

## THE FUTURE OF KEYNESIAN ECONOMICS

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All these anniversaries are hard on old men. Three years ago it was the 100th anniversary of Keynes's birth, also Schumpeter's birth and Marx's death. Last year it was the centenary of the American Economic Association and the semi-centennial of the Social Security Act. This year is the 40th birthday of the Employment Act and the Council of Economic Advisers, as well as the golden anniversary of the **General Theory**, which we are observing here.

I note with some sadness that most of these zero mod 10 celebrations are occurring when the persons and institutions being remembered are not in great repute in the profession and the larger society. That gives these occasions an antiquarian, nostalgic, and apologetic character, and probably explains the advanced age of most of the commemorators. I would really have liked some 28-year old to address on the subject I have been assigned; he or she will have a lot more to do with the future of macroeconomics than I.

The year 1986 is something of an anniversary for me too. I started studying economics as a college sophomore in 1936, and because my young tutor in Harvard College didn't know any better I cut my teeth on the **General Theory**. Some people think I learned nothing since.

### REVOLUTION, COUNTER-REVOLUTION, AND SYNTHESIS IN MACROECONOMICS

Does Keynesian economics have a future? Observing the profession, I see signs that its recession has "bottomed out," that some slight recovery has occurred. We should not expect recovery to the **status quo ante** 1968. That's not how intellectual cycles work. We do learn something from these swings, and new syntheses replace both the previous antitheses. The so-called neoclassical neoKeynesian synthesis of the 1950s and 1960s differed from the neoclassical macroeconomic orthodoxy against which Keynes revolved and from the Keynesian revolution vintage 1940 as well. Today's new classical macro is not only a counter-revolution against the previous orthodox synthesis but an improved version of pre-Keynesian orthodoxy. Macro will never be the same as before Keynes, or as before Lucas.

The cycles in professional economics run parallel to fashions in politics and public opinion. Both are greatly influenced by salient events and simplistic explanations. The parallel is not reassuring to a profession with scientific pretensions. Keynesian theory and policy, as embodied in

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the synthesis mentioned above, were riding high in professional and public esteem during the mid 1960s, thanks to the general euphoria about national economic performance. Subsequent inflation and stagflation brought massive swings to monetarism, new classical macro, and even supply-side economics.

However, the recessions after 1979, in America and Europe both, seemed to discredit the new classical-new monetarist view that disinflation will not be very painful or take very long if monetary contraction is preannounced to be firmly irreversible. The stagnation of Europe throughout the 1980s under orthodox anti-Keynesian policies and the apparent potency of fiscal policy as demand stimulus in this country also breed doubts even among young theorists. At a more scientific level, new classical propositions have not passed econometric tests. Many macro economists today think that Keynes is not good theory but that good theory doesn't fit the facts. It remains to be seen how economic science will escape this impasse.

#### NEW CLASSICAL BUSINESS CYCLE THEORIES, REAL AND UNREAL

One reason Keynesian economics has a future is that rival theories of economic fluctuations do not.

The controversies of recent years focussed on the inertia of nominal prices and wages and their rates of change, on the irrationality of adaptive expectations or of implicit or explicit contracts without complete indexation, on the Phillips curve and the reality and durability of the policy tradeoffs it once seemed to offer. The Lucas "supply curve" offered an interpretation of Phillips-type statistical correlations that denied any real potency to monetary policy beyond those arising from monetary surprises leading to transient misperceptions of relative prices. Those failures and asymmetries of information were constitutionally too weak to support a theory of business cycles adequate to the stylized facts. You don't hear much about this kind of cycle theory these days. Indeed the old short-run Phillips curve seems to have risen from the ashes.

In case you have forgotten this new classical business cycle theory, the summary in Appendix A may refresh your memory.

New classical macro has had right along an alternative theory of business fluctuations, "equilibrium" or "real" business cycle theory. Cycles are just the appropriate movements incident to the economy's fully-informed intertemporal general equilibrium. Money and other nominal variables are an irrelevant sideshow. The current preoccupation of new classical theorists and econometricians is to show how a purely real theory can account for the stylized facts.

In case you need a little briefing on this kind of business cycle theory, I have included a capsule version in Appendix B.

Ironically, I have reflected, Keynes also had a purely real equilibrium theory, only his equilibria were demand-constrained under-employment situations. Preoccupation with the issues raised by the stickiness of nominal wages and prices in Keynes leads many modern economists, especially

those who never read the book we are celebrating this year, to overlook Keynes's second argument about money wages. He asserted that flexibility of money wages would not remedy unemployment. There could still be deficiencies of aggregate demand in a world of wage and price flexibility. He used a very classical argument, namely that real demand should be independent of absolute prices. Early Keynesian cycle models were non-monetary, and that is why they were criticized and went out of fashion. They did allow scope for policy, i.e. real fiscal demand stimulus, and in this respect of course they differ from the new classical models, in which labor markets are clearing all the time.

Interest rate and wealth effects apparently refute Keynes's neutrality argument. But those effects may be too weak to overcome the destabilizing expectational effects of price flexibility on aggregate demand. Deflation and even disinflation have negative effects on demand while they occur, effects that can be avoided only if nominal wages and prices jump to equilibrating values. Of course, the introduction of dynamics abandons Keynes's pretension to an equilibrium theory of unemployment. I personally do not regret that. Some years ago I set forth simple "Keynesian models of recession and depression," in which flexibility of prices could not avoid prolonged periods of unemployment in disequilibrium, or even guarantee the global stability of the full employment equilibrium.

I hazard the prediction that neither of the two species of "business cycle theory" offered by new classical macroeconomics will be regarded as serious and credible explanations of economic fluctuations a few years from now. Whatever cycle theory emerges in a new synthesis will have important Keynesian elements. I will return later to a related but somewhat different theme of the **General Theory**, and to its relevance to the anti-Keynesian counter-revolution: the dependence of short-run aggregate demand on long-term investments whose outcomes are intrinsically unpredictable even as to probabilities. But first I want to make some comments on the methodological side of the new classical counter-revolution.

#### THE "MICROFOUNDATIONS" METHODOLOGY OF MODERN MACROECONOMICS

The **General Theory** founded macroeconomics as a distinctive topic of theory and empirical inquiry. It established general equilibrium modeling as the way to study business cycles, monetary and fiscal policies, and other economy-wide events. Of course, this was lowbrow general equilibrium theory. Macro models took many shortcuts, made many simplifying assumptions; its structural equations were not necessary implications of highbrow general equilibrium theory, as set forth by Walras or later by Arrow and Debreu. Neither did they, as a general rule, violate the canons of such theory; I believe, though I will not argue the case here, that even sticky money wages can be defended from the charge of "money illusion." The shortcuts and simplifications were and are inevitable costs of getting interesting and testable propositions, of which fullblown general equilibrium is virtually empty.

From Keynes on, macro model builders relied on the standard paradigms of neoclassical theories of the behavior of individual agents in specifying

their behavioral equations. If you doubt that, I recommend that you re-read, or read, Keynes's chapters on the propensity to consume; I doubt that any aspect of consumption and saving behavior which students of the consumption function have raised in its fifty-year life is not foreshadowed in Keynes's initial discussion. But Keynes and his successors had to use and did use information and hypotheses about behavior other than the implications of optimization theory. First, they could appeal to empirical observation, or to hunches about plausibility, to place restrictions on individual behaviors. Second, aggregate relationships are the results of diverse behaviors of multitudes of individual agents; a structural macro equation combines assumptions about individual behavior and assumptions about aggregation. Third, macro modelers inject some realism about the institutions and economic structures of the economies they are describing. Those economies did not, do not, conform to the assumptions of highbrow general equilibrium, for example perfect and complete competitive markets. Pure theorists naturally found macro models aesthetically unappealing and intellectually confusing. But whom do the pure theorists consult at departmental lunches when they become, like other newspaper readers, curious about budget deficits and trade deficits?

"Microfoundations!" was the rallying cry of the methodological counter-revolution against Keynesian economics, really against all macroeconomics. Its protagonists complained of the absence of explicit derivations of macro behavioral equations from optimization; they proposed to build a new macro solidly and clearly based on individual rationality. Only relationships with those microfoundations, they said, could be expected to be stable over the range of applications -- not just forecasts but also conditional forecasts of the effects of policy interventions and other exogenous variations -- to which macroeconomics aspires. This counter-revolution has swept the profession until now it is scarcely an exaggeration to say that no paper that does not employ the "microfoundations" methodology can get published in a major professional journal, that no research proposal that is suspect of violating its precepts can survive peer review, that no newly minted Ph.D. who can't show that his hypothesized behavioral relations are properly derived can get a good academic job.

After fifteen or twenty years of this methodological counter-revolution, where do we stand? What you gain on the swings you lose on the roundabouts. Aggregation is a tough problem, so it is just finessed. It's easy to display explicit microfoundations when you assume the whole private economy can be represented as one agent (or in the second semester as two who differ only in age and endowment). This agent, or the multitude of identical agents, operates in competitive markets with flexible prices, but of course there are no transactions in these markets (except in the second semester once every two-period lifetime.) The immense volumes of transactions we actually observe in markets for assets and commodities are simply not explained. No heed is paid to all the problems of coordination and communication which concerned Keynes and other macro theorists -- the differences between savers and investors, lenders and borrowers, bulls and bears, risk-lovers and risk-aversers, and so on.

Why this "representative agent" assumption is a less *ad hoc* and more defensible simplification than the dirty constructs of earlier macro mode-

lers, and of today's macro-econometricians, is beyond me. I note some biases to which this methodology leads. The single-agent abstraction makes social welfare identical with the welfare of the individual agent. It excludes by definition any discrepancies between individual and social optima, in particular the deadweight losses due to involuntary unemployment, the market failure that motivated macroeconomics at its origins fifty years ago. The methodology treats government as an alien player in a two-person game with the anthropomorphic private sector, a game in which the government incomprehensibly tries to throw the private sector off its optimal solution while the private agent tries to outwit the evil or idiot policy-maker. These biases work in a conservative and Panglossian direction, a political implication not present in abstract highbrow general equilibrium theory or asserted by its wiser architects and practitioners.

I exaggerate. An increasing number of theoretical papers using the new methodology attempt to model setups in which things do not work out for the best and in which government may even play some beneficently corrective role. I note however that this role is seldom a Keynesian one, because the distortion the government can correct is seldom a failure of markets to clear. Moreover, because of the methodology those papers use they are, like the ones that glorify the invisible hand, logical exercises rather than models that seriously try to describe real-world economies.

In journals, seminars, conferences, and classrooms macroeconomic discussion has become a babble of parables. The parables are often specific to one stylized fact, for example the correlation of nominal prices and real output in cyclical fluctuations. Their usual inability to fit other stylized facts appears not to bother the authors of papers of this genre. The parables always rely on individual optimization, across time and states of nature. They differ in the arbitrary institutional restrictions they specify, on technology, markets, or information. Why these are less *ad hoc* than the assumptions of old macro models, including Keynes's, escapes me.

Even the individual's optimization problem is simplified and specialized in the interests of analytic tractability. Utility and production functions take parametric forms. By convention, equations are linear or log linear or are so approximated. The whole point of "microfoundations" is to find stable relationships that survive policy variations, exogenous shocks, and the passage of time. But we have no basis for empirical confidence that an individual's utility function, for example, remains the same over his life, independently of his actual experience and environment. We certainly have no basis for assuming that a utility function with a constant rate of relative risk aversion is a stable basis for both intertemporal choices and choices involving risk.

Today there is a big gulf between academic macroeconomics and the macroeconomics oriented to contemporary events and policies. If you were running the Congressional Budget Office or the Council of Economic Advisers, who would be of more use to you, an expert teller of parables or a practitioner of old-fashioned IS/LM and of structural econometric models built in its spirit? The question answers itself. I think this gulf must and will narrow, and that is one reason I have hope for the future of Keynesian economics.

# THE UNCERTAINTIES OF A HIGH-INVESTMENT ECONOMY

I now return from methodology to substance.

When Keynes was writing, "equilibrium" in its complete and precise sense meant a repetitive steady state, indeed a stationary state without population growth and technical progress. Keynes observed that the propensity to save of an advanced capitalist economy was too high to permit a steady-state full employment equilibrium. There were two polar possibilities. One was to operate the economy with enough unemployment to reduce net saving to zero. (I note that it was this low-level steady state that Pigou contended could not be an equilibrium; his "Pigou effect" article was entitled "The Classical Stationary State.") The other was to operate the economy at full employment with positive net investment and a growing capital stock. Keynes thought this was a scenario full of uncertainties, for reasons I am about to review.

First, however, I remind you that Harrod as early as 1939 lifted this discussion from stationary states to states of steady growth. He rephrased Keynes's problem as an excess of the "warranted" over the "natural" growth rate. As in Keynes, that discrepancy arises from a high propensity to save. Following Keynes, Harrod alleged that in this situation full employment would eventually become unsustainable because growth of capital faster than output would bring the marginal efficiency of capital to, potentially below, the liquidity floor to interest rates. He thought that full employment with high investment was a situation of knife-edge instability, from which any lapse would trigger the downward accelerator-multiplier spiral, an idea spelled out in more detail by Goodwin, Hicks, and others. In the 1950s younger authors, including Solow and myself, wearing neoclassical hats, pointed out various ways in which this instability could be avoided. A point of agreement is that monetary policy would have to accommodate any decline in marginal efficiency of investment due to capital deepening; even if there were no liquidity trap, monetarism might well present a problem.

I note in passing that neither Keynes nor Harrod saw steady inflation as a way out of the liquidity trap. Why not? I think Keynes had the following reason: If there were an inflationary trend, money wages would become indexed. Then they wouldn't be sticky in the short run, and it would not be feasible to raise employment by price increases that reduce the real wage. Keynes thought of money wage stickiness as a desirable stabilizing feature of the economy.

Keynes's concerns about high national propensities to save do not, of course, seem as relevant today for the United States and for other mature economies. We have found ways to sustain public and private consumption. Those institutions and measures are in a macroeconomic sense Keynesian, although we who took part in the postwar synthesis were anxious to free Keynesian economics from the taint of bias towards consumption and against capital formation. Anyway, Japan and Germany and some other European countries still exhibit in the 1980s the high saving propensities that Keynes saw in the U.S. and U.K. in the 1930s; they also exhibit the tendencies to stagnation he observed fifty years ago.

I come to my main point. In contemplating an economy dependent for short-run demand on high investment and capital growth. Keynes had in mind a more subtle and sweeping point than the ones considered by the growth and cycle theorists I have just mentioned. A repetitive stationary state involves very little risk, and what there is is risk in the sense of Frank Knight, calculable by probabilities and in principle insurable -- one could also say calculable in the sense of J.M. Keynes's *Treatise on Probability*. Such a state Joseph Schumpeter called the "circular flow" and found unexciting. A high investment economy is necessarily traveling to *terrae incognitae*, with true Knightian or Keynesian uncertainty, distinguished from risk by the essential unknowability of the probabilities. The uncertainties come from new and untried technologies, factor proportions outside previous experience, and the dependence of the outcomes of current investment on the nature and size of future investment. All those uncertainties would be present even if full employment were perpetually maintained. They are compounded by the uncertainties of aggregate demand.

Keynes is quite explicit that the absence of complete futures markets leaves producers in doubt about future demands for their products. When a consumer skips lunch today in order to save for future consumption, she gives no signal to enable producers to prepare for her future consumption and to make the necessary investments. She saves in generalized financial form, completely free to decide later what goods she wants and when.

Attitudes, confidence, optimism, animal spirits affect investment when calculations are inconclusive. That is why Keynes thought investment was in large part exogenous, why he was not unreservedly sanguine about controlling investment by monetary policy via interest rates, and why he suggested that some central organization of investment might be necessary to stabilize capitalist economies. Perhaps he was thinking of something like the postwar French Plan, designed to enable the various sectors of the economy to schedule their investments within a common view of the macroeconomic future and with knowledge of the plans of their customers and suppliers. Maybe he was thinking of initiatives of coordination and planning like those of MITI and the other institutions of "Japan Inc."

A couple of summers ago I heard a leading younger macroeconomist describe Keynesian theory as "economics without expectations." That might be true of the fleshless formal models that some of us have used and taught. It is not true of the *General Theory*, where long-term expectations play a decisive role. What is true is that Keynes does not think these expectations can be endogenously generated, nor does he think that everyone has, or is compelled by logic and evidence to have, the same expectations of the same futures. Organized securities markets offer little guidance to entrepreneurs and managers, he says, because the dominant traders are oriented to short-term gains achieved by anticipating the opinions of other traders rather than to long-term fundamentals.

Keynes and Schumpeter were rivals; they disagreed on many things. They are alike in emphasizing that capitalist growth -- development in Schumpeter's title -- is qualitatively different from steady states or circular flows.

Can it be that a society would choose a steady state with permanently high unemployment to high-investment growth, preferring chronic underutilization to the uncertainties of full employment and the saving it would generate? It seemed unlikely until the mid 1970s and the 1980s. But Western Europe seems to be a case in point. Dominated by Germany, Europe chooses to channel its saving propensities to accumulation of secure claims against the rest of the world, the United States in particular, or to waste them in high unemployment and under-achievement, rather than to accept the adventures of domestic innovation and investment. The same can be said of Japan, where growth is below potential even though enviably high. In these countries the demand stimulus from exports, to the nations where they send their savings, is the only kind of demand stimulus comfortable and acceptable.

These low-level political, social, and economic equilibria are in an important sense Keynesian. But they are also maintained by some of the institutions Schumpeter foresaw in predicting the decay of capitalism, the excesses of the welfare state and of industrial relations that tend to turn cyclical Keynesian unemployment into classical and structural unemployment. Paradoxically the same conservative governments that appeal to those excesses and rigidities as excuses for the stagnation of their economies maintain them in force because they disarm the natural oppositions to their macroeconomic policies.

The United States is a different story. We are hardly a high-saving society in normal circumstances, and our conservative government has engaged in massive public dissaving. Thus we have created an outlet for some of the saving our friends abroad do not wish, or know how, to use. Infatuated with supply-side ideology, the Reagan Administration unintentionally adopted in extreme degree one of Keynes's remedies for high unemployment, high public and private consumption. Keynes would have regarded that as better than the chronic double-digit unemployment of the Europeans. But it certainly would not have been his preferred solution, because a much higher rate of domestically financed public and private capital formation was within our grasp. Keynes and Schumpeter both would have understood the lift of animal spirits brought by Reagan's Presidency, and the enthusiasm it engendered in the business community. Unfortunately the potential of that euphoria has been wasted in the bizarre mix of monetary and fiscal policies of this decade.

Yes, Keynesian economics has a future because it is essential to the explanation and understanding of a host of observations and experiences, past and present, that alternative macroeconomic approaches do not illuminate. Those include the bearing of uncertainties and expectations on economic activity. They definitely include business fluctuations, and fiscal and monetary policies.

## APPENDIX A

## ADRIFT IN THE ISLANDS

or

## Unreal Business Cycle Theory

She lies despondent on the isle  
And gazes at the sky.  
She'll be here just a little while.  
This travel makes her cry.  
She brought some coins, a tiny pile,  
Some coconuts to buy.

Coins are all that you can carry  
When you ride the islands' ferry.

Here too she sees the tall palm trees  
And shudders at their height.  
She'd rather lie and take her ease,  
But soon it will be night.  
And now she feels a quicker breeze.  
The choppers are in sight!

They drop some coins and fly away;  
They'll rain on all the isles today.

What money fell she cannot sense,  
So random is the Fed.  
Should she rest here and spend her pence?  
Or work and save instead  
For lazy feasts some islands hence?  
She tries to guess the spread

Of price from "rash'nal" expectation.  
Real int'rest equals price deflation.

Leon the psychic auctioneer  
Comes trudging o'er the sand,  
Cries out the price he says will clear  
The nut trades in this land.  
"Oh, will you sell or buy, my dear?  
What is your net demand?

Tomorrow bring your cash or goods."  
And then he hurries through the woods.

Old Leon's price seems pretty low;  
 A time to spend has come.  
 Her purse is thin -- she didn't know!  
 She'd been a lazy bum.  
 So up for nuts she'll have to go--  
 Though working here seems dumb,

She has to eat until the ship  
 Returns for yet another trip.

A dreary life a resident  
 Of Cyclic Islands leads.  
 She has no home, not e'en a tent,  
 She sleeps among the weeds.  
 Her willing unemployment  
 To overtime proceeds.

She does incessant calculations,  
 But all on faulty informations.

#### APPENDIX B

#### THE SHOCKING GAMES THE GODS PLAY

or

#### Real Business Cycle Theory

The gods they smile, the gods they frown,  
 Both Arma and Arima.  
 Like Jovian fire the bolts descend,  
 And then (corrected for its trend)  
 Real Y goes up or else goes down,  
 But never to extrema.

This process mortals know by heart,  
 Though not the innovations.  
 We work a while and then we rest,  
 Sometimes consume, some days invest.  
 We choose the times, we are so smart,  
 By rational expectations

All paper money's just a veil.  
 It doesn't really matter.  
 Let M grow fast, let M grow slow,  
 Be M-dot fixed or stop-and-go,  
 Gods and markets tell the tale  
 For leaner and for fatter.