

The failure of neoclassical economics

Goodbye, homo economicus

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Prospect, [April 2009 | 157](#) »

The economics profession must bear a lot of the blame for the current crisis. If it is to become useful again it must undergo an intellectual revolution—becoming both broader and more modest.

Was Adam Smith an economist? Was Keynes, Ricardo or Schumpeter? By the standards of today's academic economists, the answer is no. Smith, Ricardo and Keynes produced no mathematical models. Their work lacked the “analytical rigour” and precise deductive logic demanded by modern economics. And none of them ever produced an econometric forecast (although Keynes and Schumpeter were able mathematicians). If any of these giants of economics applied for a university job today, they would be rejected. As for their written work, it would not have a chance of acceptance in the *Economic Journal* or *American Economic Review*. The editors, if they felt charitable, might advise Smith and Keynes to try a journal of history or sociology.

If you think I exaggerate, ask yourself what role academic economists have played in the present crisis. Granted, a few mainstream economists with practical backgrounds—like Paul Krugman and Larry Summers in the US—have been helpful explaining the crisis to the public and shaping some of the response. But in general how many academic economists have had something useful to say about the greatest upheaval in 70 years? The truth is even worse than this rhetorical question suggests: not only have economists, as a profession, failed to guide the world out of the crisis, they were also primarily responsible for leading us into it.

By “economists” in this context I do not mean the talking heads and commentators (myself included) employed by the media and financial institutions to explain the credit crunch or the collapse of house prices or the rise of unemployment or the movements of currencies and stock markets—usually well after the event. Neither do I mean the forecasters whose computer models churn out scientific-looking numbers on future growth or inflation, numbers that have to be revised so drastically whenever something “unexpected” happens (as it always does) that they are not really forecasts at all but descriptions of recent events. An IMF study of 72 recessions in 63 countries found, for example, that in only four of these cases had economic forecasters predicted a recession three months or more before the event. Economic forecasters and pundits cannot predict the future for the same reason that weather forecasters cannot predict the weather—the world economy is too complex and too susceptible to random shocks for precise numerical forecasts to have any real meaning.

This doesn't mean that economics is useless, any more than unreliable weather forecasts should lead us to ignore Newton's laws of motion, on which they rely. But economics should recognise that, as a discipline, it cannot be about predicting, but is instead about explaining and describing. Smith, Ricardo and Schumpeter explained why market economies generally work surprisingly well, often in defiance of common-sense expectations. Others have explained why capitalist economies can fail very badly and what then needs to be done. This was the mission of Keynes, Milton Friedman, Walter Bagehot and, in his way, Karl Marx. And the economists who got us into this mess saw themselves as the self-proclaimed successors of these great theorists. Many of them are the academics who win Nobel prizes, or dream of winning them, and who regard themselves as intellectually superior to the journeymen who work for banks and governments, never mind the populist hoi polloi whose musings appear in newspaper columns or on television.

Academic economists have thus far escaped much blame for the crisis. Public anger has focused on more obvious culprits: greedy bankers, venal politicians, sleepy regulators or reckless mortgage borrowers. But why did these scapegoats behave in the ways they did? Even the greediest bankers hate losing money so why did they take risks which with hindsight were obviously suicidal? The answer was beautifully expressed by Keynes 70 years ago: "Practical men, who believe themselves to be quite exempt from any intellectual influence, are usually the slaves of some defunct economist. Madmen in authority, who hear voices in the air, are distilling their frenzy from some academic scribbler of a few years back."

What the "madmen in authority" heard this time was the distant echo of a debate among academic economists begun in the 1970s about "rational" investors and "efficient" markets. This debate began against the backdrop of the oil shock and stagflation and was, in its time, a step forward in our understanding of the control of inflation. But, ultimately, it was a debate won by the side that happened to be wrong. And on those two reassuring adjectives, rational and efficient, the victorious academic economists erected an enormous scaffolding of theoretical models, regulatory prescriptions and computer simulations which allowed the practical bankers and politicians to build the towers of bad debt and bad policy.

It was, of course, always recognised that economies may fail to satisfy the conditions for "perfectly efficient" markets; that there are frequently "market failures" due to lack of competition, uneven disclosure of information, tax distortions and so on. But the emphasis on market failure by politicians, especially Gordon Brown, who wanted to justify government intervention, was itself a testament to a faith in rational expectations and efficient markets. For explicit evidence of market failure, whether in the form of anti-competitive collusion or false information or some other distortion, came to be seen as a necessary precondition for any interference with market forces. In the absence of such explicit evidence of market failure it was taken as axiomatic that competitive markets would deliver rational and efficient results. This is a point first made by John Kay in "The Failure of Market Failure," (Prospect, August 2007) and elaborated by Will Hutton and Philippe Schneider in a 2008 essay for the National Endowment for Science Technology and the Arts.

Which brings us to the causes of the present crisis. The reckless property lending that

triggered this crisis only occurred because rational investors assumed that the probability of a fall in house prices was near zero. Efficient markets then turned these assumptions into price-signals, which told the bankers that lending 100 per cent mortgages or operating with 50-to-1 leverage was safe. Similarly, regulators, who allowed banks to determine their own capital requirements and private rating agencies to establish the value at risk in mortgages and bonds, took it as axiomatic that markets would automatically generate the best possible information and create the right incentives for managing risks.

Equally pernicious were the new “mark-to-market” accounting methods that vastly exaggerated the boom. These allowed banks to declare ever-rising profits and pay traders huge bonuses, not out of gains actually realised by selling appreciating assets, but out of paper profits which assumed that Bank A could sell its assets in unlimited quantities at the last price recently achieved by Bank B. Of course, when the herd of banks that had previously been buyers of mortgages and other dodgy assets suddenly all turned round and became sellers, the paper profits created by “mark-to-market” accounting immediately vanished—but the bonuses and dividends that were paid out in real money, on the basis of these illusory profits, could not be so readily reversed. Today this same Alice in Wonderland accounting is working in the opposite direction—exaggerating the bust by forcing all banks to declare huge losses on the basis of fire-sale prices, which bear no relation to the true economic values of the assets involved.

A final event that turned crisis into disaster last year was the upsurge in oil and commodity prices. This too was linked to the faith in rational and efficient markets. The sudden escalation of oil and food prices in early 2008 was obviously a speculative panic, but governments around the world refused to understand this because of their assumption that the market is always right. Instead of introducing tighter market regulation to tame oil and food prices, governments and central banks assumed the commodity speculation reflected inflationary risks and responded by delaying interest rate cuts.

The scandal of modern economics is that these two false theories—rational expectations and the efficient market hypothesis—which are not only misleading but highly ideological, have become so dominant in academia (especially business schools), government and markets themselves. While neither theory was totally dominant in mainstream economics departments, both were found in every major textbook, and both were important parts of the “neo-Keynesian” orthodoxy, which was the end-result of the shake-out that followed Milton Friedman’s attempt to overthrow Keynes. The result is that these two theories have more power than even their adherents realise: yes, they underpin the thinking of the wilder fringes of the Chicago school, but also, more subtly, they underpin the analysis of sensible economists like Paul Samuelson.



The rational expectations hypothesis (REH), developed by two Chicago economists,

Robert Lucas and Thomas Sargent in the 1970s, asserted that a market economy should be viewed as a mechanical system that is governed, like a physical system, by clearly-defined economic laws which are immutable and universally understood. Despite its obvious implausibility and the persistent attacks on it, especially from the left, REH has continued to be regarded by universities and funding bodies as the most acceptable foundation for serious academic research. In their recent book *Imperfect Knowledge Economics*, two American professors, Roman Frydman and Michael Goldberg, complain that “all graduate students of economics—and increasingly undergraduates too—are taught that to capture rational behaviour in a scientific way they must use REH.” In Britain too the REH orthodoxy has remained far more powerful than is often realised. As David Hendry, until recently head of the Oxford economics department, has noted: “Economists critical of the rational expectations based approach have had great difficulty even publishing such views, or maintaining research funding. For example, recent attempts to get ESRC funding for a project to test the flaws in rational expectations based models was rejected. I believe some of British policy failures have been due to the Bank accepting the implications [of REH models] and hence taking about a year too long to react to the credit crisis.”

Why did this abstract theory become so powerful and why is its influence still so damaging? The answer lies in the interaction of economics and political ideology. REH was originally developed by the Chicago disciples of Milton Friedman as a completion and entrenchment of the counter-revolution against Keynesian economics. REH posited a world in which Keynesian policies could never work because everyone had come to believe the monetarist doctrine that government spending would ultimately generate inflation—and because everyone believed this, they would follow their rational expectations by immediately raising prices and wages, thereby precluding even a transient increase in jobs.

Although there was never any empirical evidence for REH, the theory took academic economics by storm for two reasons. First, the assumptions of clearly-defined laws and identical expectations were easily translated into simple mathematical models—and this mathematical tractability soon came to be viewed as a more important academic objective than correspondence to reality or predictive power. Models based on rational expectations, insofar as they could be checked against reality, usually failed statistical tests. But this was not a deterrent to the economics profession. In other words, if the theory doesn't fit the facts, ignore the facts. How could the world have allowed such crassly unscientific attitudes to dominate a serious academic discipline, especially one as important to society as economics?

The answer lies, ironically, in the fact that economics is so politically important: the second great merit of rational expectations lay in its key ideological conclusion—that deliberate policies of macroeconomic stimulus by governments and central banks could never reduce unemployment and would merely exacerbate inflation. That government activism was doomed to failure was exactly what politicians, central bankers and business leaders of the Thatcher and Reagan periods wanted to hear. Thus it quickly became established as the official doctrine of the political and economic establishments in America—and from this powerful position it was able to conquer the entire academic world.

To make matters worse, rational expectations gradually merged with the related theory of “efficient” financial markets. This was gaining ground in the 1970s for similar reasons—an attractive combination of mathematical and ideological tractability. This was the efficient market hypothesis (EMH), developed by another group of Chicago-influenced academics, all of whom received Nobel prizes just as their theories came apart at the seams. EMH, like rational expectations, assumed that there was a well-defined model of economic behaviour and that rational investors would all follow it; but it added another step. In the strong version of the theory, financial markets, because they were populated by a multitude of rational and competitive players, would always set prices that reflected all available information in the most accurate possible way. Because the market price would always reflect more perfect knowledge than was available to any one individual, no investor could “beat the market”—still less could a regulator ever hope to improve on market signals by substituting his own judgement. But if prices perfectly reflected all information, why did these prices constantly fluctuate and what did such movements mean? EMH cut this Gordian knot with a simple assumption: market movements are meaningless random fluctuations, equivalent to tossing a coin or a drunken sailor’s “random walk.”

This anarchic-sounding view was actually very reassuring. If market movements were really like coin-tosses, they might be totally irregular in the short term, but very predictable over longer periods, like the takings of a casino. Specifically, the coin-tossing and random walk analogies could be shown to imply what statisticians call a “normal” or Gaussian probability distribution. And the mathematics of Gaussian distributions (plus what is called the “law of large numbers”) reveals that catastrophic disturbances are vanishingly unlikely to occur. For example, if the daily fluctuations on Wall Street follow a normal distribution, it is possible to “prove” that the odds of a one-day movement greater than 25 per cent are about one in three trillion. The fact that at least four statistically “impossible” financial events occurred in just 20 years—in stock markets in 1987, bonds in 1994, currencies in 1998 and credit markets in 2008—would by normal standards, have meant the end of EMH. But as in the case of rational expectations, the facts were rejected while the theory continued to reign supreme, albeit with some recalibration.

Why did such discredited theories flourish? Largely because they justified whatever outcomes the markets happened to decree—laissez-faire ideology, big salaries for top executives and billions in bonuses for traders. And, conveniently, these theories were regarded as the gold-standard by academic economists who won Nobel prizes.

So what is to be done? There are two options. Either economics has to be abandoned as an academic discipline, becoming a mere appendage to the collection of industrial and social statistics. Or it must undergo an intellectual revolution. The dominant research programmes must be recognised as failures and instead of using oversimplified assumptions to create mathematical models that purport to give precise numerical conclusions, economists must re-open their subject to a range of speculative approaches, drawing insights from history, psychology and sociology, and applying the methods of historians, political theorists and even journalists, not just mathematicians and statisticians. At the same time, they must limit their ambitions to explaining only what

the tools of economics allow you to understand.

Many such approaches—based on psychology, sociology, control engineering, chaos theory and even Freudian analysis—have been attempted. The most widely publicised recently has been behavioural economics. Popularised by Robert Shiller, the Yale professor whose bestselling book, *Irrational Exuberance*, is said to have predicted the dotcom crash and subprime crisis, behavioural economics considers a world in which investors and businesses are motivated by crowd psychology and Keynes’s “animal spirits” rather than the careful calculation of rational expectations. It is, however, the least radical of the alternative approaches since it doesn’t challenge the ideological assumption of REH—that booms, busts and recessions are all caused by various types of market failure and therefore that breakdowns in laissez-faire capitalism could, at least, in principle be prevented by making markets even more “perfect.” Partly because of this ideological compatibility, academic economics has not found it too difficult to embrace the behavioural approach.

More challenging to the orthodoxy of academic economics have been approaches that rejected the principle that economic behaviour could be described by precise mathematical relationships at all. Benoit Mandelbrot, one of the great mathematicians of the 20th century, who pioneered the analysis of chaotic and complex systems, describes, in *The (Mis)behaviour of Markets*, how economists ignored 40 years of progress in the study of earthquakes, weather, ecology and other complex systems, partly because the non-Gaussian mathematics used to study chaos did not offer the precise answers of EMH. The fact that the answers provided by EMH were wrong seemed no deterrent to “scientific” economics.

Even more striking examples of the cognitive dissonance in academic attempts to use mathematics as a basis for “scientific” economics are provided by Frydman and Goldberg in *Imperfect Knowledge Economics*. IKE, as the authors call their research programme, explicitly challenges the assumption of rational expectations that there is, at least in theory, a “right” model of how the economy works. Instead IKE draws on the insight of Keynes and Hayek that the fundamental problems of macroeconomics all derive ultimately from one inexorable fact: a capitalist economy is far too complex for any of its participants to have any exact knowledge, especially about future events, even if markets are perfectly efficient. This means that businesses and investors will quite rationally operate on a wide variety of different economic assumptions—and far from being irrational such divergent behaviour is the essential ingredient of capitalism that makes entrepreneurship and financial markets work. Building on the concept of “reflexivity” popularised by George Soros—that market expectations that initially appear false can actually change reality and become self-fulfilling—IKE discusses a world in which market participants with diverse views about the laws of economics change macroeconomic conditions by changing these views. By formalising such insights, IKE generates “qualitative” forecasts of currency movements—and these “fuzzy” numbers turn out to be closer to actual movements in exchange rates than the “sharp” predictions of rational expectations models, which are precise but invariably precisely wrong.

All such heterodox approaches have two features in common—they reject the ideological orthodoxies of rational expectations and efficient markets and the equally stifling methodological demand that economic insights must be expressed in

mathematical formulae.

Economics today is a discipline that must either die or undergo a paradigm shift—to make itself both more broadminded, and more modest. It must broaden its horizons to recognise the insights of other social sciences and historical studies and it must return to its roots. Smith, Keynes, Hayek, Schumpeter and all the other truly great economists were interested in economic reality. They studied real human behaviour in markets that actually existed. Their insights came from historical knowledge, psychological intuition and political understanding. Their analytical tools were words, not mathematics. They persuaded with eloquence, not just formal logic. One can see why many of today's academics may fear such a return of economics to its roots.

Academic establishments fight hard to resist such paradigm shifts, as Thomas Kuhn, the historian of science who coined the phrase in the 1960s, demonstrated. Such a shift will not be easy, despite the obvious failure of academic economics. But economists now face a clear choice: embrace new ideas or give back your public funding and your Nobel prizes, along with the bankers' bonuses you justified and inspired.

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