

# Now is the time for a revolution in economic thought

Anatole Kaletsky: Economic View

In my column last Thursday, I explained how academic economics has been discredited by recent events. It is now time for what historians of science call a “**paradigm shift**”. If we want to flatter economists, we could compare this revolution needed to the paradigm shift in physics in 1910 after Einstein discovered relativity and Planck launched quantum mechanics. More realistically, economics today is where astronomy was in the 16th century, when Copernicus and Galileo had proved the heliocentric model, but religious orthodoxy and academic vested interests fought ruthlessly to defend the principle that the sun must revolve around the Earth.

In this article I will outline some of the unorthodox approaches to economics which conventional economists have ignored and which might have helped to avert the present crisis — in the weeks ahead I plan to give more detail of some of these ideas.

Consider the following passage: “Most economic theorists have been going down the wrong track. When economic models fail, they are seldom thrown away. Rather they are ‘fixed’ - amended, qualified, particularised, expanded and complicated.

“Bit by bit, from a bad seed a big but sickly tree is built with glue, nails, screws and scaffolding. Conventional economics assumes the financial system is a linear, continuous, rational machine and these false assumptions are built into the risk models used by many of the world's banks. As a result, the odds of financial ruin in a free global market economy have been grossly underestimated. By using such methods there is no limit to how bad a bank's losses can get. Its own bankruptcy is the least of the worries; it will default on its obligations to other banks - and so the losses will spread from one inter-linked financial house to another. Only forceful action by regulators to put a firewall round the sickest firms will stop the crisis spreading. But bad news tends to come in flocks and a bank that weathers one crisis may not survive a second or a third.”

This uncannily precise description of the present crisis above was not written by an economist. While some economists had warned for years about global trade imbalances, escalating house prices, of excessive consumer borrowing, none of them remotely foresaw the truly unprecedented feature of the present crisis: the total breakdown of financial markets caused by the unforced blunders by investors and banks. Modern economists were inherently incapable of understanding such a problem because they assumed that investors were “rational” and markets “efficient”.

These assumptions led inevitably to disaster once they were blown apart. The author who came so close to understanding the true causes of the present crisis was not an economist but a mathematician.

**Benoît Mandelbrot**, a towering figure of 20th-century science, who invented **fractal geometry** and pioneered the mathematical analysis of chaos and complex systems, wrote the above words six years ago in his book *The Misbehaviour of Markets*. Mandelbrot's ideas found fruitful applications in the study of earthquakes, weather, galaxies and biological systems from the 1960s onward, but the field that originally inspired his ideas turns out, in this very readable book, to have been finance and economics. Yet 40 years of effort by Mandelbrot to interest economists in the new mathematical methods, which appear to work far better in modelling extreme movements in financial markets than the conventional methods based on statistically “normal” distributions, have been either ridiculed or ignored.

At the other end of the academic spectrum, we find economists treating ideas from sociology, psychology or philosophy with the same derision and disdain. George Soros is no mathematician like Mandelbrot, but he has repeatedly demonstrated far better understanding of how market economies work than any professional economist by using psychological and philosophical ideas. His books have explained convincingly how false beliefs among investors can create self-reinforcing boom-bust cycles of exactly the kind afflicting the world today. But the reaction to these ideas has been the same as to Mandelbrot's: a complacent refusal among academic economists, regulators and central bankers even to think seriously about approaches that challenge the central orthodoxies of modern economics: that "efficient" markets inhabited by "rational" investors send price signals which, in some sense, are always right.

Reality is very different, as everyone now admits: investors often misinterpret information and markets sometimes send price signals that are dangerously wrong. What Soros shows, moreover, is that such behaviour should not be regarded as irrational or an aberration. On the contrary, rational investors can find it very profitable to act on false premises - for example that credit will always be available without limit - if these false ideas become so widely accepted that they change the way the economy actually functions, at least for a time.

One reason why such fruitful insights have been ignored is the convention adopted by academic economists some 30 years ago that all serious ideas must be expressed in equations, not words. By this weird standard, the intellectual giants of the subject — Adam Smith, Ricardo, Keynes, Hayek — would not now be recognised as serious economists at all. But even if we accept the mathematical formalism of modern economics, there is vast scope for new ideas.

A control theory approach, used by serious mathematicians such as Nicos Christofides and Shahid Chaudhri, working at the Centre for Quantitative Finance at London's Imperial College, has applied advanced mathematics from aerodynamics and control engineering to analyse financial turbulence without the over-simplified assumptions, such as continuous liquidity, which have caused the recent disasters in risk management and regulation.

But the challenge that existing economic orthodoxy may find most disconcerting is Imperfect Knowledge Economics (IKE), the name of a path-breaking recent book by Roman Frydman and Michael Goldberg, two American economists. Building on ideas of Edmund Phelps, one of the few Nobel Laureate economists who rejected the consensus view on rational expectations, IKE uses similar tools to conventional economics to generate radically different results. It insists that the future is inherently unknowable and therefore that there is always a multitude of plausible models of the way the economy works.

With this obvious, but critically important, change in assumptions, IKE demolishes most of the conclusions of rational expectations. More importantly, it shows that reasonable assumptions about economic uncertainty can produce financial models that give less spurious accuracy than the rational expectations models but are statistically far closer to what happens in the real world.

These are just a few examples of the creative thinking that has started again in economics after 20 years of stagnation. But the academic establishment, discredited though it is by the present crisis, will fight hard against new ideas. The outcome of this battle does not just matter to academic economists. Without a better understanding of economics, financial crises will keep recurring and faith in capitalism and free markets will surely erode. Changes in regulation are not sufficient after this financial crisis — **it is time for a revolution in economic thought.**

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