



# **The Ascent of Money: An evolutionary approach to financial history**

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What I want to do this evening is to suggest to you a new way of thinking about financial history, a way rather appropriately, given that this year is the 200th anniversary of Darwin's birth and the 150th anniversary of the publication of the Origin of Species, which is a Darwinian view of financial history, or at least, as you will see, partly Darwinian. What I want to try to do is to relate the long run of financial history to recent events so that we can try to illuminate them in a new way.

I should say that my book, *The Ascent of Money*, was given that title not in homage to Darwin of course but to Jacob Bronowski, whose wonderful television series, *The Ascent of Man*, inspired me very much as a schoolboy. Like *The Ascent of Man*, *The Ascent of Money* attempts to cover a vast historical canvas: 4,000 years of financial history condensed into six chapters. But at the end of the book I tried a little experiment: I sketched a theory of financial history, inspired by evolutionary models, and I want to develop that sketch further this evening on the occasion of the publication of the paperback edition of the book.

The idea that there is a Darwinian character to the financial world is one that we can quite often come across. I have even heard weary hedge fund managers say, as they pour the first drink of the night, 'God, it was Darwinian out there today!' 'It's a Darwinian world,' the economists declared on February 16th 2008, and it certainly became more Darwinian as that fateful year wore on. The idea just keeps cropping up. For instance, here is a wonderful quotation from the former Assistant Secretary for Financial Markets at the US Treasury, Tony Ryan, in his depositions to Congress in September 2007: 'Just as some species become extinct in nature, some new financing techniques may prove to be less successful than others.' That was one of the great understatements of the financial crisis we find ourselves in, and I want to explore a little further the underlying truth of that understatement.

Four years ago, I was invited to address a conference organised here in London by the investment bank Goldman Sachs. I was rather struck by the title of the conference: 'The Evolution of Excellence'. So I began my talk by showing the pictures of two men, but I did not identify who they were, and I asked if anybody in the room could recognise them, and not a single hand went up. I will not insult your intelligence by doing the same thing because you would immediately recognise my old friend and Oxford colleague, Richard Dawkins, one of the great evolutionary theorists of our time, and indeed one of the great popularisers of Darwin's thought. The other man was Stephen Jay Gould, one of the other great popularisers of evolutionary theory, though one with whom Richard Dawkins has frequently taken issue. But none of the assembled investment bankers recognised these great men, and it became clear to me that the title, 'The Evolution of Excellence,' had been chosen purely for its alliterative appeal! No one there knew the slightest thing about evolution, nor, I am afraid, did they want to know.

The interesting thing is that Charles Darwin was, at least in some measure, inspired by observation of the economic world around him. Mid-19th Century England was an economy alive with economic change. It was an era of industrial revolution when Darwin wrote the *Origin of Species*, and I think it is important to recognise the extent to which he himself was influenced by contemporary notions of political economy. This was a remarkably free market that Darwin observed evolving around him, and it is an extraordinary fact that his reading of one of the great political economists, Thomas Malthus, provided a key moment in the evolution of his own theory of evolution.

When Darwin read Malthus' essay on *The Principle of Population*, published significantly earlier, he noted as follows, in the notebook in which he recorded his thought and researches:

'Being well-prepared to appreciate the struggle for existence, it at once struck me that, under these circumstances, favourable variations would tend to be preserved and unfavourable ones to be destroyed. Here then, I had at last got a theory by which to work.'

What was that theory? Malthus' theory was that population would tend to outstrip the means of subsistence; population would grow geometrically, but the supply of food from agriculture would only grow arithmetically. This is the great Malthusian insight. Not least in the wake of the great Irish Famine of the 1840s, it seemed to be a vital clue to Darwin about how evolution would work not just for mankind but for all of nature: if there was this disproportion between biological reproduction, and particularly sexual reproduction, and the growth of foodstuffs, of nutrition; if there was that fundamental imbalance in nature, then, as Darwin saw, a process of natural selection would tend to operate, where the fitter or fittest of a given species would be more likely to survive the struggle - and Darwin used that word 'struggle' himself for existence.

It is also notable that another idea from economics, the notion of divergence, really was based on Adam Smith's notion of the division of labour. There is even an element of comparative advantage in Darwin's thought.

To a greater extent than I suspect many scientists recognise, Darwin was therefore inspired by economic ideas, and in many ways, the origin of the *Origin of Species*, lies in the industrial revolution of England itself. It only seems fair, therefore, that we should now, as historians of the economy, turn to Darwin's ideas, and to their subsequent evolution and development, and see if we can learn anything in return from the science of evolutionary biology.

The notion that we could in fact make economics a discipline similar to evolution, that there could in fact be an evolutionary theory of economic history, in fact originated not very long after Darwin's death. Thorstein Veblen proposed it in an article of the *Quarterly Journal of Economics* published in 1898, from which I would like to quote: 'The economic life process,' he wrote, 'is still, in great measure, awaiting theoretical formulation.' The title of his essay was 'Why is Economics not an evolutionary science?' By that stage, the divergence had already set in; economics was heading in one direction, and evolution in another.

Joseph Schumpeter, who thought perhaps more originally and profoundly about the nature of economic change, also hinted, in his great work of the 1940s, *Capitalism, Socialism and Democracy*, that there might be an evolutionary quality to economic life. There is a famous passage from Schumpeter's work, which really does repay reading:

'This evolutionary impulse that sets and keeps the capitalist engine in motion comes from the new forms of industrial organisation that capitalist enterprise creates. The same process of industrial mutation incessantly revolutionises the economic structure from within, incessantly destroying the old one, incessantly creating a new one. This process of creative destruction is the essential fact about capitalism.'

In more recent times, some economists have had a go at this. There have been recurrent attempts by economists to try to apply modern Darwinian ideas about evolution, the so-called modern synthesis of Darwin's ideas with Mendel's ideas of genetics, or at least the ideas of genetics derived from Mendel's work, but it must be said that, as an intellectual project, this has not been a roaring success.

There is a *Journal of Evolutionary Economics*. The last time I looked in Harvard's Widener Library, almost nobody had ever consulted it, and the articles that appear in that journal are almost never cited by mainstream economists. That is because, ladies and gentlemen, Economics in modern times has striven to become a branch of Applied Mathematics. It has drifted ever further away not just from the natural world but, in my view, from the real world, and that is probably why evolutionary economics had such a poor reputation, has threatened in fact to become extinct; certainly, evolutionary economists are extinct as a species at my University. But it is only fair to mention at least two of the major contributions in this field that I hope will endure: the article by Alchian, *Uncertainty, Evolution and Economic Theory*, from 1950; and Nelson and Winter's excellent book, *An Evolutionary Theory of Economic Change*. I say all this to show a due acknowledgement of those who have thought in these terms before me; I am merely the traditional Glasgow pigmy standing on the shoulders of giants.

Perhaps - and this crisis may make it more likely - the time has finally come for evolutionary economics. At Massachusetts Institute of Technology, there is a wonderful man named Andrew Lo, whose background is

in really very mathematical finance but whose most recent work represents a bold attempt to bring modern evolutionary theory to bear on the way in which the financial system works. I would just like to give you a flavour of his work with a couple of rather good quotations:

'Hedge funds are the Galapagos Islands of finance... The rate of innovation, evolution, competition, adaptation, births and deaths... occurs at an extraordinarily rapid clip.'

Lo's work on hedge funds suggests that we can see a kind of evolutionary process in action, but it is a high speed process. Compared with evolution in the natural world, which unfolds over millennia, evolution in the financial world happens very rapidly indeed, in the space of decades, and that is one of the important differences that I want to flag up right away between natural history and financial history.

Andrew Lo also made the point, in a recent article, that a financial crisis is like one of those exogenous shocks that periodically disrupts the process of natural evolution. Just in the same way that a forest fire, he suggests, creates opportunities for species, so too does a financial crisis. 'As with past forest fires,' he observed, 'in the markets we're likely to see incredible flora and fauna springing up in its wake.' Professor Lo's work has given rise to a kind of notion that he devised himself of adaptive markets, and that is to be contrasted with the theory of efficient or rational markets. The efficient markets hypothesis has been the dominant idea of financial theory for roughly three decades, the notion that markets are perfectly liquid, inhabited by rational actors, who are like calculating machines, but who are also aware of all available and relevant information, all the time. This is a wonderful construct, you will agree, and if you imagine that markets are like that, you can do some really interesting mathematics, but Andrew Lo's very good point is that markets are not like that at all. They are far more like jungles or forests than they are like that Planet Vulcan inhabited by Mr Spock, which I think would be the ideal of the efficient markets hypothesis; a market, a planet, where everybody is perfectly rational and logical.

I tell you all this by way of a prelude, because although evolutionary economics is making some belated headway, the dominant paradigm in financial history continues to be one derived from the work of the late German Social Democrat or Marxist thinker, Rudolf Hilferding. Hilferding's view of financial history, as might be expected of a Marxist, was that finance tended towards concentration - the concentration of capital, over time, was bound to increase. That was his fundamental insight in his great work, *Finanzkapital*, 1910, a work which incidentally had a great influence on Lenin. If you look at the way Lenin tried to understand imperialism, much of it is stolen, more or less unacknowledged, from Hilferding.

Hilferding's notion that concentration will be the dominant trend - that financial institutions will get bigger and bigger and fewer and fewer - was based on the observation not only of what was happening in Germany, but also what was happening in the United States, where concentration in banking was one of the striking features of the late-19th and early-20th Century. It gave rise, not illogically, to the idea that the ultimate direction of financial history was towards one giant financial monopoly, which ultimately would become something controlled by the state, making the transition to socialism relatively straightforward. State monopoly, capitalism - all the ideas derived from Hilferding's work by Marxist Leninists in the 20th Century were predicated on this notion of concentration.

Now, concentration makes a great deal of sense in economic theory, and it is easy to observe in many different markets, including financial markets. There are economies of scale that can be exploited by bigger institutions. But I want to suggest to you that this insight about concentration is profoundly misleading if you use it as the basis for a theory of financial history. While it may be true of certain sectors of the economy, it is emphatically not true of the economic system as a whole.

We can see how Hilferding's theory has been abused and exploited in recent years in a number of areas. One very obvious place is in Citigroup's idea of its own evolution. It has made pictures which show a wonderful process whereby a number of very small banks converge on one final end point: the giant financial behemoth, Citigroup. The direction of evolution in this story is from the leaves of the tree to the trunk. You begin with a whole range of tiny institutions, and they all converge with a wonderful teleological inevitability on the super-bank, the big bank, on Citigroup. This is the kind of thing you will see in corporate headquarters, and it is the kind of thing you will see in Citigroup's literature, but it is a profoundly misleading caricature of the way financial history works.

In contrast, evolution works in a different manner. We can see the diagram that Darwin himself drew for the *Origin of Species*, and the direction of causation is exactly the opposite one from the direction of causation in the Citigroup family tree. In Darwin's tree of life, you begin at the base, and the tree grows outwards, until, finally, you encounter multiple leaves, multiple twigs. That is the real direction of evolution,

and the process that Darwin identified that allows the tree to grow in this way is speciation; the emergence of new species distinct from their ancestors and from one another, and as they proliferate, you get biodiversity.

In the light of this, you can think of the financial historical process as being the opposite of the Citigroup model; think of finance as being like the world of natural history. Think of those books of dinosaurs that you once read or gave your children, and see if there might just be a useful analogy in the financial world.

The evolutionary analogy is a lot better than you might think. There is clearly competition for finite resources in the financial world, just as there is in the natural world. There is very clearly a potential for spontaneous mutation, though generally speaking, people like to call it innovation in the economic world. There is very obviously a mechanism for natural selection. We have seen it in action in this crisis. The market allocation of resources means that there is a possibility of death, of failure, and there is, as the biologists say, differential survival. That is most obvious right now in the world of hedge funds. There is scope for speciation. New kinds of institution get formed and, as a result, there is in fact sustained biodiversity - not all roads lead to Citigroup. There is even scope for species to go extinct. For instance, who would have predicted a year ago that investment banks, the masters of the Wall Street universe, would cease to exist as a species by the end of 2008, and yet it happened.

What about genes - genes, the things that interest evolutionary biologists the most today, the thing that they study with most intensity - is there any parallel there? I think there is, and, here, I would like to borrow Richard Dawkins' idea of a 'meme', something which behaves like a gene, even though it is just a human idea; it is an idea that replicates itself. In the financial world, the memes that matter are the ways of doing things, the business practices that can be passed on, not just from generation to generation, as in the biological world, but actually, from employer to employee, from partner to partner. Ways of doing business are not standardised, and one of the fascinating things about the City of London is the diversity of business methods that exists here today. There is competition, but there is not always convergence.

I want to tell you a very brief story about financial evolution in our time. In our time, there has been an explosion of financial life, like one of those great explosions of life that occurred in prehistoric times. All kinds of new species came into existence. In the space of just 25 years, Mortgage-Backed Securities proliferated, all kinds of Asset-Backed Securities, wonderful things called Collateralised Debt Obligations and Collateralised Loan Obligations, not forgetting derivatives like Credit Default Swaps - and, by the way, my test of whether you need to buy *The Assent of Money* is whether you can explain to a ten year old boy the difference between a Collateralised Debt Obligation and a Credit Default Swap. If you can't, you need the book!

What is really interesting has been the speciation we have seen in our time - hedge funds, private equity partnerships, sovereign wealth funds, conduits, Structured Investment Vehicles. Now, what better acronym could a financial crisis produce than SIV, these things that acted like sieves through which money poured, as it turned out? These are the trends that I would understand in evolutionary terms: the formation of new species, new life forms, in the financial jungle.

A couple of years ago, I teamed up with the consultants, Oliver Wyman, to try to see if we could make an evolutionary theory of finance work. We spent a very long time trying to compute the population of the financial world, looking at all the different organisms out there and trying to map their evolution. I wanted the kind of pictures that you get in dinosaur books, only I wanted it for the financial world, and here are a few of them. The result was a diagram that showed a kind of evolutionary process at work, where speciation occurs. New things like internet banks come into existence in the recent past and the growth was from the trunk up to the branches and leaves rather than the other way around.

You can do exactly the same thing with investment banking and fund management. The details here need not detain us, because the point I want to make is that the true course of financial history is for increasing diversity, not for convergence on a common trunk. Yes, commercial banks, like Citigroup, got very big indeed, and I will say more about that in a moment, but alongside them, as they became more and more like giant lumbering dinosaurs, mammals were already scampering - small, nimble, unregulated entities, quite different in their character from the giant lumbering brontosaurus of Wall Street.

In all evolutionary stories, population explosions happen, and this is the story of a population explosion in the financial world. If you go back to 1990, there were just over 600 hedge funds, according to the statistics that we have, but their numbers exploded after that, and what is really remarkable is that they continued to grow at an accelerated rate even after the great hedge fund crisis of 1998, when long-term

capital management blew up and nearly blew Wall Street up with it. In fact, rather paradoxically, the long-term approach to hedge fund management became more popular after its failure than it had been before. The result was that, on the eve of the financial crisis, there were very nearly 10,000 hedge funds in the world. These were institutions that had not existed at all before the 1940s and were scarcely recognised as significant until the 1990s.

What is more, as these institutions proliferated in number, they grew in financial significance by leaps and bounds. If you simply look at hedge fund assets, the assets that the hedge funds were supposed to manage, and then look at the positions that they were able to take through leverage in financial markets, we got to the situation in 2007 when those nine or ten thousand institutions controlled or had some influence over positions worth \$5 trillion in financial markets. As we watch their steep decline in the present economic climate, we are actually living through an extraordinary process of natural selection in this world right now. I have heard it said that between a third and a half of the hedge funds that existed in 2007 will not exist by the end of this year. It is a kind of hedge fund holocaust, but it is precisely the kind of thing that a Darwinian would expect. The climate changed, and suddenly, these creatures could no longer survive in the numbers that had previously been possible.

To give you further impressions of the scale of financial evolution in our time, look at the speed with which Asset-Backed Securities went from almost nothing to being equivalent to 4 trillion, in the case of Mortgage-Backed Securities in the United States, 2.5 trillion for the other consumer credit based securities. This is the process you will hear described in the newspapers as securitisation, where all kinds of different debt were turned into securities, bond-like instruments that could be traded internationally.

Perhaps most spectacular has been the proliferation of derivatives. These things did not exist in the mid-1980s. Today, the notional value of Over-The-Counter derivatives, sold from one party to another, is so vast that it makes the mind boggle. In 2006, the total was just over \$400 trillion, but today, it is much larger than that, closer to \$600 trillion or \$700 trillion.

What are the differences? So far, I have told you a story suggesting that there are close resemblances between financial history and natural history, and the more alert among you will have already begun thinking of the ways in which I am wrong, but now, I am going to pre-empt you by telling you the ways in which it is different. There are three. The first concerns the fact that mating and sex play quite different roles in the financial world from the roles that they play in the natural world. Eating in the natural world is just eating, but a takeover, a merger, can often fundamentally alter the nature of the organism that does the eating. That is one of the most important differences.

Another important difference is that although people in the City of London and on Wall Street often use language inspired by sexual reproduction - in fact, they use it compulsively in my experience - there really is no sexual dimension to reproduction in the way in which financial institutions reproduce themselves. There was a kind of asexual reproduction when more and more Goldman Sachs' partners split off to set up their own hedge funds. This is the nearest thing I can discover to a kind of reproduction in the financial system.

Finally, and crucially, mutation in the financial world is not random. It is not a random process, as it is in the biological world, where most mutations fail because when they happen, the organism dies. In the biological world, that is the nature of mutation; in the financial world, most mutation is conscious and deliberate. It is innovation intended to enhance profitability, and in that sense, you might say that we are really talking more about a Lamarckian process than a Darwinian process, in the sense that Lamarck intended, namely, that organisms could mutate and then pass on their adapted characteristics to the next generation.

The second difference between finance and the natural world in terms of evolution is perhaps the most interesting. In the biological world, every now and then, an asteroid hits the planet, and the dinosaurs are suddenly out of business, or an Ice Age, a fundamental climate change event. A giant volcano erupts and the temperature of the entire world declines. These are exogenous shocks. They are from outside the natural system. They are not caused by the dinosaurs or anything that the dinosaurs did. But in the financial world, the shocks are almost all endogenous; they come from within the system. We, in a sense, cause the asteroids to strike the Earth. The great financial disruptions, which I have spent much of my career studying - the Great Depression of the 1930s, the great inflation of the 1970s, and the great recession, which is what I like to call it, that we are currently living through today, a repressed depression - these great events were all endogenous to the financial system.

One more difference is that, unlike in the natural world where, I have it on the authority of Richard Dawkins, there is no such thing as intelligent design, in the financial world, there is supposed to be. There are supposed to be divine entities that can intervene in the process of evolution, and these entities are not gods but regulators, central banks, and legislators. They perform the role that does not exist in the natural world. The reason I put a question mark after 'intelligent' is that it is by no means clear that their role is intelligent. It is well-intentioned: most interventions are designed for the sake of consumer protection or to prevent systemic risk, but what I want to argue this evening, and it is perhaps the critical point that I want to make, is that this difference between the natural world and the financial world may impede evolution in the financial world, may in fact get in the way of the process of natural selection and creative destruction.

I want, since time just about permits, to give you the briefest history of the financial crisis you will ever hear. It comes in six very short soundbites and it is all you need to know to understand the crisis. It will save you listening to a great many reports and reading tedious newspaper articles.

The crisis began because of huge global imbalances; imbalances between the United States, on one side, and surplus countries like China, on the other side. This caused a great flow of savings from East to West, and without that flow of savings into the US current account deficit, it would not have been possible to have a credit bubble.

This problem was compounded by horrendous monetary policy errors by the Federal Reserve, the worst of which was to keep short-term rates absolutely flat in 2002 to 2004, at a time when American property prices were skyrocketing at annual rates of up to 18%. This was because the Fed believed that it was not responsible for asset prices; it was only responsible for consumer prices.

Under these circumstances, it made a great deal of sense to borrow money, or at least it seemed to. Households did it, and banks did it even more. If we were to look at the figures, we would see that the financial debt zooms up from below 20% of GDP in the 1970s to nearly 120% of US GDP on the eve of the crisis.

Evolution can and, in financial worlds, does produce monsters, and the monsters that the great evolutionary explosion of our time produced were these things: AAA-rated Mortgage-Backed Securities. If we look at the history of 20 Mortgage-Backed Securities that were put together to form an index, we can see that, when they were issued, their price was 99c; right now, they are trading at 23c, and if that is a AAA-rated security, then I'm Nigel Lawson!

My favourite statistic of the crisis is that in January 2008, there were just twelve corporations, companies, in the world that had a AAA rating. There were 64,000 structured financial products, like Collateralised Debt Obligations. That was the evolutionary process running amok, running out of all control.

That, ladies and gentlemen, is what caused the US property bubble, which is at the heart of our crisis. One minute, real estate, that is to say house prices, in the US were rising at 20% a year, and then suddenly, and painfully, they were falling at 20% a year. For all those institutions that had assumed they never fell, ever, this was something of a blow, and that is why the banks nearly died. It was a catastrophe for the banks in all kinds of ways. They had borrowed immense amounts; many of them had borrowings equivalent to forty times, or even, in one case, fifty times, their equity capital - that was the liabilities side. On the assets side, they had a whole range of these wonderful AAA rated Collateralised Debt Obligations and other Mortgage-Backed Securities that suddenly declined in value from 100c to 23c. These really should have rendered most of these institutions insolvent. I think in fact that it did. But, for regulatory reasons, there was a divine intervention and the dinosaurs were saved. How? How do you avoid a re-run of the early 1930s?

This is how you do it: a massive monetary expansion. You expand the monetary base - that is the Federal Reserve balance sheet - by a factor of two, and then you run the biggest fiscal deficit since World War II. This year, the deficit will be equivalent to 13% of Gross Domestic Product - that is \$1.84 trillion, if you are keeping count. The result that we find ourselves in is a tremendous struggle between two great monsters: the monster of monetary inflation; and the monster of real economy deflation. We could see this as something like Godzilla versus King Kong (in fact my favourite Japanese movie of all time). Godzilla is the central banks and governments, pouring a jet of liquidity on the crisis; and King Kong is a huge over-capacity, particularly in manufacturing, all around the world. Right now, I think King Kong is winning this fight. He has the upper hand, and we will likely see this as a deflationary year, but my money is on Godzilla for the long run, on inflation.

But let us focus in on what these two great battling titans are doing to the banking system. Let me contrast the Great Depression with the great repression of our age, when we use monetary and fiscal methods to repress a depression.

What happened in the Great Depression was that there was a drastic collapse in the number of banks and a drastic collapse in the value of their assets. That was one of the reasons the Depression was so profound. A contraction of the banking system on this scale caused a massive deflationary shock, not only to the US economy, but to the world economy as a whole.

But in our time, the number of banks has been declining for some decades. There has been a steady and sustained process of financial concentration in the United States since the 1980s but there has been no diminution in the assets of the banks. They have continued to grow at an extraordinarily rapid rate, and even this financial crisis, which has garnered such attention and caused such huge shockwaves to sweep around the world, has not drastically reduced the assets of the banking system. That is how a great repression works. You print money, and you shove it into the banks to prevent them from becoming insolvent.

That is the way, in a sense, that banks on both sides of the Atlantic have been preserved. Think of them as dinosaurs on life support, kept alive with medical injections provided in the form of excess reserves, discounted loans by the Central Bank, and of course capital injections, actually taxpayers' money invested in these institutions as equity capital or as preference shares - yes, your money has been invested in failing financial institutions for the sake of avoiding a systemic risk. Maybe this was the right decision. Maybe thereby we have avoided a great depression. It depends how big you think the risk was, and that is very hard to say, but there is no question what the unintended consequence of this policy is. We are witnessing a clear case of arrested evolution. As long as the dinosaurs are on life support, there is really no incentive to create new firms or even to restructure the old ones properly, and you can see there has been a dramatic decline in the number of bank mergers, and of new bank foundations, in the wake of this crisis. The only thing that has gone up is the number of banks that the Federal Deposit Insurance Corporation has to take over.

Forgive me, ladies and gentlemen, if some of what I have said has been excessively technical, but it really suffices, to conclude this lecture, to revisit something Schumpeter wrote in 1934:

'This economic system cannot do without the ultima ratio of the complete destruction of those existences which are irretrievably associated with the hopelessly unadapted. An indiscriminate and general increase in credit facilities means simply inflation, which destroys that measure of selection which can still be ascribed to the depression, and burdens the economic system with those firms that are unfit to live.'

Ladies and gentlemen, it seems to me that that pretty much sums up the consequence of the policies that have been adopted on both sides of the Atlantic in this financial crisis. Here then are my conclusions.

As a metaphor, or an analogy, the theory of evolution really offers us a lot more as a way of understanding financial history than the theory of concentration espoused by Hilferding. In fact, the financial world is a lot like the world of natural selection, even if the process is characterised by Lamarckian mutation, rather than the random process Darwin had in mind. The problem is that the intelligent design of regulators and legislators can, and clearly does, impede the process of financial natural selection. We have a case of arrested evolution in our financial system today, and I do not think that that can be healthy if it persists for long. I regret the passing of the dinosaurs, I am sure they were lovely creatures, but I think it is probably for the best that there are no diplodocuses, and that is the way I feel about insolvent commercial banks. In my view, ladies and gentlemen, Schumpeter's view still should stand: without creative destruction, our economic system cannot be a healthy one.