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Alternative Macroeconomic Models



by

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"These are troubled times for macroeconomics, both theory and application to policy."

James Tobin, Asset Accumulation and Economic Activity (pviii)

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I. Introduction: The Spectrum of Economic Theories

Progress in a scientific discipline takes place as new theory is created in response to inadequacies of inherited theory that are made evident by experience. Some twenty years ago Tobin would have gloated (he did in his Noel Buxton lecture at Essex University in 1966)⁽¹⁾ that macroeconomic theory was in good shape, for it provided society with powerful tools for projecting how the economy would behave under various policy scenarios. With theory in good shape, policy makers, who had the good sense to listen to economic theorists, were able to take steps to guide the economy along a preferred and satisfactory path.

~~Over the past fifteen years~~ For well nigh ~~two~~ ^{three} decades the analytical and policy regime that ruled the roost in the early 1960's has exhibited evident shortcomings. As the theory that was ~~successful~~ ^{the guide to policy} in the 1950's and 60's was ~~used to guide policy~~ ^{applied} in the 1970's ~~the~~ ^{and 80's} results fell short of what had been achieved in the earlier epoch. ~~For more than a decade policy has been unsuccessful, for the performance of the economy has been unsatisfactory.~~ ^{with} ~~policy was unsuccessful~~

~~The~~ Observed relations between policy actions and the performance of the economy can be interpreted as ^{if they were} the results of scientific experiments. The results of recent past experiments have not conformed to scenarios deduced from the theory, so that a rational scientist's belief in the validity of the theory that led to the scenarios would decrease. Thus, these are troubled times for the macroeconomics that ruled in the 1960's, even as they may be good times for economists who are willing to engage in the quest for new theory. The time has come for economists to at least be willing to contemplate sloughing off the skins of inherited theory.

The critical performance characteristics of the recent past that belie the validity of the neo-classical macroeconomic theory of the 1960's are

- (1) The cyclical turbulence,
- (2) The intermittent ^{crises} threats of financial crises that led to lender of last resort interventions by the Federal Reserve,
- (3) The decrease in the statistical artifact--the rate of growth of G.N.P.
- (4) The ^{trend of} stepwise rising unemployment rates ~~in the intervals between the threats of financial crises,~~ and
- (5) The ^{trend of} stepwise rising inflation rates, ~~in the same intervals.~~

These performance characteristics yield the data that theory needs to explain. ²
 The hope underlying the quest for "new theory" is that inferences from a theory that explains the recent unsatisfactory behavior will indicate policy interventions that can constrain or eliminate undesired performance characteristics.

A crisis in theory changes the questions economists must address. When theory is in "good shape" the problems of a discipline are to make things more precise and to apply existing theory to new problems. When theory is troubled questions as to what theory is to deal with and how theoretical problems are to be attacked move to the fore. Furthermore, when theory is in "crisis," new breeds of theory as well as old breeds in new dress appear: the discipline has a spectrum of theories from which to choose and a bewildering ^{array} ~~number~~ of alternative actions are suggested to policy makers. In disciplines unencumbered by ideology the competition among theories leads to a deeper understanding of the subject. In disciplines where ideology clutters up the landscape, disarray in theory opens the door to policy quackery.

Ever since scientific economics began two quite different "big questions" have concerned economists. Economists have undertaken to understand why coherence rules in an economy, even though there is no coordinator of the behavior of units; units behave under no guiding principle

but self-interest (within constraints imposed by effective law). Economists have also undertaken to explain why one country is richer or poorer than another ~~for~~ why the richness of a country varies with time).

The demonstration that coherence results from decentralized decisions follow from the structuring of economic theory in terms of markets. The insight of genius on which this theory rests is that the economy can be understood by assuming it is ^{analogous to} like a village market. The second problem, to explain differences in ^{"richness"} wealth, is answered in terms of differences in the physical capital stock, i.e., in the results of accumulation. The central problem of economics from this viewpoint is to explain accumulation and how accumulation affects the course of the economy.

Smith. missing + missing coherence as if by hand

What about utilization of existing stock?

The two problems--coherence and accumulation--lead to the major differences among economic theories. One line of development of economic theory--the neo-classical wing--extends the arguments and analytical techniques based upon the analogue of an economy with a village ^{market} fair to more complex situations which entail production as well as trade, the determination of absolute as well as relative prices and accumulation as well as the utilization of existing resources. The research program in these theories is to extend the equilibrium results derived for ^{exchange} trade to production and accumulation.

This may be true, but it's relevant is not obvious in this paragraph

Note that the basic theory of the Keynesian neo-classical synthesis Friedmanian "monetarism" and Keynesian neo-classical economics are the same.

The explanation of differential richness or of the course of richness over time centers around the processes by which resources are created and sustained. The standard economist explanation of the course of richness emphasizes the capital asset endowment of an economy (capital assets are produced inputs in production processes). "What determines the amount and the direction of capital asset creation?" is the central question for economics if it is to explain richness, either among economies or in an economy over time.

Again, I see the idea as two-pronged: 1) Creation of new production capacity 2) Utilization of existing capacity

I'm not sure that is correct, even though it is the approach used in neoclassical theory

Whereas the analysis of trading can be treated without attention to specific institutional details and the processes can be conceived of as "reversible," so that time can be ignored, accumulation processes are dependent upon mechanisms that are used to free and gather resources for the production of capital assets and the circumstances under which capital assets are used. Because accumulation takes time, results are from decisions undertaken with the future in mind and are validated or repudiated by later events. The economics of accumulation, or of resource creation, must deal in an explicit way with the path of the system in historical time. Furthermore, the institutional structures, such as banks and corporations, which lead to dated relations among units are an essential attribute of the accumulation process, in the sense that the path of the system over time, the very pace of accumulation, depends upon the structure of dated relations. In particular under capitalist conditions the accumulation process depends upon the ways economic activity is financed. This means that banks and the ways in which money is created, are central to the economy. Whereas resource utilization economics can be characterized as viewing the economy from the perspective of exchanges at a village fair, the resource creation economics for a capitalist economy can be characterized as viewing the economy from the perspective of deals that are made in the board rooms of investment banks.

How?

Asymmetry in not their optimistic that the allocation issue is adequately settled in the "willingness" world

Therefore, one central difference between the economics of resource utilization and the economics of resource creation is in the role of money.

In models set up to explain resource utilization money is a medium of exchange exchange and that has the sole function of setting the nominal prices on current output where money also may reduce transaction costs. Composition and relative prices are independent of money.

In models set up to explain resource creation money arises in the process of financing investment and ownership (positions) in capital assets. Money, in some versions of the resource accumulation paradigm, is created as part of the

Criticism re money has no price

mechanism by which accumulation is forced.

There is another aspect in which the two approaches differ. Economic theories which first examine resource utilization show that consistent or equilibrium outcomes result from market processes. Economic theories which emphasize accumulation tend to show that stresses and strains and even inconsistent or contradictory results emerge. These "strains" lead to either breakdowns of "coherence," or ~~to~~ a need for policy interventions.

the maintenance of coherence by institutional rigidities and conventions

II. "Coherence Based" Macroeconomic Models

Although the contrast between economic theories that emphasize that market processes yield a coherent utilization of given resources and those that emphasize accumulation may result in incoherence existed before Keynes, macroeconomic models can be differentiated by the way Keynes is interpreted and the weight given to Keynes's insights with respect to the significance of financial markets under capitalist conditions. The pure "classical" model of the textbooks is a statement after Keynes of some pre-Keynesian views, nevertheless it is a good starting place for a journey through models that are based upon the "coherence" paradigm.

The structuring of the economy in terms of markets, in which supply and demand relations are used to show how consistency or coordination is achieved, is the basic analytical device of the economics of resource utilization.

These supply and demand relations are derived ~~from~~ ^{by combining} explicit preference ^{and exogenously given} systems, production relations and maximizing behavior. In particular any

unit's supply of labor is a function of the rewards that can be achieved and any unit's demand for labor is derived from profit payoffs from using labor.

In this view the supply and demand for labor, as functions of the real (price level deflated) wage determine employment and real wages. Given the

"production relations," employment determines output. The ^{allocation} distribution of output among different productions is determined by relative prices. In particular "the interest rate" is the term of exchange between current input to production and future output and between current forgone consumption and future consumption. These relations determine saving and investment and the equating price, the real interest rate. This pre-Keynesian model is augmented by the quantity theory of money, which yields ^{observed money} the ~~price~~ ^{price level}.

Assuming all transactions are feasible that satisfy budget constraints

Along with the inherent capital stocks

This is essentially a GE model + the quantity equations of exchange

The basic attribute of the pre-Keynesian model is that labor market equilibrium is the dominant income determining relation. The dominance of "the" labor market is characteristic of the neo-classical macroeconomic model.

The standard version of Keynesian macroeconomics starts from the 1937 Hicks IS and LM formalization. This was modified by Patinkin in 1956 and Modigliani in 1963. These later models interpret Keynes as an interdependent market ~~equilibrium~~ system, which determines a simultaneous equilibrium in commodity, money and labor markets.

In the Hicks version the IS curve is the locus of all interest rates and incomes for which the commodity market is in equilibrium and the LM curve yields interest rates and income combinations for which the money market is in equilibrium. Their intersection determines the income and the interest rate which simultaneously equilibrates the two sets of markets. The IS curve of Hicks embodies a negatively sloped demand function for investments, which was not in any essential respects different from the negatively sloped investment function in the pre-Keynes classical model.

The IS-LM curves yield aggregate demand, which is transformed by an employment function into a demand for labor. that is inelastic with respect to the wage rate. Employment might very well fall short of what labor is willing to supply, but within this model there are no market processes at work that would, by their operations, remove the unemployment. Because Hicks' model entailed the possibility of unemployment, it opened the logical question of why excess supply in labor markets did not set forces to work that would eliminate the excess supply.

At this point the Marshallian nature of Keynes's analytical perspective can be introduced. Keynes set up a system of interdependent markets in which

own market reactions lead to shifts in the demand and supply relations in other markets (disrupting other market equilibria) which in turn feed back to the initial market, shifting demand and supply relations. In this complex of changes, ^{along} ~~within~~ relations and ^{by} ~~shifting~~ relations, the possibility always exists that the ^{adjustments set off by} ~~repercussions~~ of an initial disequilibrium will make things worse, not better. There is no presumption that once a displacement occurs market processes lead to the initial or to any other equilibria defined by intersections of supply and demand curves. "Why should repercussions be damped out when intermarket relations are taken into account?" is the question at issue, and the answer depends upon shift patterns as the various own market reactions take place. In any complex of intermarket relations induced shifts that can be too great prevent any straight forward equilibrium result from being deduced from "curves" with appropriate slopes.

If "normal" neo-classical supply and demand for labor functions are introduced along with the aggregate demand determining functions of IS-LM, then two quite independent "determinations" of output and employment ~~can~~ exist: One derived from ISLM and the second derived from the labor market. In the hands of Pigou, Scitovsky, Patinkin and Modigliani, this problem was resolved by making the consumption (or savings) propensities of the economy a function of wealth as well as income. In particular, in Patinkin, Modigliani and later Friedman, a price level ^{← generated by labor market disequilibrium} decline, by increasing monetary wealth, leads to a rise in consumption. In this way, even if the own market reactions to a decline in wages do not lead to a return to "full employment," intermarket reactions, which take the form of an equilibrium facilitating shift in consumption, will lead the economy back to full employment.

Even within the simple real balance augmented Hicksian model, where

Equilibrium
is not stable

PL → D
⇒ Ass Demand
is downward
sloping

movements of money wages affects consumption spending in an equilibrium facilitating way, the arbitrariness of the assumptions are evident.

The IS curve is an amalgam of a consumption and an investment function. If a fall in money wages increases consumption because of a real balance effect it is necessary to inquire what effect a fall in money wages has upon investment demand and the relations that enter the LM function. The Patinkin equilibrium, which shifts aggregate demand so that the labor demand derived from aggregate demand becomes equal to the labor demand and supply equilibrium as derived from the labor market, is a very tenuous result.

In the post-war era mathematical economists succeeded in demonstrating in quite rigorous ways that decentralized markets in which only prices convey information will yield a coherent, or even a conditionally best, result. This striking result was shown to hold under very stringent conditions, but it was taken to mean that the market processes underlying macroeconomic relations would tend to generate and sustain full employment. As a result neo-classical macroeconomics increasingly took the form of highly aggregative models in which the distinction between investment demand and consumption demand was often blurred.

Because the pre-Keynesian classical economics can explain prices but not unemployment and the Hicksian model of Keynes can explain unemployment but not prices, both sets of models need to be augmented. The pre-Keynesian models are augmented by ^{either} "St. Louis" type relations in which changes in money lead to changes in money income ^{and} but the "initial" adjustments lead to a change in output and employment (either up or down as the case may be) but the "ultimate" change is that ^(long run) unemployment returns to its natural rate and ~~is~~ the money supply increase is ~~is~~ reflected in prices. The Hicksian model is

or by a "rational expectations" format in which random (i.e. unexpected) shocks to money (or deposits) lead to

Standard
argument is
that PL \Rightarrow
MY \Rightarrow LM
shifts right

Nuclear

Aggregate Supply
relation

augmented by a Phillips curve which, while not as powerful as the quantity theory, relates changes in prices to unemployment rates. As "inflationary" expectations are built into the Phillips curve, the resulting market behavior leads to transitory output and employment effects and "permanent" price level effects. In both the augmented pre-Keynesian and Hicksian models, employment and output, as derived from labor market relations, ultimately dominates.

Throughout the development of resource utilization macroeconomics assumptions about knowledge about the future were introduced whenever investment or savings were discussed. The permanent income hypothesis implicitly assumes agents know their owned resources and the productivity of these resources. Given ^{this} knowledge of the ~~expected performance of~~ ~~the economy~~ agents know the incomes they will receive when the economy is functioning normally and can plan consumption paths through time ^{by assuming that such normal functioning will rule "most" of the time.}

The rational expectations versions of pre-Keynesian and Hicksian macroeconomics assume not only that agents form expectations on the basis of weighing knowledge ^{in the form of experience} but also that their knowledge includes a specific ~~robust~~ ^{the acceptance of which is robust with respect to experience} theory of system behavior. ^{adjusted} This robust theory has the economy seeking and sustaining an equilibrium consistent with the "institutionally affected" ^{agents believe that} natural rate of ~~un~~employment: i.e., economic variables are determined by production functions and preference systems. Furthermore the course of policy is fully anticipated, for decision makers are aware of the theory that guides policy molders. One ^{implication} ~~conclusion~~ of the rational expectations ^{new classical economic} ~~argument~~ is that if the normal functioning of the system usually yields an unsatisfactory state and if policy following some rules results in a satisfactory state then as the "actors" learn the policy rules, ^{this} policy is no longer able to induce satisfactory ^{success is at best transitory} performance; However, this unhappy conclusion is not the typical

Normal here means optimal choices of agents given existing information and in the absence of intervention

conclusion of the "rational expectations" economists. They typically hold that the outcome in the absence of policy is satisfactory and policy can only lead to a transitory derivation from the equilibrium determined by "basic relations."