

# The Evolution of Economics 1965-2015: A (Highly) Personal Account

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ECONOMICS at Princeton fifty years ago exemplified the Neo-classical Synthesis defined for a generation of students by MIT's Paul Samuelson. The field was divided into two domains. In Econ 102, rational microeconomic agents optimized their utility functions and maximized their profits under more or less perfect competitive conditions. In macroeconomics, however, things were messier, informed by the experience of the Great Depression when markets not only failed to clear but virtually collapsed, accompanied by persistent mass unemployment. How to think about and respond to such conditions had been defined by John Maynard Keynes of Cambridge in his work of 1936, *The General Theory of Employment, Interest and Money*. Samuelson's textbook brought the two domains together: neoclassical micro and Keynesian macro.

I summarize now what I came to understand more than forty years ago as a doctoral candidate at Cambridge University, drawn there by Keynes' posthumous but abiding magnetic power and my own interest in the intersection of economics and politics. Neoclassical economics concerns itself with analyzing how rational agents, endowed with relevant information, more or less efficiently allocate scarce resources. In this reading of the world, "time" is an ahistorical index of sequence that merely indicates the order in which events occur. Keynes's economics, on the other hand, explores the decisions (and the aggregate effects of those decisions) made by people who know that they do not and cannot know enough about the future, but who will nonetheless suffer the consequences of whatever they decide to do.

In Keynes's reading of the world, time past is problematically comprehended history, and time future is a world of contingency and chance—and at the core of a capitalist economy are investment decisions that incorporate that uncertain future. Whereas money is a "veil" in the neoclassical paradigm, behind which decisions about consumption and saving and investment are made in "real" terms, in Keynes' economics money is the essential hedge against future uncertainties: holding cash is the alternative to commitments that may be costly or impossible to reverse. As Keynes emphasized in *The General Theory*: "The outstanding fact is the extreme precariousness of the basis of knowledge on which our estimates of prospective yield have to be made."

Beginning in the mid-1950s, the "war of the two Cambridges" had animated the discipline. By the late 1960s, the war was over, unequivocally won by MIT and Harvard. Even to a research student in Old Cambridge this was clear. My interpretation—then and now—was that Paul Samuelson's neoclassical syn-

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thesis had accommodated the Keynesian revolution by sleight of hand. Success in the pursuit of economic efficiency by rational agents presumes that all available resources are fully employed at all times. Keynesian macroeconomic policy was invoked to ensure that such would be the case. The Keynesian revolution, far from entailing the reconstruction of the foundations of economics, served as a handy footnote.

The “Bastard Keynesians” of New Cambridge, as Keynes’s student Joan Robinson provocatively called them, had appropriated the mantle of Keynesianism while abandoning the ontological core of Keynes’s thinking. Some fifteen years after I left academia, Hyman Minsky summarized his indictment of Samuelson’s achievement: “the neoclassical synthesis became the economics of capitalism without capitalists, capital assets and financial markets.”

The compelling virtue of the economics of New Cambridge, however, was that its simplifying assumptions enabled the deployment of formal methods, mathematical models and quantitative techniques. Practitioners like Minsky, who did not make use of the toolkit, and topics that did not lend themselves to quantitative analysis and mathematical rigor were nudged to the sidelines. In 1994, Paul Krugman, meditating on the marginalization of the great development economist Albert Hirschman, recalled how maps of Africa evolved beginning in the fifteenth century, when distances and coast lines were inaccurate but the interior was rich in details, some real (the great city of Timbuktu), some imaginary (“men with mouths in their stomachs”):

Over time, the art of map-making and the quality of information used to make maps got steadily better. The coastline of Africa was first explored, then plotted with growing accuracy, and by the 18th century that coastline was shown in a manner essentially indistinguishable from that of modern maps. Cities and peoples along the coast were also shown with great fidelity.

On the other hand, the interior emptied out. The weird mystical creatures were gone, but so were the real cities and rivers. In a way, Europeans had become more ignorant about Africa than they had been before . . .

Between the 1940s and the 1970s something similar happened to economics. A rise in the standards of rigor and logic led to a much improved level of understanding of some things, but also led for a time to an unwillingness to confront those areas the new technical rigor could not yet reach. Areas of inquiry that had been filled in, however imperfectly, became blanks.

**S**AMUELSON’S Neo-classical Synthesis, in its macroeconomic avatar, honored the vastly increased scale and scope of the public sector that emerged from the Depression and World War II: the new welfare/warfare state. Through the post-war golden age of high employment and relatively egalitarian growth, the public sector had transformed the institutional architecture of the market economy and stabilized its internal dynamics. Nonetheless its legitimacy was challenged. The return of market fundamentalism gained momentum during the Reagan-Thatcher era of the 1980s and peaked as the World Financial Crisis of 2007–2009 began.

In its origins, opposition to intrusive Big Government was in good part a negative reaction to overreaching by political leaders, especially in Washington. There, Lyndon Johnson’s Great Society asserted the authority of the state across a broad frontier: to take up the abandoned struggle for civil rights; to establish Medicare as the first extension of the American welfare state since social security; and to initiate a limited and compromised War on Poverty. Both LBJ’s historic achievements and evident failures at home came to be read through the lens of the Vietnam catastrophe, as his liberal coalition dissolved.

The lesson from the failure of policy was critically reinforced by innovation in economic theory. Here the cause and context lay in the “stagflation” that followed the first global oil shock, of 1973, when the previously observed trade-off between inflation and unemployment—the Phillips Curve—appeared to collapse. As inflation and unemployment rose in parallel, what had been a standard guide to policy - indicating whether stimulus or restraint was in order—failed.

The apparent breakdown of the Phillips Curve created a historic opening for Robert Lucas of the University of Chicago. From the late 1960s, Lucas and his colleagues had been working to complete the neoclassical program by showing that rational agents operating in the markets of the economy would render any policy initiatives ineffective by appropriately shifting their behavior in response to the state's interventions. The expectations of those rational agents would dominate the purposes of the policy makers.

The assertion that expectations matter was, of course, as central to the economics of Keynes as it is to the economics of Lucas. For Keynes, expectations are necessarily "precarious" and behavior consequently unstable. For Lucas, expectations are defined to be "rational" in terms of the stationary neoclassical model of the world, in which all actors are assumed to share and which is asserted to be true. When participants in efficient markets are defined to exhibit "Rational Expectations", only unanticipated shocks can have even a transient effect on economic outcomes.

The theoretical appeal of the Lucas Critique reflected its insistence that macroeconomics be derived consistently from microfoundations. Rational Expectations themselves are internally consistent by definition, but that consistency is achieved at the expense of decoupling those who are asserted to hold them from the manifestly inconsistent and uncertain world in which human beings live. From the underlying microfoundations of rational representative agents maximizing their various utility and production functions as they consume and produce, Lucas's most aggressive colleagues constructed an alternative macroeconomics whose prime virtue was precisely its consistency with those rational expectations.

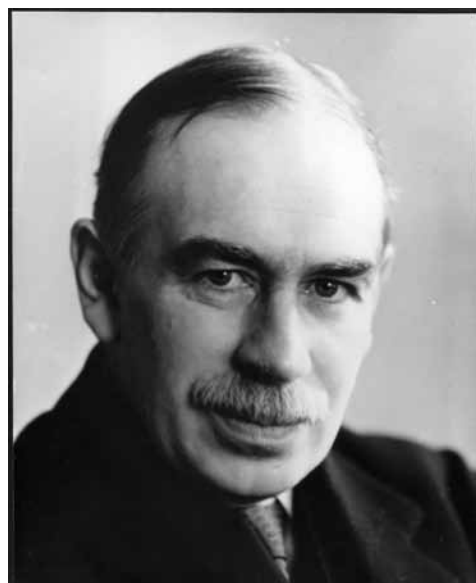
The macroeconomics constructed on Lucas's microfoundations allowed no scope for a financial system capable of generating endogenous shocks as bubbles formed, blossomed and burst. And its logic purported to demonstrate that no macroeconomic intervention by the state could have any sustained effect on the real variables of the market economy. Any intervention by the state could be expected only to introduce inefficient distortions to the equilibrium allocation of resources.

**H**ENCE arose the fatal undermining of the neoclassical synthesis of the "bastard Keynesians." To Keynes's followers in Cambridge, England, Paul Samuelson and his colleagues in Cambridge, Massachusetts, had skimmed the surface of Keynes's economics to invoke discretionary macroeconomic policy as capable of assuring that all resources could always be counted on to be fully employed. Now, the apparent failure in practice of Keynesian macroeconomic policy in the face of stagflation rendered Keynesian macroeconomic theory vulnerable to the charge of internal inconsistency.

Broad acceptance of the Rational Expectations revolution was reinforced by two other exercises in overreaching by those in charge of the state during the 1970s. In the United States, Richard Nixon imposed peacetime wage and price controls, an unprecedented exercise in opportunism that contributed to his landslide reelection in 1972. In the United Kingdom, later in the decade, the Labour Government then in power attempted to fend off inflation through an "incomes policy" that depended on voluntary restraint on the part of its allied labor unions. Both initiatives failed, and in failing, they legitimized the libertarian program to roll back the state, popularized most effectively by Milton Friedman and implemented to varying extents in Britain and America by the Thatcher and Reagan administrations.

There is a historical irony here whose significance extends beyond the realm of academic economic theory. At the time of the first oil shock, very few analysts and commentators—one of them was Richard Cooper of Harvard—correctly read the quadrupling of oil prices by the OPEC governments' cartel as a massive excise tax imposed on energy consumers in the advanced countries, industrial and residential alike. Radically augmenting already apparent cost-push wage inflation, it drove up the cost of doing business and, as producers sought to maintain profit margins, it also drove up prices and the cost of living. But it *was* a tax: cash was drained from energy-deficit economies, where the propensity to consume was high, and flowed to the underdeveloped producing states. So global aggregate demand was severely depressed. No wonder unemployment and inflation were observed to rise in tandem.

Reducing the impact of this tax depended on increasing the elasticity of demand and supply with respect to the price of energy—that is, increasing the efficiency of energy production and consumption. And that, in turn, depended on investment in new products and new processes, investment that was not forthcoming as the economy slumped while interest rates rose in line with inflation. Even with banks incentivized to work out how to recycle petrodollars back into the financial systems of the developed world and with the assistance of state initiatives such as minimum fuel standards for autos, this was the work of years. So the intellectual revolution that expelled the state from the market economy was legitimized by a willful misreading of the economic consequences of state action by OPEC. In turn, that misreading legitimized a rollback of regulation most decisively—and, it proved, disastrously—in the financial system. Those rational agents endowed with the knowledge of how the world works, could be relied upon to assure systemic stability as a consequence of their pursuit of their own self-interest.



*John Maynard Keynes*

**A** LONG, honorable and increasingly influential range of critiques has been trained on the Rational Expectations Hypothesis. Most productive has been the gradual integration of game theory with approaches to understanding human behavior from the other social sciences. This allows rigorous modeling of strategic behavior on the part of agents who understand that the outcome of their own behavior depends on the behavior of others. From within the discipline, Hashem Pesaran defined “The Limits to Rational Expectations” as long ago as 1987, when he focused on how the theory asserted that the probability of future events could be known and held constant:

It may be possible to defend the representation of exogenous uncertainty by means of stable probability functions . . . where individuals through their own actions cannot influence the data generating process. Unfortunately, the same cannot be said when the source of uncertainty is behavioral.

Nonetheless, the neoclassical counterrevolution has dominated academic economics. From it, two distinct strands of policy-oriented macroeconomics emerged.

The New Classical “freshwater” economists, principally located in the American Midwest, with the Universities of Chicago and Minnesota as home bases, rationalized a return to *laissez-faire*. Their Real Business Cycle Theory held that the friction-free, self-adjusting market system can be disturbed only by shocks from outside the system such as natural disasters or techno-scientific discoveries or the misguided interventions of the state. The so-called Great Moderation in macroeconomic volatility that prevailed during the 1980s and 1990s encouraged emergence of a macroeconomics which excluded the state save as a source of external disruption. Entirely ignored was the 30-year long, extraordinarily productive sponsorship by the U.S. Department of Defense of all the technologies—from silicon to software to the internet—that combined to generate the IT revolution and the already evident, revolutionary impact of biotechnology, similarly sponsored by the NIH.

Yet here is a second historic irony, fully comparable to the manner in which the first OPEC oil shock was mobilized to render macroeconomic policy illegitimate. For the Great Moderation was itself the result of repeated interventions by the institutions of big-state capitalism: then Fed Chairman Greenspan’s interventions in the Crash of 1987 and the Long Term Capital Management Crisis of 1998 and the end of

the Dotcom/Telecom Bubble in 2001 plus government resolutions of the savings and loan crisis at the end of the 1980s, the Mexican “Tequila Crisis” of 1994 and the “Asian Flue” of 1997. In turn, it was these effective actions by agencies of the public sector that served to underwrite the cumulative risk-taking in the financial institutions and markets of the private sector that finally exploded in the Global Financial Crisis of 2008.

In contrast with the New Classicals, the New Keynesians (or “saltwater” economists), typically to be found on the east and west coasts of the United States with roots in Cambridge, Massachusetts, and Berkeley, California, preserved an intellectual basis for state intervention in response to manifest macroeconomic shortfalls from optimal performance. As pragmatists, they incorporated frictions of various sorts, notably sticky prices and wages, into their models. In consequence, their models were able to demonstrate the inconsistent collective outcomes—the coordination failures characterized by unemployed resources—that are endemic to macroeconomic life.

**B**OTH New Classicals and New Keynesians, however, were united in only allowing money into their models to a very limited extent. The money supply was considered fixed, provided by the central bank from outside the system, rather than endogenously generated by the financial system. Consequently, their models made only marginal provision for the effect on the real economy of the relative availability and cost of credit. Critically, none of the macroeconomic models could account for how increased demand for cash in the face of heightened uncertainty decouples demand and supply. And thus they generally failed to anticipate the real economic consequences of the financial crisis of 2008: as late as the fourth quarter of that year they were predicting real economic growth in 2009.

The immediate effects of the crisis were, first, to discredit Real Business Cycle Theory and, second, to induce elaboration of the New Keynesian models by adding specifically financial frictions as further sources of disequilibrium. The first, I would assert, represents an unequivocal increase in the net sum of human knowledge. The second invites comparison with the ever more complex addition of epicycles to the pre-Copernican, Ptolemaic model of the solar system in the effort to keep the earth at the center of the universe despite accumulating empirical evidence to the contrary.

Especially where and when finance theorists and economists operate in close proximity to each other, as at Princeton, a more profound effort of the Global Financial Crisis and the Great Recession has gathered momentum. This entails reconstruction of the core of macroeconomics by drawing on innovative approaches to understanding behavior in the “peripheral” financial markets. Ricardo Caballero observes:

In the context of the current economic and financial crisis, the periphery gave us frameworks to understand phenomena such as speculative bubbles, leverage cycles, fire sales, flight to quality, margin- and collateral-constrained spirals, liquidity runs, and so on—phenomena that played a central role in bringing the world economy to the brink of a great depression. This literature also provided the basis for the policy framework that was used to contain the crisis.

The challenge remains: to construct integrated models of a financial economy whose participants both are aware of the limits and fragility of their own knowledge and condition their own behavior on that of others similarly aware. Thus, economics can evolve into the study of “coordination failures” as market participants—individually and collectively—pursue their own goals, generating inconsistent outcomes across the range of economic activity. Whether it will prove possible to establish the existence, let alone the persistence, of a general equilibrium from such realistic microfoundations remains an open question. Observing the historical record of our species, including the relatively few generations lived in the context of capitalism, one may wonder why theoretical pursuit of such a goal should even be deemed relevant!