidence even if it does not justify unconditional faith. Our substantive conclusion from this will be that if the best available strategy will not be used or if (contrary to reasonable expectations) the markets will destroy themselves by not responding to that strategy, then we will be moving towards comprehensively and uncomfortably controlled political and economic units. The strategy that must be employed for us to have a good chance of avoiding this outcome is one that has been used in all past stabilization efforts after major inflations, and that was used successfully in the United States even in the relatively recent past. It is a credible demand-management strategy which in the neighborhood of a normal growth path generates no more aggregate demand than is required for the normal growth rate of the economy, given the price level behavior to which the markets have become conditioned. More-

over, it is a strategy that calls for moving consistently toward this objective if the initial point of departure happens to be located at a considerable distance from the normal path. A theory of macro-equilibrium must postulate consistent conditioning of the markets' price level expectations in this sense. *The outlook for success of the conditioning effort cannot be read from statistical samples drawn from periods of a demand management which was lax and was generally known to be lax.* Such periods belong in a different world. The point is that we need to move out of that world, and that we can succeed in moving out of it only if we can convince the public that we shall persist in our effort.

The fact that we must move out of a different world to arrive in the neighborhood of macro-equilibria provides one reason that the general theory of such equilibria can be applied only in conjunction with looser approaches relating to disturbed states of the system.

(2) Secondly, even if we are considering an economy already located near its normal growth path, we must ask ourselves the technical question what it means to formalize a piece of analysis for states of macro-equilibrium if the formal framework ceases to be applicable when the system moves out of that state, so that a rigorous theory needs to be supplemented with much looser analysis. The two ways of looking at the world must touch somewhere, and one needs to see how they touch.

Any set of relations describing a state of macro-equilibrium inevitably implies information of a limited sort about what happens when the equilibrium requirements are not met and the system is out of equilibrium. Yet all that is inevitably implied in a theory of macro-equilibria, jointly with the requirements for equilibrium proper, is a description of what may be regarded as the first stage of the development that takes place when an economy ceases to satisfy the equilibrium conditions. For example, it may be inferred from the summary of the formal framework in Chapter 18 of Keynes's *General Theory* that if income has been overestimated by consumers then consumption will turn out to be higher (savings lower) in relation to realized income than would be suggested by the consumption function. Moreover, it may be inferred that if at the same time investors