Newspaper articles and reviews

To see the Table of Contents, click the "Bookmark" tab at the top left hand edge of the screen

Our economic future has already been decided by the past

The Observer, 28 August 2011

That so much attention is paid to quarterly GDP data is not surprising. Events move fast these days, and the 24-hour news media have a voracious appetite.

However, such data tell only part of the story; economies also beat to a slower rhythm. Every decade since the second world war has had its distinctive characteristics, and each has served to shape its successor.

The 1950s were shaped by the re-integration of soldiers into civilian employment, reconstruction, and a more systematic management of demand. Exchange rates had been pegged. International trade grew rapidly. Public debt fell markedly. Economic growth got under way.

The 1960s seemed a golden era. The OECD was formed amid optimism that a new US-led world of free trade and capital movements would be much better than the old one. Animal spirits were buoyant. OECD economies grew fast: 5.3% per year on average.

But problems were building. With policy focused on demand management, prices were drifting higher: inflation doubled in the OECD over the decade. And inflation differentials were causing currencies to become misaligned. Sterling had to be devalued in 1967 by a seemingly massive 14.3%.

The 1970s, very much the product of the decades that preceded it, were a game-changer. Differentials in international competitiveness had become so serious that, in 1971, the US suspended gold convertibility: the fixed exchange rate system was dead. In 1973-74, the price of oil quadrupled. Accommodating fiscal and monetary policies, in combination with wage indexation, took inflation into double digits. Deficits soared, while real interest rates became strongly negative.

By the time of the second great oil shock, in 1978-79, policymakers had come to realise that they needed to reappraise their policies fundamentally: inflation control became the priority. Fiscal and monetary policies were tightened, the exact opposite of the earlier response. OECD growth slowed, averaging 3.7% per year.

The 1980s opened with real interest rates and unemployment soaring and output and inflation slowing. More fundamentally, however, they brought the realisation that OECD economies had a deeper problem: they had become unable to adjust efficiently to the changes in demand and production that the high price of energy required. Attention had to be paid not only to aggregate demand, but also to supply.

In 1982, under German exhortation, OECD countries began to see structural policies as the solution to supply-side rigidity. Liberalisation was on its way. But liberalisation went beyond the economic: Paul Volcker, the Fed chairman who had brought inflation down, was fired, and anti-regulation Alan Greenspan was appointed. OECD growth slowed yet further, to 2.8%.

The economic liberalisation begun in the 1980s proved constructive: it had been well thought through, and probably helped in the absorption of two shocks soon to hit: the IT revolution and the rise of China. But financial liberalisation, by contrast, had not been anything like fully thought through.

The 1990s saw the institutionalising of inflation targeting, and inflation, indeed, continued to slow. Financial liberalisation and deregulation, however, gathered pace. Faith was placed, not least by chairman Greenspan, in the supposed ability of markets to self-regulate. Credit and leverage grew rapidly. Stock markets boomed. And the decade produced its share of crises: Europe's exchange rate mechanism in 1992; the Asian blow-ups of 1997; and the Russian default of 1998. OECD growth averaged 2.5% over the decade.

The 2000s saw matters come to a head. Financial innovation pushed on to the point where, for example, more than half the world's debt securities were being deemed "risk-free" by the ratings agencies. Inflation-targeting central banks not only disregarded asset-price inflation, but cut rates to limit corrections in financial markets, such as the dotcom bust in 2001. OECD GDP growth between 2000 and 2007 averaged just 2.6%.

The rest, as they say, is history: history that in 2008 brought the largest crisis since the 1930s. The response – massive fiscal and monetary expansion – staved off the worst, and now most western economies seem to be experiencing a recovery, of sorts.

But don't hold your breath. To the extent that the future continues to be determined by the past, the west is in for a tough decade. Deleveraging, by households and governments, is almost certain to continue. Financial regulation will be tight. Capital will probably flow less freely. OECD growth has slowed every decade since the 1960s: why should that change now?

Emerging markets may continue to grow briskly, if they can come to depend more on domestic demand and less on exports. However, they are nowhere near large enough yet to drive the much larger economies of the US and Europe.

All is not a counsel of despair. On balance, post-war economic policy has done much more good than harm. But there are limits to what more can be done. Unless more or less everything suggested by economic history turns out to be bunk, the die for the coming decade would seem, in important part, already to have been cast. ■

Europe's pact is the first step to recovery

Financial Times 10 March 2011

Europe's financial storm may have passed its peak, but it is not yet finished blowing. Eurozone leaders, meeting in Brussels on Friday, will announce a wave of reforms. Plans for a Franco-German competitiveness pact will not do enough to deal with the present crisis, or prevent another. But they will be a step forward, and one that must now be followed with further moves to ensure Europe becomes more convergent and competitive.

The outlines of the deal set to emerge in coming weeks seem clear. There will be stricter oversight of national budgets by the European Commission, with more equal weight given to deficits and debt. Greater alignment of financial market, banking and regulation policies is likely, together with further reforms of cross-border bank resolution, living wills and credit monitoring. A permanent crisis resolution mechanism has already been agreed.

Europe's competitiveness problems, however, require a more aggressive deal than that currently proposed. Rising relative costs and prices have damaged peripheral economies, deepening the eurozone's dangerous imbalances. Markets are also rightly worried that the reforms will not go far enough, especially if it then does not prove possible for the authorities in the core countries – and Germany and France in particular – to persuade electorates of the case for an enlarged, suitably funded and flexible crisis resolution mechanism.

That is why it is vital that peripheral countries are pushed to make further structural reforms – and that these should be a precondition for continued financial assistance. A true competitiveness strategy must also restrain wage growth – which means striking a difficult agreement with major unions. Labour and product market regulations have also to be aligned with best practice, not national vested interests.

In both fiscal and labour market policy, therefore, individual countries face difficult choices over how much sovereignty they are prepared to relinquish to become well-functioning members of the monetary union. Many will have to be persuaded and cajoled. Yet while current reforms may not go as far as markets would like, they are part of the solution. With them the eurozone will be a more robust monetary union, with stronger instruments and practices for controlling the budgets of its member states than the US federal government has in some respects.

Even with these reforms, some argue not just that further competitiveness measures are needed, but that the euro is unlikely to survive. They believe the single currency had design flaws from its inception, including an inability to contain public sector deficits or deal with regional shocks. The crisis is taken as evidence that the eurozone is so far from being an optimal currency area that it is doomed.

This view is much too pessimistic, for two reasons. First, **the economic costs of abandoning the euro would be huge**; much greater than negotiating a tough second round of competitiveness reforms. A safe-haven, new-DMark Germany could see its currency appreciate way beyond the point of competitiveness, damaging its exports and provoking recession. Meanwhile, depreciating southern European economies would see the domestic currency cost of their euro-denominated debt soar, provoking defaults, bank bankruptcies, a collapse of lending and recession.

The second is fundamentally political. The European Union (and the euro itself) have tied their members together and proved a magnet to emerging European nations – a queue of which still seek to join. It is true that Chancellor Angela Merkel and President Nicolas Sarkozy are under intense political pressure not to agree to any deal that gives the impression of letting the periphery countries off too easily. But in the final analysis it is hard to envisage either politician wishing to go down in history as having presided over the dissolution or fragmentation of Europe.

Thankfully, the eurozone's original deficiencies can be fixed. The current measures go some way to doing so. In Europe, it often takes a crisis to provoke the reforms needed to prevent a crisis. And as the proposed reforms bear fruit, and structural characteristics converge, the union will become less prone to the type of problems that currently afflict it – and better able to deal with new types of shock should they occur. This crisis may therefore not be the last. But because the cost of failure is so grave, Europe, and its monetary union, will survive. ■

Only Keynes's animal spirits can intoxicate our hung-over economies

The Observer, 22 August 2010

Neither increased government spending nor austerity can solve the world economy's problems on their own. We must give entrepreneurs a reason to rediscover their exuberance.

It was Joan who set me straight. Joan Robinson. Joan, who, as a young academic in Cambridge, had sat each evening at the feet of John Maynard Keynes upon his return from a day in London, to catch up on his latest thoughts and relay them to his disciples in the other colleges. Keynes himself died in 1946 and Joan in 1983, which is a pity: not least because, were he or she alive today, they would be straightening out a few other people the way Joan helped me back in 1970.

At the time I was experimenting with indicators of consumer and business confidence to see whether they could improve the ability of Wynne Godley's models of the British economy to track the data of the day. Statistically speaking, they did a creditable job, so when Joan asked what I was doing and I told her, I was nonplussed when she replied that it was "not the point".

"Confidence indicators tell you only about the present," she said, "and that is not very important." What Maynard was concerned about, she went on, was "animal spirits" – the optimism of businessmen to borrow and spend today, even though the resulting output can be offered for sale only in a future that is intrinsically unknowable.

To my shame, while Joan's riposte struck me forcibly, I did not for many years fully take her point. Today, however, I have come to appreciate that what Joan was trying to get into my head was, and remains, of fundamental importance.

Every year, households and companies save part of their income. That saving has to be borrowed and spent, otherwise the economy slides into recession. But borrowing has to be paid back, and with interest, so it had better be used to finance investment, rather than mere consumption.

Hence the fundamental significance of animal spirits. As Joan explained, entrepreneurs may be "confident" that their revenues will continue to exceed their costs. But that does not necessarily mean that they will feel sufficiently spirited to expand their capacity. That requires faith that, in the unknowable future, demand will be higher than it is at present.

That is broadly the situation in most western economies today. In aggregate, the corporate sector is in no mood to borrow on anything like the scale needed to ensure that the economy's full rate of saving gets spent.
In response, governments have stepped in to fill that borrowing and spending "hole". By so doing, they are indeed preventing demand from falling. But while it is currently easy for governments to borrow – to sell bonds – the resulting levels of debt will eventually start to worry investors. Then, as in the early 1980s, governments will have no option but to tighten fiscal policy. And that damages demand: 1982 saw zero growth among members of the OECD for the first time in its history.

OECD governments must therefore do whatever they reasonably can to inculcate the belief that the future will be a good one. But here opinion is divided. While it is too soon to be sure exactly how much fiscal tightening each government will actually do, it is clear that the rhetoric differs from country to country.

US policymakers evidently judge that animal spirits are best maintained by keeping aggregate demand as high as possible in the near term. That is understandable. Americans have an innate fear of depression – in the Great Depression, US output fell, peak to trough, by a staggering 30%, far more than in any other country.

Reassuring continental Europeans, however, and particularly Germans, about the future is likely to involve promising them that the state finances will remain sound, even if that comes at the risk of weakening demand. That too is understandable. It was hyperinflation, not the Great Depression, that so fundamentally seared the German psyche. A senior German economist whose father was killed in the second world war once explained to me that his uncle brought him up to be even more frightened of inflation, with its devastating consequences, than of war.

So what of the UK? Are Britons more like Germans, or Americans? Probably, as in so many cultural matters, they are somewhere in between, in which case UK political rhetoric, which places more emphasis on deficit reduction than in the US, but less so than in Germany, is understandable. The recently deceased Professor RCO Matthews once annoyed neo-Keynesians by demonstrating that the reason the UK had avoided a recession on the scale of the Great Depression was not the actual operation of counter-cyclical policy, but the belief that such a framework was in place and would work if needed – the animal spirits argument in modern guise.

It is a pity that Joan is not alive today to talk to those who, in analysing a world that is increasingly globalised in respect of trade, make the mistake of thinking that it also has a globalised culture. A full and proper recovery, when it comes, will happen because entrepreneurs' animal spirits are rejuvenated. The most that governments can do meanwhile is draw the best possible balance between supporting demand today and delivering a sound fiscal position tomorrow. ■

It's possible to subtract mathematics from economics

The Observer, 16 August 2009

Recently a friend asked me if I would do her a favour. Her son, she explained, is intelligent, interested in economics and wishes to study the subject at university. But his school has said that he has insufficient mathematics. Would I please advise him?

I groaned inwardly. Why, I reflected, are so many universities insisting on competence in mathematics as a prerequisite for studying economics? There is, I concluded, a reason – but it has been greatly overdone.

Part of it derives from the fact that economies are complex. Gaining insight into even their most basic functioning requires the study of numerous interactions – of the behaviour of consumers, firms and governments; of wages, profits and taxes; of inflation, productivity and exchange rates.

Moreover, unlike relationships in the pure sciences, those in economies change over time with the evolution of technologies, the rise of new economic powers, the growth of incomes. No wonder that some of the cleverest scientists are prone to saying that the economic system is too difficult for them to understand. I well remember my father, an

X-ray crystallographer, and who in later life became fascinated by economics, once expostulating "My God, this subject is complicated!"

No wonder also that economic theorists seek to obtain, and economic teachers seek to convey, basic insights from theories that make sweeping, simplifying assumptions in order to illuminate how parts of the system may function.

And it works: I still remember my wonderment as I grasped the classical theory of comparative advantage, which showed how it was in the interests of Portugal, notwithstanding its (then) poor, low-wage economy, to give up some of its scarce wine and trade it for cloth produced in rich, high-wage England, rather than produce cloth itself. The exchange raised the incomes of both countries.

Such illuminating theories can be expressed in words and diagrams. But they can be demonstrated more succinctly, and more rigorously, using the language of mathematics.

But while mathematics is the language of much science, the use of mathematics does not make economics a science; and nor is mathematics always the best tool for dealing with the additional complexities that constitute the real world.

The best economic theorists, and the best economics teachers, are well aware of this. They regard theory as the starting point, but most certainly not the end point, in understanding the real world. They generally have considerable respect for good applied economists, who, when considering a real-world issue, start with the most relevant theory, but then consider how the specificities of the situation may change the analysis.

Too many economists, however, are reluctant to get their hands dirty in this way. Gerald Holtham – no mean theorist, but also a creditable practitioner of applied economics and applied finance – puts the matter thus. "It's as if an engineer were to try to build a structure using Newton's laws of motion and nothing else. Friction, air pressure, elasticity of materials etc. are all assumed away. There is no equivalent of engineers in economics. No one wants to be Brunel; everyone wants to be Einstein and produce a 'general' theory."

Training students to become good economists is, admittedly, not easy. One discipline that can help in teaching how to bridge the gap between theory and reality is economic history – or at least case-study analysis – and it is one of life's pities that so little is taught in so many of today's economics courses. Because it had been so long since the world last had a major financial crisis, the theories and models being taught in universities had forgotten the mechanisms of asset price bubbles, financial crisis and economic collapse. This was unhelpful for the policymakers who found themselves having to deal with the recent crisis: they have been obliged to draw not on the corpus of modern theory, but on lessons from the 1930s, the Nordic banking crises of the 1990s, and Japan's 'lost decade'.

Equally unfortunate is the excision of the history of economic thought from nearly all courses: today's crisis demonstrates the undiminished relevance of long-dead economists from Keynes to Fisher, Schumpeter to Kalecki, Minsky to Hayek.

The economics profession has also been less than assiduous in digitising its past writings. I remember my father telling me, back in the 1980s, of being shown an electronic database that included scientific articles he had written in the 1930s. The same is not true in economics: scan the bibliographies of many economic articles today and you will be left with the impression that little of importance was written before the 1990s, and virtually nothing before the 1960s.

Maybe it is the difficulty of finding electronic versions of old economic writings, or perhaps it is the tendency to treat anything more than 20 to 30 years old as ancient history, that accounts for a conversation I had recently with a young, highly trained economic researcher. Proficient in mathematics and econometrics to a degree I could only envy, she was introducing her latest research. "I started off," she said, "by conducting a Google search. And I found this interesting article. It is really old, but it is quite useful." I looked at the reference. It had been published in 1995.

It was with these thoughts running through my mind that I spoke to my friend's son. My advice was that he should persevere with his interest in economics. Find a university that, as well as economic theory, offered also economic history, applied economics and even the history of economic thought.

I hope that I was right. And that he can find such a curriculum.■

Not Dancing Now

The World Today, Chatham House, November 2008,
and reprinted in The Diplomat, December 2008/January 2009

It is an old public policy adage that, before you can decide where you want to go, you first have to understand where you have come from. The present crisis – no longer is this too strong a word – might be taken to imply that the matter is too urgent for the luxury of a post mortem; and certainly, it will be decades before a definitive assessment is in. But at the same time, it was the failure of the $700 billion package designed by US Treasury Secretary Henry Paulson to address even all the known key issues that led investors to judge it inadequate.

Once they had reached that judgement, mistrust of the financial system spread so fast, and sentiment deteriorated so substantially, that a basically unified set of policy actions was urgently needed, across all major countries, to address all of the main identified causes of the present situation.

It is too soon to tell how successful, and how durable, the totality of the policy actions to date will prove. What has already become clear, however, is that this is no longer – if it ever was – a single-solution problem.

How did matters come to this? At a minimum, the causes include the following.

At the macroeconomic level, the United States elected to fight a war and to cut taxes, a dangerous duo that led to the federal government consuming way beyond its income. The US Federal Reserve, meanwhile, kept interest rates too low for too long following the dot.com collapse in 2000, further encouraging American consumers to consume beyond their means.

Collectively, the US has been consuming more than it produces – it has been running a current account deficit – to the tune of over three percent of gross domestic product from 1999, and over five percent from 2004.

Meanwhile, the penchant for fixed or quasi-fixed dollar pegs in China, the Middle East, and elsewhere amplified the effect of loose US monetary policy. Large consequential current account surpluses of much of the non-US world, which were reinvested in significant part in the US, helped keep Washington's interest rates low.

US investment banks in turn borrowed cheaply and extensively on the wholesale money market, lending so much to consumers through mortgages and loans that they sparked a property boom, which fuelled yet more consumption, the whole ending in a classic bubble. In the process, the investment banks invented a range of complex products, and special investment vehicles so their balance sheets did not reflect the scale of their activities.

Other countries participated in parts of this story. Australia, Britain and Spain in particular replicated the housing boom; and investors in many countries bought substantial amounts of the US mortgage products its investment banks had manufactured in industrial quantities.

The situation was unsustainable: and, as the American economist Herb Stein famously observed, 'Things that can't go on forever, don't.'[1]And they haven't.

Authorities let it happen

A number of people foresaw some of the potential consequences, though few if any identified the totality. British economist Wynne Godley had long been warning about the macro economic imbalances. American economist Nouriel Roubini got closest to the potential financial consequences, warning back in 2006 of an impending housing market bust and, in February of this year, of the risk of 'catastrophic' financial system failure.

Most investment bank chief economists, to my certain knowledge, warned repeatedly about the unsustainability of the global, and particularly the US, macroeconomic configuration: but their masters, not wanting or not able to 'leave money on the table' did not want to hear. Chuck Prince, then-Chairman and Chief Executive of Citigroup, implicitly spoke for them all when he said, in July last year, 'When the music stops, in terms of liquidity, things will be complicated. But as long as the music is playing, you've got to get up and dance. We're still dancing.'[2]

Systemically dangerous though that situation that that situation is, it would be naive ever to expect bankers to internalise systemic risks. In the private sector in general, and investment banks in particular, it is inevitable that the business divisions that gain power, capital and prestige are those that most successfully exploit the profit opportunities the system permits.

What then of the authorities? The Bank for International Settlements in general, and William White, the former head of its Monetary and Economics Department, in particular, were the only ones who really sounded warning bells: White himself systematically and tirelessly warned of the large and growing risks, but by and large he was dismissed as a Cassandra. In the policy world, much as in the investment banks, no one wanted to believe the story.

At the Organisation for Economic Co-operation and Development (OECD), the problem fell between the cracks of its mandate: financial risk was not central to the focus of Working Party 3, and the Financial Markets Committee had been focusing on tactical, rather than strategic, issues.

The International Monetary Fund is now claiming that it warned about unsustainability, and certainly the words can be found in its writings. But equally certainly it did not shout from the rooftops: the host of Financial Stability Reports after the Asian crisis failed to capture the degree of risk building up in the global financial system.

The group of seven leading industrial nations, including its finance wing, is a cumbersome group that has never got into working mode. And the Financial Stability Forum, the only body with access to the truly confidential data on which serious work would have had to be based, and which could have drawn on the considerable resources of the major central banks, mentioned risk but did little serious quantitative analysis.

And so, as policy drifted, matters started to go wrong. At first things started quite gently, and were largely a US-only story. The easy lending slowed and then stopped during 2006 to 2007. House prices peaked and began to fall. Then recession threatened as construction of new houses and production of consumer durables nosedived.
Home owners started to default on mortgage payments and consumer loans, especially as house values fell below mortgage values. The banking sector began cutting back sharply on lending, in line with the fall in its capital following the write-off of bad mortgage and consumer loans.

This is all pretty standard stuff: such has been seen before. Had it stopped there, there would likely have been a substantial US economic slowdown, quite possibly a recession, and due reflection of this in the rest of the world. But matters suddenly spread beyond the US, at a speed that surprised even Roubini.3

Trigger

Historians will debate the trigger: but George Soros for one has judged that it was the bankruptcy of Lehman Brothers that '… has thrown the financial market into turmoil.' Asked on September 18 whether Lehman should have been rescued, Soros replied '… that depends on whether the financial system survives it or not. If the financial system survives it, then it was the right thing to do to let them go bust. If there is a meltdown, then obviously it wasn't, because there is one thing that is clear: you mustn't allow the financial system to collapse as it did in the 1930s.'4

And on 8 October the French Finance Minister, Christine Lagarde, told French radio that 'US Treasury Secretary Henry Paulson made a mistake by letting investment bank Lehman Brothers fail…that allowing the failure of a major bank like Lehman was like letting a "domino" fall – running the risk that the entire interlocking financial system could collapse.'5

Perhaps the final judgement will be that the collapse of Lehman Brothers was the proximate trigger, but that, with the world's financial tinder so dry, it was virtually inevitable that something would spark the wildfire spread of distrust worldwide in virtually all paper assets.

What to do

It became abundantly apparent, over a space of just a few business days, that the over-riding issue had gone way beyond merely trying to reduce the risk of global recession. The goal had to be to avoid an outright collapse of the financial system, and thereby deep recession.

It also became clear that this implied at least two, conceptually quite distinct, thrusts for policy:

- Restoring basic confidence in the monetary system; and
- Filling in for the market functions that investors and institutions were refusing, or were unwilling, to undertake.

Moreover, countries clearly had to act in concert, for two reasons. First, financial systems are so closely linked, nationally and internationally, that money can flow almost instantly from anywhere that it is perceived to be unsafe to somewhere that is perceived to be safer. And second, if one country makes a move unilaterally, markets initially assume that the problem must be particularly great in that country; and then they judge others to be 'behind the curve' if they do not follow.

Hitting all fronts

As to what the authorities should do, in concert, it is, in my judgement always advisable to hit the issue on every known front – much as the authorities have learned to hit an outbreak of foot and mouth disease, or any other such contagious disease, on all fronts simultaneously.

Hence a full package of measures may need to consist of most, or all, of the following:

- **Coordinated interest rate cuts** by all major world economies.

- **Guaranteeing of all bank deposits**, at least for individuals, but quite possibly for all depositors, for a significant period – a year or more.

- **Guaranteeing that no bank anywhere will be allowed to fail** for at least the next several years – whether by the authorities recapitalizing any failing bank, or at least providing liquidity in the event of a run.

- **Removing compromised assets** from the balance sheets of private financial institutions by government sponsored and financed mechanisms.

- **Sustaining any important market** that ceases to function, be it the commercial paper market, inter-bank lending, or whatever.

- If necessary, **making short-term loans directly to corporations** – essentially buying commercial paper for cash.

- **Easing the repayment terms** on existing mortgage holders, to reduce the flood of defaults and foreclosures that will otherwise occur.

- **Perhaps going to even more unusual lengths**, if the long end of the bond curve remains reluctant to decline, because this would prevent the real estate market from recovering and cause bankruptcies to increase particularly sharply.

The measures announced by the British authorities, who have shown an impressive ability both to take responsibility and to act fast, go a fair way down this list; and those foreshadowed by the Eurozone stand to measure up similarly. US action, by contrast, has been too shallow, and will have to evolve into a more comprehensive package.

None of this is to say that sufficient has necessarily been done to restore financial stability: even Britain and the rest of Europe may yet end up having to go further. The financial system is complex, with many transmission channels. Any of these is capable of ceasing to function, so the authorities have to be ready to step in and replace them, sometimes almost at a moment's notice.

Even if all of these suggestions are carried out, the most they can hope to achieve is to prevent recession from going as deep, and lasting as long, as it would if left unaddressed.

Moreover, the fundamental macroeconomic conditions that gave rise to this situation remain largely unaddressed.

The one encouraging feature, so far at least, has been that policymakers seem determined to avoid the traps of protectionism, bilateralism, debt default, and competitive devaluation that swept the globe in the 1930s, and which deepened and prolonged the Great Depression. It is devoutly to be wished that that remains the case, in the face of the populist political onslaught that is almost certainly bound to follow.■

The Shock of the New

Prospect November 2008

Some 25 years ago, when I was in charge of forecasting at the Organisation for Economic Cooperation and Development (OECD) in Paris, a colleague and I conducted a detailed post-mortem on the accuracy of economic forecasts. We wanted to understand why forecasters had got things so badly wrong after the great 1973-74 oil shock.

Our conclusion was that in most years economic forecasting is quite accurate – actual GDP growth generally comes out to within plus or minus 1 percentage point of estimates prepared a year ahead. However, forecasters get thrown when two conditions are present simultaneously: when economies are subjected to a shock that is large – which we took to be a shock of 1 per cent or more of GDP; and when that shock is novel – meaning that it involves transmission mechanisms that have not been observed before.

The oil shock of 1973-74 was a global exemplar. It was certainly large, at a stroke raising prices in OECD countries, and thereby reducing real incomes, by around two percentage points. And it was also novel. About 2 per cent of OECD GDP had been transferred to a handful of oil-producing countries, and no one knew how fast they would spend this money, where they would park it while they were deciding, and what and from whom they would buy when they ultimately did. In the event, it took the oil producers several years to spend their windfall; they parked their unspent balances largely in US treasury bonds, and the resulting increase in world savings slowed world GDP growth to a crawl for several years.

By contrast, the 1978-79 shock, while equally large, was not novel – because it was now understood how oil shocks transmitted themselves through economies. And while the consequences of the first shock were poorly predicted, forecasters got the second one right.

Such a framework provides a way in to considering the possible consequences of this present crisis. First, does the current shock qualify as large? On the twin assumptions that the global destruction of wealth arising from the sub-prime collapse is of the order of $5 trillion, and that people reduce their spending by around 5 cents for every dollar that their wealth decreases –roughly the pace at which they increased their expenditure on the way up – the resulting shock to spending might be around 0.5 per cent of world GDP. But that is almost certainly an underestimate. People who have been living on credit and are at their borrowing limit may well have to cut back more sharply than they splurged on the way up; and sharp increases in mortgage costs could also compel sharp expenditure reductions. Moreover, this shock is hitting a world economy that was already slowing. Much of the developed world had probably entered recession some time in the first half of 2008, the result of the US housing slowdown, the doubling of oil prices between 2004 and 2007, and their re-doubling after that.

So a large shock, yes, but is it also novel? Some past crises in individual economies – Sweden and Norway in the 1990s come to mind – were similar in some respects, but these economies were too small to infect the rest of the world. Moreover, by virtue of being small, they could devalue and export their way out of a recession in a way the world can't. Similarly, Japan's "lost decade" of the 1990s, which involved painful deleveraging after a long credit-driven property boom, was a national affair. The assets which have led to today's crunch were manufactured on an industrial scale by the US, and bought by institutions globally.

One other shock – the dotcom collapse in 1999 – slowed OECD growth to 1 per cent or below. But neither this nor the oil shocks involved anything like the current drying up of liquidity and credit, and the uncertainties about who is holding what risk, that has been seen in most of the major economies in recent months.

In some ways, a closer parallel might perhaps be found in the oft-cited events of the 1920s and 1930s, which culminated in the great depression. But this does not represent as close a parallel as is sometimes suggested. One reason is that the size and role of governments is fundamentally different today. In the 1920s, government spending in the rich economies accounted for only 5-10 per cent of GDP. Today this (comparatively) stable component of spending is four to five times as large. Moreover, the so-called "automatic stabilisers," whereby government deficit spending rises as the economy weakens, damp down any shock in a way that was not the case then. And, most importantly, governments accept a responsibility for supporting the economy that simply was not recognised in the 1920s.

It is hard to escape the conclusion that the world economy has been hit by a shock which is both large and novel, not least in respect of the unprecedented sharp rise in inter-bank rates and borrowing costs for companies. This leaves the forecaster in uncharted territory, casting around for clues. One such clue is offered by the OECD, which recently estimated, for the US, that the tightening in financial conditions (including credit conditions) may subtract nearly 2 per cent from GDP over the coming four to six quarters.

If asked to give a best guess, I would conclude that not only is the world economy bound to slow over the next few years, but that world GDP may even fall – which, if it does, would be the first time in post-war history. However, any fall would seem likely to be markedly less severe than in the 1920s, when the peak-to-trough decline in the major economies averaged nearly 12 per cent, ranging from around 30 per cent in the US and Canada to somewhat under 10 per cent in Japan, Italy, and Britain.

If things turn out to be worse, it will probably be because policymakers make a set of fundamental mistakes (such as lapsing into protectionism as they did in the 1930s), or because the media have panicked consumers and companies into reducing their expenditure more than they need to. At the same time, however, we should not fool ourselves. Whatever the precise path of GDP, whether globally or nationally, it will feel awful.■

We're all to blame, even dear old Harry

The Observer 21 September 2008

With global capital losses so far totalling at least $1 trillion, and with these losses leading not only the US economy, but perhaps even the world economy, into recession, the blame game is now well underway.

A first natural target is the risk managers in the commercial and investment banks. They sanctioned a range of unwise investments. Yet in many, perhaps most, cases their micro-level decisions followed due process. The problem was that the assumptions that underpinned their risk models were ceasing to hold – a classic illustration of the distinction between micro and macro analysis. Thus while some responsibility rests with the risk managers, that is not the full story.

A second level of responsibility lies at the level of bank governance. A senior risk manager explained to me recently how he had been authorising property-based investments that, taken one by one, were good individual risks. But had he known his bank's total exposure, he would never have sanctioned these investments, at least in their totality. Clearly there is more to fix in the domain of corporate governance: yet responsibility does not stop there either.

A natural target is the rating agencies, for failing to warn sufficiently of the risks that, in hindsight, have been seen so clearly. And they too are obviously part of the story. However, to hold them responsible for these capital losses is like blaming shopkeepers for inflation: while they bear some of the responsibility, they are scarcely the originating cause.

Similarly with the regulators. Their shortcomings have become evident but it is clear that they were scrambling to understand a range of complex new exotic products whose properties had not been established, at least in times of stress. Perhaps the regulators should have disallowed them: but then only a few years ago people were uttering dire warnings about new derivative products and the phenomenal rise of the hedge fund industry. And, as Charlie McCreevy, the EU Commissioner for Internal Markets, has pointed out, these have stood up interestingly well, so far at least.

Perhaps, therefore, it is the inventors of the exotic new financial products who should be blamed? Maybe. But they were responding to widespread investor desire for higher rates of return than, in a world of record-low bond yields and official interest rates, were obtainable from conventional instruments.

Or maybe the real blame lies with the portfolio managers and their like who bought these products? After all, they are paid to assess risk relative to return. If they did not understand what they were buying, arguably they should not have bought. But theirs is a competitive industry: any investment manager who does not provide the full menu of products and returns stands to lose business – particularly now that investors are inundated with information about where to find the highest rates of interest, and investor capital is mobile at the squeak of a mouse.

Perhaps therefore, the real culprits were the central bankers? Arguably, they took interest rates too low, and held them there too long, following the dot.com collapse in 2000, and then 9/11, thereby fuelling excessive growth of liquidity.

In other words, was the culprit Mr Greenspan's Fed? After all, it led the global rate-cutting cycle, and went the furthest. Moreover, it was the U.S. that experienced the greatest housing boom, the greatest subsequent wealth losses, and is now seeing a construction industry slump that could last for years.

Up to a point, Lord Copper. But remember that, in 2000, policymakers worldwide were preoccupied by the prospect of the US, and perhaps others, following Japan into deflation. Central bankers were not at all sure how, or even whether, they would be able to deal with that: it had already taken Japan ten years to get out of deflation, and it was not certain that it truly had.

Nevertheless, it could be argued that everything is the fault of the US, if only because its consumers have, depending on the year, saved little, nothing, or even less than nothing (by living on credit) at the same time as its government chose to prosecute a war while cutting taxes. All this has contributed to booming US imports and a current account deficit that has weakened the dollar, threatening the exports, and hence GDPs, of other economies.

Again, maybe.

But possibly, the top layer of blame belongs to the 1945 architects of today's international monetary system. At Bretton Woods, Britain's Lord Keynes argued for a world institution with authority to oblige both debtors and creditors – that is, in today's case, both the US and China – to change their policies. But the US, through Assistant Treasury Secretary Harry Dexter White, gave that plan short shrift. What emerged was little more than a fixed pool of national currencies and gold, administered by an IMF that was charged only with managing nations' trade deficits.

So, over half a century later, has the real culprit been identified – a US Treasury Secretary who is, conveniently, long-dead? Probably not. The key point to recognise is that the world is a complicated place. There is seldom, if ever, a single cause of anything, and certainly not in the world of economics and finance.

What is vital now is to learn all the lessons from what has happened, and continues to happen. There will have to be reform at a great many levels, from the most micro to the most macro. And then it has to be hoped that, when all the new pieces have been fitted together, and the world economic engine starts to rev up again, all its new bits function well together, without the machine flying apart.■

Your employer will still need you when you're 64 (and a little more)

The Observer 24 August 2008

One thing you cannot deny is ageing. This has been a source of satisfaction to me over the past year. You see, for two years before that, I had been writing on climate change. And while months of labouring through scientific articles led me to conclude that something serious is probably going on, many of the deniers, like many believers, saw little need for evidence, even when forming strong opinions.

Ageing, by contrast, cannot be denied. The evidence stares one in the face; every morning I shave my father. So what has this journey into the Business of Ageing taught me?

First, longevity has been increasing astonishingly fast. In 1914, when my father was born, people were living, on average, to age 52. When I was born, in 1944, that figure was 63, already some 11 years longer.

Second, rising longevity is nothing new. But for the wars, it has been going on steadily since the Industrial Revolution – and at an astonishing three months per year since 1950. Government actuaries keep predicting that the rise will level off: company actuaries assume this even more strongly. And many doctors and scientists support this by arguing that we have made all the easy medical advances, so that the ones that remain are the really hard ones.

Maybe: although that which is known always seems easy, while that which is not always seems difficult. The fact is, however, that the rise in longevity has not slowed these past 160 years.

Third, these 'extra' years seem, by and large, to be healthy ones. The onset of chronic diseases and disability occurs, on average, at an ever-later age, so that healthy life expectancy is increasing at much the same pace as life expectancy itself.

Fourth, the main challenge of an ageing population arises not only from the fact that people are living longer, but also from the post-Second World War baby boom, which is particularly important for North America, Western Europe and Oceania. The baby boomers, of whom I am almost one, are generally taken to be those born between 1946 and 1964, so the first will turn 65 in three years' time. And they are numerous. In the US, France, Germany, the UK, and a number of other developed countries, baby boomers represent around a third of the adult population.

The fact that people are living longer, and that the additional years are, by and large, healthy ones, requires a redefinition of 'old' just as it does of 'middle-aged'. If 'old' is taken to mean a given degree of health or disability, clearly the age at which people become 'old' is moving further and further out. The same applies if the definition is couched in terms of the ability to work. In 1950 it was appropriate to consider a 65-year-old as ‘old’; today that term would apply only to a person who is nearly 80.

Why, then, has the official retirement age not changed since my father started his first job? Moreover, why until recently were more and more people retiring even earlier, in their 50s? The reason seems to lie partly with public policy, especially on the Continent, where policymakers have believed there are only a given number of jobs, so that to employ more young people requires kicking older workers out of theirs. That argument is self-evidently fallacious: if the number of jobs were indeed fixed, unemployment would be rising in every country with a growing workforce.

However, private-sector practices, too, have contributed to early retirement. Defined-benefit pension schemes, in particular, encourage workers to retire when they judge their incomes to be at a maximum, which is often when they are in their mid-50s.

Looking ahead, however, the progressive demise of defined-benefit schemes, and the changes that are being made to public policies in most countries, mean that these disincentives to working will progressively disappear. The interesting question is how long, and to what age, people will then choose to work.

Calculations at Lehman Brothers suggest that, once people’s choices are unfettered, they will probably work around five years longer than at present. And this may be an underestimate as it becomes more widely appreciated that working tends – in today’s predominantly service-sector world at least – to prolong healthy life.

The truly surprising thing is that most companies seem ill-prepared for all this. Whether they have thought about it or not, the population is ageing, and will age further: and, whether they like it or not, their workforces are going to mirror that. Yet a survey by the consultancy Manpower across 25 countries found that only 18 per cent of companies had any sort of plan for engaging with an older labour force – the two important exceptions being (no surprise) Singapore and Japan.

Pessimists will argue that an increased proportion of older workers implies decreased inventiveness, difficulties in adapting to new technologies, and lower productivity. Maybe – though young people will not be disappearing completely. And older workers, meanwhile, bring experience, reliability and, apparently, lower absenteeism. In some activities in which the technology is not changing very rapidly, their abilities improve with age. For some reason, journalists and economists leap immediately to mind.■

Review – Riccardo Rebonato's Plight of the Fortune Tellers

Princeton University Press, 2007

Remember that feeling of bewilderment after your first few weeks in your first job after university? That wrenching realisation that, while the theories that you had laboured to understand may have been illuminating, they were too abstract to be applied to the real world?

Reading Riccardo Rebonato's intriguing book brings those memories flooding back. For while Rebonato well understands, approves of, and writes about quantitative probability and risk theory, his day job involves actually managing financial risk. Hence he appreciates the limits both of theory and of applying it to real world situations.

Rebonato had a lot that he wanted to get off his chest in this book, and certainly it tumbles out. The book is thereby not an easy read: form to an extent follows content. The serious reader has no alternative but to plough through it, line by line, chapter by chapter. Nevertheless, if this reviewer has read the book right, a persuasive thread of argument runs through it, along the following lines.

There is today a basic problem today with the management of financial risk: too much attention is paid to measuring it; yet too little to how to reach decisions based on it. The widely-used value-at-risk (VAR) framework in particular is employed too uncritically.

Moreover, quantification is often spuriously precise. The properties of the tails of the distributions with which the management of financial risk is perforce concerned tend to be inferred from distributional forms that derive their apparent persuasiveness from the tightness with which they fit not the tails, but rather the main body, of the curve.

Risk managers in turn tend to infer rather more than they should from these (assumed) tail properties: in many cases, the most that can legitimately be said about such probabilities is that they are nonzero.

Hence the world needs a better mousetrap. Rebonato asserts that, ultimately, managing financial risk is about making decisions under uncertainty, and that more appropriate techniques are available. He favours a more subjective approach, involving probability, experimental psychology, and decision theory, as employed in a number of the physical and social sciences, notably 'Probabilities-as-degree-of-belief' and 'Probabilities-as revealed-by-actions'. These tools are less precise, but that is a virtue: like Keynes, Rebonato would prefer to be approximately right than precisely wrong.

At least two important consequences follow from all this:

First, there is a disconnect between young recently-trained 'quants', who are adept at solving well-defined, technical problems (Rebonato dubs them 'ignorant experts'), but may not understand the full dimensions of the issue; and their managers. who understand the questions that need answering but do not understand their quants' techniques, and so have to take on faith that the quantitative approach chosen will not only be technically correct, but also 'makes sense' for the problem at hand.

Second, it has been difficult for the regulators, looking in from the outside, to appreciate this degree of disconnect.

There is considerably more meat in this wise, practical, yet unpretentious book than can be summarised in a short review. And it is also contains a number of memorable one-liners: particularly apposite in the current environment is the observation that "It is much easier to pass risk around than to make it disappear.

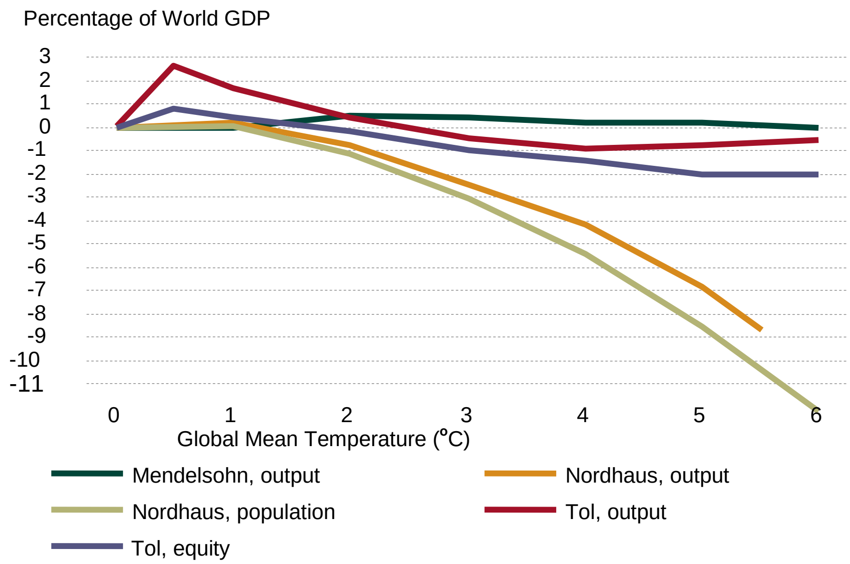
Taking the Heat

Quantum, April 2008

One thing that chief executives have to contend with above almost everything else is that most of their decisions are taken under conditions of uncertainty. Their capital investment decisions, for example, which do so much to determine their company's future, come on stream only well into the future, into a world that can be foreseen only hazily, at best, at the time the investment decision is taken. Will the oil price then be $50 per barrel, or $100? Will inflation still be under control? Will China still be growing super fast, or will it have run into constraints? How will India be performing? The list of uncertainties is long.

Thus it is, too, with respect to the issue of climate change. While considerable relevant science is known, there is also much that is not. Similarly, while estimates of the consequential economic costs have been made, with considerable ingenuity, they are nevertheless uncertain [see chart 1]. And, most importantly for businesses, the policy response to all this is only now just beginning to take shape; and even then – so far – only in some parts of the world.

Chart 1: **Economic costs of climate change: results from three economists' models**



Source: Smith, J.B. et al. (2001), Vulnerability to Climate Change and Reasons for Concern: A Synthesis, in IPCC Third Assessment Report.

All these uncertainties notwithstanding, CEOs of many of the world's largest corporations, as well as many of the smaller, are fast starting to factor climate change considerations into their decision-making. Why?

Until a few years ago, most people, even if they took climate change seriously, perceived it as a slow-moving, even if powerful, force that would wreak its effects only far into the future – way beyond the period of stewardship of most current CEOs, who anyway had to concern themselves primarily with the next few sets of quarterly results.

However, recent experience has led to revision of that view. For starters, investors in financial markets have found that climate change considerations are already affecting asset prices, for at least three (interlinked) reasons:

- First, markets do not wait for an event to happen: they anticipate, even in the case of slow-moving variables, such as population ageing. (Look at how market valuations of companies with large defined-benefit pension obligations have been hit, as estimates of longevity have been revised upward.);

- Second, and even more importantly, asset prices can be affected up front by policy changes, such as might well be made in the name of climate change. (Look at the way that pollution regulations are affecting the prices of second-hand cars, or that building standards are starting to affect the prices of commercial properties.) And

- Third, markets anticipate policy itself. (Look at how US equity markets are starting to differentiate between different utilities, even though they are not – yet – affected by climate change regulations.)

Such changes in asset prices, with which markets are just starting to grapple, are of course merely manifestations of the basic forces being felt by the companies themselves.

As CEOs ponder the matter of climate change, they are seeing that it can affect their companies in at least three major ways.

Physical exposure

There is virtual consensus among scientists today that, even if all greenhouse gas emissions were to cease immediately – which they will not – the world's mean temperature would nevertheless continue to increase, because of oceanic thermal inertia, by probably a further 1ºC. Even such an increase, which is less than is likely to be experienced, would produce a range of business impacts. Some examples.

Melting of snow and ice would directly affect the snow and ski industry. The Organisation for Economic Cooperation and Development (OECD) estimates that a 1ºC rise in temperature would imply a decrease of 18% in Europe's "snow-reliable" ski areas; a 2ºC increase a decrease of 34%; and a 4ºC increase a decrease of 67%. With some regions likely to be affected more than others, there would also be important differential impacts on the values of ski areas and villages at different altitudes.

Water resources also stand to be impacted. One example. As glaciers melt, the initial effect will be to increase the flushing through rivers and streams. But as the melting proceeds, runoff stands to diminish: and such glacial melting stands to reduce the water supplies of at least 40% of the world's population. The business implications could be huge.

A third direct effect is sea level rise. The likely extent is still uncertain, but recent evidence suggests that the rate of melting of Arctic and Antarctic ice, which is considerably higher than had earlier been thought likely, will cause the sea level to rise by several meters over the coming hundred years. This realisation is already starting to affect property values, not least through the increasing cost of insuring low-lying river and sea properties that will be increasingly prone to flood and storm damage.

Policy exposure

It looks increasingly that, after the Presidential election, the US will join Europe in enacting some sort of comprehensive policy to limit carbon emissions. Any policy that limits carbon emissions raises the price of carbon, whether directly, for example through a carbon tax or an emissions trading scheme; or indirectly, through the imposition of regulations and standards.

An increase in the price of carbon in turn stands to have a range of direct and indirect impacts on companies. For example, Europe's Emission Trading Scheme (the EU ETS) already covers around 50% of total emissions, and the affected sectors covered, including utilities, chemicals, and building materials, are obliged either to purchase permits to emit, or to invest in low-carbon-emitting technologies. In response, utilities, for example, have already heavily invested in Clean Development Mechanism (CDM) projects, and have made major investments in clean coal technology, nuclear, and renewables so as to decrease carbon emissions.

There will clearly be important differences in the way and extent to which a higher price for carbon will impact different sectors, but obviously, energy-intensive sectors such as aluminium smelting and cement manufacture will be particularly affected. However, there will also be important differences within sectors. For example, a recent study of a sample of 33 US electricity companies, whose return on capital ranged from 8.6% to 1%, concluded that, had these companies been obliged to pay a relatively modest $14 per tonne of CO_2 emitted, these figures would have been 6.7% and -14.2% respectively.

Regulation policies also have direct impacts, on some sectors especially. The auto sector is particularly exposed to regulation, in both Europe and the United States, as well as in Japan. The European Commission, for example, plans to introduce legislation to decrease car emissions to a mandatory target of 120g CO_2/km, from the present average of around 165g. As a result of such actual and prospective policies, manufacturers are taking action and are developing new technologies, such as hybrid electric vehicles and advanced petrol and diesel engines [see chart 2].

Chart 2: Manufacturer fleets – average CO_2 emissions (g CO_2/km)

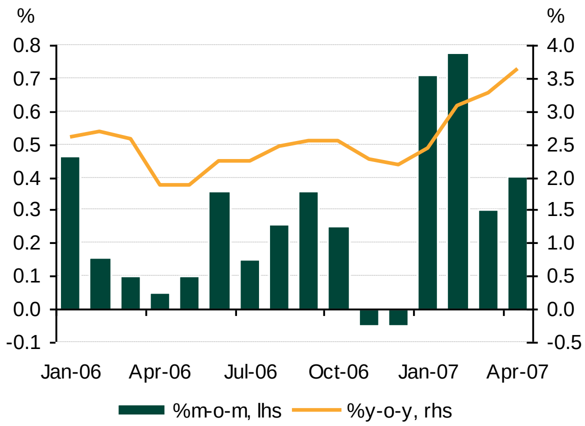
Manufacturer	1997	2005	2006	Improvement 1997-2006
BMW	216	192	185	14%
Citroen	172	144	147	14%
Mercedes	223	185	191	14%
Fiat	169	139	141	17%
Peugeot	177	151	147	17%
Porsche	310	280	276	11%
Renault	173	149	147	15%
Volkswagen	170	159	163	4%
European fleet average	**182**	**164**	**160**	**11%**

Source: RL Polk Marketing Systems Gmbh, ICCT.

The real estate sector is also particularly exposed to regulation, at three levels – local, national, and international. These regulations constitute a key challenge for real estate companies. On the one hand, new buildings have to meet sustainable energy requirements. On the other, the treatment of the existing stock of buildings poses a major difficulty for real estate companies because of the risk of obsolescence from regulation, as well as quite possibly, by environmental labelling.

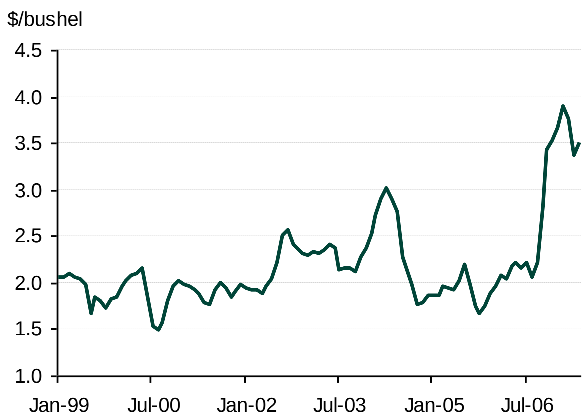
A recent example of an indirect – and somewhat unexpected – impact has been the worldwide increase in food prices which has accompanied governmental pushes to ethanol production. Corn prices increased by 50% between August 2006 and August 2007, and a significant proportion of this cost increase has been passed through to consumers [see charts 3 and 4].

Chart 3: Food price changes



Source: Bureau of Labor Statistics.

Chart 4: Corn spot price



Source: Bloomberg.

There is a business-positive side to all this too, however. Climate change policies lead to shifts in consumer demand towards less carbon-intensive products. This creates potentially huge opportunities for many sectors, many products, and many inventions. Thus, telecoms have an important role to play in 'dematerialisation' and transport substitution, by allowing flexible work solutions, and video conferences. The renewables industry is already burgeoning. Technological research with potential applications as diverse as the auto and the materials industries is racing ahead.

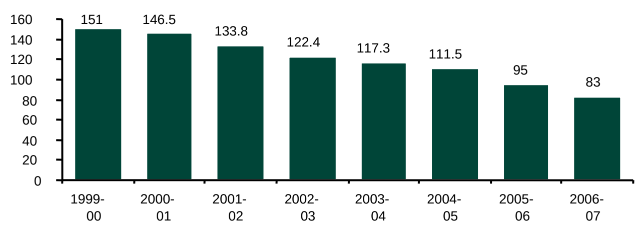
Reputational exposure

In the short term, there may be substantial effects on the growth prospects of companies in sectors where the impact of consumer behaviour is disproportionately high, such as those with a large exposure to the retail market. For such industries, taking a position that goes in the direction of environmental protection and action against climate change stands to be viewed positively by consumers, and this will in some cases at least enable companies to gain a competitive and reputational advantage over their competitors.

Conversely, consumers tend to look down on sectors that have a particularly detrimental impact on the environment. Airlines are a case in point. Although this industry accounts today for only 2% of global CO_2 emissions, it is often depicted as one of the main culprits, and risks being singled out by policy makers for particular attention. And oil and gas companies tend to be similarly regarded. Conversely, sectors such as renewables are well regarded, as they are perceived to be contributing to solving the climate change problem.

Important though reputation is at the sector level, it is potentially even more important at the firm level. Within a given sector, some companies may have, or develop, a good climate reputation, whereas others may suffer a loss of reputation. There are already several cases of this affecting corporate performance in the retail sector in some countries [see chart 5].

Chart 5: Tesco's energy use per square foot (KwH/ft^2)



Source: Tesco's Corporate Responsibility Report 2007.

Conclusion

Climate change may itself affect companies directly only in the long run. But climate change policy stands to affect companies much sooner: and climate change policy is on the move.

Firms that will prosper in a changing world tend to be companies that:

- Inculcate in management a constructive culture of adaptation to a changing economic landscape;
- Encourage employees to embrace change, and equip them to do so;
- Undertake the requisite research and development, which is often highly industry- or even firm-specific; and
- Translate this research and development into appropriate investment in physical and human capital.

The future is not certain: it never is. But one thing is certain: climate change is, at the very least, one more of those factors for change that results in some companies emerging as winners, and others fading as losers. And the winners, at least in respect of the climate change challenge, will be those that were early to recognise the importance and inexorability both of climate change and of climate change policy; foresee at least some of the implications for their industry; and take appropriate steps well in advance.■

Get a grip on the cost of carbon

Financial Times, 19 September 2007

The time has come for finance ministries to get a grip on climate change policy. I have come to appreciate this after 15 months of talking to companies, investors, academics and policymakers around the world for a study, The Business of Climate Change II, published this week. The picture that emerges is of piecemeal, disorganised policymaking, reminiscent more of Soviet central planning than of modern market economics.

In most countries the dominant framework of thought on climate change policy is technical. In part this is understandable: it was technology that enabled mankind to extract and burn hydrocarbons and it will be technology that develops the alternatives. But climate change policy is equally an economic issue. Developing and switching to new technologies come at a cost and there is an important interest in keeping that to a minimum. Yet the preoccupation with technology and regulation, rather than with costs and market mechanisms, is pushing up the bill unnecessarily.

Various academic economists have estimated the cost of the damage done by carbon emissions. Illustrative orders of magnitude might be \$50 a tonne today, rising to \$100 by 2050. Some technologies – energy-efficient light bulbs for example – save carbon markedly more cheaply than this: at a cost of $10 per tonne by my rough calculation. But others cost way more. The European Union's proposed car regulations implicitly value carbon at between $700 and $2,300 a tonne, depending on future technologies.

Some renewables, such as land-based turbines in windy areas, have a low implicit price of carbon. But others place a much higher value – perhaps about $150 a tonne for offshore turbines, $500 for solar thermal electricity and higher still for photo-voltaic cells.

Different policies are thus implicitly valuing carbon emissions quite differently. Through the European emissions trading system (EU ETS), European householders are charged about $20 for each tonne of CO2 – ie $70 a tonne of carbon – sent up the chimney to light, heat or cool their homes. To the extent that the social cost of carbon is indeed about $50 a tonne, this EU ETS price is a broadly appropriate charge.

However, under the car regulations, drivers will be charged much more for each tonne they send down the exhaust pipe. Similarly, policies that arbitrarily specify the proportion of electricity to be provided by renewables achieve their ends at undue cost.

Such criticism of the cost of climate change regulations and other policies is, of course, not applicable only to Europe, which does at least use a price-based system for limiting about half its carbon emissions. Policies in other countries (the switch to ethanol, for example) also often imply particularly high costs of carbon.

Once emissions-control policy starts to assume macroeconomic dimensions – as it will need to if a meaningful reduction is to be effected – all this will become painfully obvious.

Damage from carbon emissions could almost certainly be reduced markedly by adopting policies that cost 1 per cent of gross domestic product a year. But only if efficient policies were used. Uncosted, non-price-based regulatory or standards policies, which can cost five, 10 or even 50 times as much, would imply spending enormous proportions of GDP. Electorates and finance ministers could not even begin to countenance that.

This is equally the case internationally. Global warming requires a global policy approach and governments have an interest in achieving their ends at the lowest cost. They need to conduct policy discussion and formulation in a forum where they are used to co-operating and there is a combination of economic and energy expertise.

The obvious places are the Organisation for Economic Co-operation and Development and the International Energy Agency. Neither body has anything like the requisite expertise; much of that resides in countries. But in those two institutions member governments – and, increasingly, some non-members, including China and India – are used to pooling information and developing policies that are broadly coherent internationally.

Technology, regulation and cost have to be considered as a package. Climate change is no exception: every policy proposal needs to be costed, and assessed relative to a best estimate of the social cost of carbon. If it is time to do anything about global warming, then it is time for treasuries to get a grip, individually and collectively.■

In a confusing climate, I think the scientists are probably right

The Observer, 02 September 2007

About 15 months ago, I decided that the time had come to make up my mind about the business implications of climate change. And what a fascinating journey it has been. Perforce, it started with the science, with way-stations at climatology, economic consequences, and policy, before finally reaching its destination, the potential consequences for business.[6]

Even more fascinating than the journey itself, however, has been what it has shown about the various ways that people disport themselves when confronted by complex, emotional issues, and insufficient evidence.

The essence of course, is the science, to which all have access today, in simple prose from authoritative sources. My reading, in line with eleven national academies of science, including that of the United States, and upwards of 2,500 scientists on the Inter-Governmental Panel for Climate Change, is that Earth has been warming over the past one hundred years; that mankind is largely responsible for this; and that unless something is done to check, and then reverse, the rise in atmospheric greenhouse gas concentrations, there is a significant chance of major and perhaps irreversible ecological damage. But there is no need to take my summary: see for example the Royal Society's *Climate Change Controversies: a simple guide*,[7] or the New Scientist's *Climate Change, a guide for the perplexed.*[8]

So what have people made of all this? The response has been impressively varied, but some categorisation is possible.

The Ideological Mainstreamers. This group has been around the longest. Its members did not have to wait for evidence. They were certain there was a problem well before the rump of scientists had reached today's near-consensus. Ideological mainstreamers live by causes; and climate change provides the carbon dioxide of publicity.

The Ideological Contrarians. These people require standards of proof no higher than those of the ideological mainstreamers: but they hold the opposite view. If they have an intellectual belief, it is that they are smarter than the crowd. More often though it is just a game, of attracting attention by attacking the majority.

The Grey Conservatives. Members of this coterie specialise in appearing reasonable. They are neither pro nor anti, they gravely insist: the problem is simply that there is not enough evidence to support policy action. Of any sort. Do more research, collect more data, and continue the debate, they counsel sagely.

The Non-Sequiturians. Various arguments are advanced by this group, but they share a structure. Warming was caused by sunspots. Or by fluctuations in Earth's orbit. Or by volcanic eruptions. Therefore it cannot be caused by mankind. The "therefore" is the giveaway, the delicious non-sequitur: just because Earth has warmed for one or another reason in the past is no reason why it cannot warm for a completely different reason in the future.

The Busy Executives. Their argumentation is loftier, but no fuller than it needs to be. Elevating pragmatism to a virtue, they take the position that what matters is not whether the science is right or wrong, but what policymakers are going to do. Given that increasingly it seems that policymakers are going to do various things, the argument runs, skip the argumentation and go straight to the implications for business.

What is so fascinating about all this is how happy most of the protagonists seem to be in their respective argumentational cocoons. Perhaps that is what we all do: confronted by a troubling issue, we seek out some territory in which we feel intellectually comfortable and are surrounded by friends. So where does that leave me?

As the son of two scientists, brought up to believe that we are unlikely ever to know the complete truth, I was brainwashed far too early to be able to be a happy ideologue. Two options gone therefore. Equally, as someone who spent nearly 20 years advising on international policy, I find it hard to live with the philosophy that we never know enough to make policy. Another one down. Similarly, while most arguments contain an uncomfortable number of unspoken "therefores", as a would-be logician I do think that when we actually spot a non sequitur we ought to reach for our gun. Another one down. So what of the busy executive's approach? It is doubtless efficient for decision making, but it is intellectually unsatisfying, at least on a Sunday.

For my part then? Time to get off the fence. It seems to me that when the mainstream of science points almost unanimously in one direction, that ought to be given preponderant weight. Admittedly, a faint voice reminds me that, during the Great Depression, the overwhelming majority of economists agreed that wages had to be cut further, while just one lone contrarian, John Maynard Keynes, argued that everybody had got it wrong. But today, the majority of mainstream economists know that Keynes got it broadly right. Of course there are some dissidents – the ideological contrarians, the grey conservatives, the non-sequiturians… but let's not go there.

I therefore come down as follows. The scientists are probably right. There is a small chance they are wrong. If we do nothing about emissions we are probably running a serious risk. For an annual expenditure of around 1% of (global) GDP, mankind could probably materially reduce that risk. So for my part, and notwithstanding that I don't have as much evidence as I would like, I would be prepared to pay 1% of my income – mainly on behalf of my children and theirs – not to go somewhere that I haven't been and probably wouldn't like.

I guess I'm just an economist.■

Companies must adapt or die in a changing climate

Financial Times, 30 January 2007

While a minority of climate change sceptics continue to question the science of global warming and climate change, an increasing number of companies are putting that debate behind them, or at least to one side, and moving on. In a number of cases, they are moving ahead of governments.

This is surely sensible. Few CEOs would see themselves, or their fellow executives, as experts on climate change. But they are well versed in the art of taking decisions under conditions of uncertainty. So when eleven national scientific academies have said that "The scientific understanding of climate change is now sufficiently clear to justify nations taking prompt action", most CEOs will adopt as their starting point the probability that the scientists are right, rather than the possibility that they are wrong: after all, it would be a brave CEO who elected to base his or her corporate strategy on the proposition that the majority of the world's scientists had got things fundamentally wrong.

What then are CEOs likely to take as their point of departure? A middle of the road view is that rising temperatures have already started to alter Earth's climate, with consequences for water resources, agriculture and food security, ecosystems, and human health. Predictions of future climate changes are more uncertain, for they involve making projections outside the range of recorded experience. Moreover, effects will depend on the degree and speed of adaptation of countries, economies, and people, and they will differ by region. Climatologists broadly agree however that likely effects include: melting of glaciers and ice caps; higher sea levels (by up to 1m in a business as usual base case, and ultimately much higher should, say, half of Greenland and the Antarctic Ice Sheet melt), more frequent and violent weather events; and degradation of water resources. Sectors likely to be particularly affected include: utilities; integrated oil and gas; mining and metals; insurance; building and construction; and real estate; but most sectors seem likely to be affected to some extent at least.

Such developments are likely to evolve over many decades. In their planning, therefore, companies are likely to regard climate change as the same sort of a slow moving but powerful force as globalisation, technical change, or population ageing – forces that slowly but inexorably shape the economic environment in which they operate.

That consideration alone warrants careful thought and attention from corporate planners. But on occasion, climate change may cause firms' economic environment to alter more suddenly, particularly when government policy responds to the perceived threat. A change in greenhouse gas regulations on utilities, or on vehicle fuel economy standards, or in airline taxes, or in building regulations, can immediately affect firms' profitability and their prospects. Firms will therefore want, at a minimum, to gain insights not only into how climate change will affect their business, but also into how policy is likely to affect it. And, not surprisingly, some firms will want to shape that policy.

Most economists would wish to see the price system – which is, after all, the principal mechanism by which resources are allocated in a market economy – at the centre of emissions reduction policy too, whether through the taxation of carbon, or the selling of emission permits. But there is a place for regulations and standards policies also, provided that the resulting implicit cost of abatement is reasonably uniform across sectors and economies, and acceptably close to the value of the damage thereby avoided.

We see a greater than 50% likelihood that some sort of global emissions trading system, covering many of the most important sectors, will be in place in five years' time. But at the same time a somewhat motley mixture of policies is likely to continue also.

All this suggests that firms are well advised to plan around this issue sooner rather than later – as a number are already doing, in Europe, the US, and Asia. Even now, with little impact yet being felt from climate change, about 20% of firms in OECD countries enter and exit most markets each year, and only 60 to 70% of firms survive their first two years of activity. Climate change will only add to the challenges that they face. The firms that will prosper in an environment of changing climate and changing climate change policies will tend to be those that are early to recognise its importance and its inexorability; foresee at least some of the implications for their industry; and take appropriate steps well in advance.

This is likely to involve, within an overall framework of good management practice:

- Inculcating a constructive culture of benefiting from change in senior and middle management;
- Encouraging employees to embrace change, and enabling them to do so through a structured programme of staff training;
- Undertaking the requisite research and development, which is often highly industry- or even firm-specific; and
- Translating this research and development into appropriate investment in physical and human capital.

These considerations account for why my company is about to publish a study *The Business of Climate Change: Challenges and Opportunities.* Its bottom line: the pace of a firm's adaptation to climate change is likely to prove to be another of the forces that will influence whether, over the next several years, any given firm survives and prospers; or withers and quite possibly dies.■

A burning issue, 50 years on

The Observer, 20 August 2006

I was eleven when my father, a research scientist, told me about greenhouse gases. About how such gases – he spoke about carbon dioxide and water vapour – were transparent to the sun's short-wavelength rays, but non-transparent to the longer-wavelength rays that the earth re-radiates. About how, but for its greenhouse-gas blanket, Earth would be a markedly cooler and less hospitable place.

He also explained that much of the atmospheric carbon dioxide had come from nature – volcanoes particularly – although he did speculate briefly about the implications of industrialisation and the burning of hydrocarbons. But then my attention wandered, he lit another cigarette, and the moment was gone.

Were he alive today, my father would readily comprehend what has gone on over the fifty years since we had that short conversation. That the flow of man-made carbon into the atmosphere has risen to around 7 giga-tonnes per year. And that, while that figure is not large relative to the natural flows in and out of the atmosphere – around 210 giga-tonnes per year in each direction – it is distinctly significant in net terms. After all, as he was fond of saying, if two large forces are in equilibrium, a pea can tip the balance.

Hence, my father would not be surprised that the world is now 0.6°C hotter than when he introduced me to greenhouse gases. Nor would he be surprised that climate models are predicting a further 2.0° to 4.5° warming by 2100, and as much as 6° if the warming feeds on itself – by, for example, starting to release some of the huge stocks of natural carbon that currently are locked up, frozen, in the vegetable matter under the permafrost. Such increases would take the planet to temperatures not seen in at least the past 10,000 years.

The future effects of such temperatures on climatic variables cannot be known with certainty. Climate modellers are making impressive progress in simulating the past, but their models are perforce being asked not only to predict, but to predict outside the range of data from which they were estimated.

That is demanding. And then comes a further level of complexity: trying to establish the likely costs of whatever climate change does occur.

Nevertheless, some numbers are starting to emerge. In purely economic terms, the cost of remaining on the present emissions path could, after a temperature increase of 2.5°C (by, say, 2115), be running at around 1 ½ percent of world GDP per year. It could be that the economic damage will be less than that: equally, it could be more. For example, there is evidence, if only suggestive, that economic damage rises disproportionately with temperature – more intense hurricanes may be a case in point.

Some policy conclusions are starting to emerge, too. If such estimates are even ball-park correct, then hard-nosed economic cost/benefit analysis suggests that it pays to engage in at least the cheaper currently known ways of reducing carbon emissions, if not the more expensive: it makes sense to spend $5 to save $7, but not $15 to save $10. Two further conclusions also seem reasonably robust. First, in achieving a given target atmospheric greenhouse gas concentration, it is less costly to start sooner rather than later. And second, the policy action to achieve this should be effected through the price mechanism, which makes the cost explicit – a carbon tax, for example – rather than by regulation, which does not.

Of course, there is more to life than economics. Society may be concerned about the state of the environment as an end in itself. Or it may be concerned with the state of the world that it is handing over to its children. To that extent, it might be prepared to spend $11 to save $10, the extra $1 being an insurance premium.

While many people over-insure, the case for insuring against an event becomes compelling if its consequences, however unlikely, could be catastrophic. I don't insure my washing machine, but I do insure my house.

The economist son of the research scientist therefore draws four broad conclusions:

1. It is economically rational to take at least the less costly steps to reduce carbon emissions.

2. This is best effected through the price mechanism.

3. It pays to start taking steps sooner rather than later.

4. When an event is potentially catastrophic, take out insurance.

My father taught me to try to base action on rationality and evidence. Who knows? Had he appreciated the link between smoking and lung disease before he became addicted to cigarettes, he might have lived long enough for us to discuss the matter further.■

Ten useful lessons for a sexagenarian

The Observer, 7 August 2005

Turning sixty can be salutary. Certainly, it has led me to ask myself what, over the past 35 years as a professional economist, I have learned that is of real use. In a way, it has been downhill from the beginning. After just one year of undergraduate economics, I knew how to solve every economic problem known to man: three and a half decades later, most problems appear less tractable.

On reflection, I would suggest ten lessons.

First lesson. Economic events – what economists call 'shocks' – seldom produce just one consequence. Usually, they have multiple effects, which ripple on for years. For example, a tax cut or an increase in government spending usually does indeed have the sought-after effect of increasing total spending, output, and employment. But later it may result also in higher inflation, balance of payments problems, currency depreciation, higher interest rates, and misallocated resources. Maybe, in the end, all that the expansionary policy achieves is the bringing forward of some demand and output from the future – followed by an unavoidable 'payback' period of below-trend output and above-trend inflation. Maybe, maybe not. That debate rumbles on. But the point that policy proposals should be evaluated over their full lifetime, and not just an electoral lifetime, is well made.

Second lesson. Good economic policies do not necessarily guarantee good economic performance: but bad economic policies definitely result in bad performance. No serious professional economist finds it easy to affirm what combination of policies would guarantee a more satisfactory performance in today's France and Germany. But virtually no economist doubts that Zimbabwe's disastrous performance is in major part the result of its ill-judged and mal-constructed economic policies.

Third lesson. It is structural, not demand-side, policies that most influence a country's economic performance over the long term. The experience of reforming economies as diverse as Australia, New Zealand, the Netherlands, and Poland is testimony to that. But structural policies take ages to produce their effects. The initial consequence is usually a reduction in aggregate expenditure, which slows economic activity. It typically takes five years or more for the positive effects to start to outweigh the negative. No surprise, therefore, that politicians so seldom undertake structural reform. They know that the negative near-term consequences will occur on their watch, while the benefits will accrue to their successors. No need here to think beyond the way that Labour has benefited from the policies put in place by Mrs. Thatcher.

Fourth lesson. People respond powerfully to economic incentives. They may not analyse the situations they face in the framework, or using the terminology, of the professional economist. But discussion in the café or pub, supplemented by a process of trial and error, results in a solid practical understanding of what it is optimal to do, given the rules of the game. Look at the way that unemployed people in Britain, in contrast to their cousins in Belgium and France, now go in search of a job rather than remain in unemployment – the natural and rational consequence of the incentives embedded in the UK's new unemployment benefit regulations.

Fifth lesson. Economic and social policies have to be considered as a whole. It is no good, as the Dutch found, setting unemployment benefit at a level that gives incentives unemployed people to seek work if, meanwhile, the social benefit system encourages them to register as disabled. In the Netherlands in the 1990s, disability benefit was equivalent to at least 70% of the recipient's wage, and often as much as 100%. No wonder that 13% of the Dutch workforce was on disability pension.

Sixth lesson. Competition is one of the most powerful of forces that motivate the perpetual quest for more efficient ways of doing things. It also makes companies' lives more demanding, one of the reasons that they so often seek to curb competition, not least that which comes from abroad via international trade. However, when such competition causes major layoffs and plant closures, such that workers who lose their jobs cannot find another for which they are qualified, the costs – economic and social – can, for a considerable period, outweigh the benefits. It is therefore sensible, fair, and efficient that society finds ways for the winners to compensate the losers: but without reverting to protectionism. The way in which Scandinavian countries retrain workers whose skills have become obsolete is the classic example of such thinking working well in practice.

Seventh lesson. History seldom, if ever, repeats itself precisely. Economies have the habit of producing new mixes of circumstances that require new combinations, or new emphases, of policy. Thus, the Korean War commodity price shock of the 1950s produced scarcely a ripple in overall inflation: but the similar-sized oil price shock of 1973/74, which happened in an environment of strong unionisation and widespread wage-price indexation, zoomed inflation in many countries up to 20 per cent or more. And who would have thought that, a little over twenty years after tackling 20 per cent-plus inflation, Japan would be grappling with the problems of deflation, no less.

Eighth lesson. Complicated economic policies whose rationale is hard to explain usually fail. J. K. Galbraith gives a great example. During World War II, he was in charge of price control in the United States. A crusty, 71-year-old presidential adviser, Bernard Baruch, advised "just put a ceiling over the whole price structure". Galbraith, young, enthusiastic, and a trained economist, knew better. He devised a system that allowed price increases where warranted, disallowed them where not. It failed. He improved – complicated – the system further. Again, failure. In the end? In 1942 Galbraith capitulated: his agency effectively froze all prices for the duration of the war. And it worked. The freeze would not have held for ever; and it might well not have worked had there not been a war on. But there was, and it did.

Ninth lesson. Some of the biggest, and most important, economic issues remain unresolved. One current example. A major, if unsung, experiment in macroeconomic management is under way, with the United States on the one hand and the continent of Europe on the other, following quite different philosophies. In the United States the biggest fiscal and monetary boost to spending in the past fifty years has produced a strong economic recovery, but also two asset price booms/bubbles – first the stock market, now housing. Steadier polices in the euro area, by contrast, have largely avoided this. But economic growth has been slow, and risks becoming self perpetuating. Whether activist US, or steady-as-she goes European, policy will produce the better outcome over the economic cycle as a whole is not yet clear: this is a two-act play, and so far we have seen only the first.

Tenth lesson, and perhaps the most important. Just because professional economists don't always have a confident answer, it does not follow that all proffered solutions have equal validity. Folksy, common sense-sounding, policies can often be demonstrated by the economist as simplistic at best, dangerous at worst. Hence, often the biggest contribution that the professional economist can make is to demonstrate why the current fad or nostrum is wrong-headed and will fail. Examples of policies that policy makers thought would work, but whose economic illogic was demonstrable from the outset, are legion. Go no further than Zimbabwe's seeking to reduce inflation by printing smaller-denomination bank notes, or France's seeking to reduce unemployment by making it illegal to work for more than 35 hours per week.■

Review – Martin Wolf's Why Globalization Works

Yale University Press, 2004

I read *Why Globalization Works* the way that Brian Reddaway used to assess articles when he and David Champernowne were co-editors of the *Economic Journal* in the early 1970s. First, I read the tables, in order to make up my own mind about what message each conveys. Then I read the conclusions that the author himself draws from the data he has assembled. Only then, and only because the author's conclusions generally accorded with my virgin reading of the evidence, did I read the text proper, to see how Wolf himself argues the case that I considered that they make.

What Wolf does is lay out the various arguments for and against free trade, and subject each to the closest examination that the available data permit. In so doing he presents, often with considerable ingenuity, a wealth of information, some powerful, some less so, but in each case the best there is. Many readers will find data that they have not seen or considered before, or at least have not hitherto seen brought together in one place. Thus Wolf considers why a global market economy makes sense; why in his judgement there is too little, rather than too much, globalization; why the critics' arguments about inequality are wrong; why their complaints about global corporations are misguided; and why the argument that global mobility of capital and production makes social democracy unworkable is false.

As if all that is not enough, Wolf explains, in a preface that is in effect a stand-alone essay of considerable interest in its own right, why ideas matter.

Does Wolf convince? Inevitably, believers in free trade will consider that Wolf has made the case strongly, and has supported it thoroughly, while detractors will claim that some of the data are thin – as indeed they are. But it is hard to see how more could be done. And Wolf is not doctrinaire: his chapter on international capital flows, and the crises that they have wrought on a range of developing countries, strikes me, at least, as appropriately critical. In the final part of the book, Wolf considers how policies that have not worked particularly well could be modified, to make the world work better.

In short, this is an important book, which raises the level of the debate. And it is beautifully written and edited. Read it.■

Foot on the floor, or on the brakes?

The Observer 15 August 2004

A reason – some would say the major reason – why economics is not a science is the impossibility of conducting repeated experiments under controlled conditions. Unlike the pure scientists, the argument runs, economists have to rely on inference, from episodes that are never wholly comparable.

That is true up to a point, although it is possible to overstate the case. In some important areas of science – deep space for example – experimentation is as difficult as in economics and, accordingly, the rule of inference looms large. Furthermore, experiments are conducted in economics from time to time, even if the policymakers would deny the charge, claiming that they are operating within the bounds of received wisdom.

One of the most arresting of such economic policy experiments is currently being undertaken by policymakers on the two sides of the Atlantic. This experiment involves the almost diametrically opposite ways in which the two biggest economic areas in the world – the United States and the Euro Area – have reacted to the slowing of their economies following the end of the 1990s high-tech investment boom. The United States reacted with massive economic stimulus: the Euro Area, by contrast, opted for extreme steadiness. The numbers make a fascinating study.

As the US economy slowed in 2002, the US Treasury boosted aggregate demand, through tax cuts and expenditure increases, by nearly 2 ½ percentage points of GDP. And the Fed eased monetary policy too, stimulating aggregate expenditure by an additional 2 ½ percentage points. The resulting overall 5%-odd of GDP shock from the policy defibrillator was massive – far and away the largest of the past 50 years. Then, in 2003, US policymakers administered an additional 2 ½ point stimulus – also huge by historical standards.

Policymakers in the Euro area, by contrast, took almost no stimulative action. In 2002, monetary policy was eased only slightly, stimulating the EU economy by a mere quarter of a percentage point or so. In 2003 monetary policy was eased again, and there was a modest fiscal expansion, but together the two provided an overall stimulus of less than 1 percentage point of GDP. America's stimulus was thus seven or eight times – some $640 billion – larger than Europe's.

The reasons for these sharply divergent policy responses are deep – cultural and even philosophical. The United States exhibits the conviction that, if something does not work out right, you fix it. Europe, by contrast, is apt to view some elements in life as having a certain inevitability. As the economy slows, political pressures on European policymakers build more slowly, and with less intensity, than in the United States, where a president is held to account for the performance of the US economy quarter by quarter.

America's business is business, and the media and the pollsters never let the President forget it. Indeed, the accountability gets ever more short term. Ex-US Treasury Secretary Paul O'Neill recently described (see Suskind, R., *The Price of Loyalty*, Simon and Schuster, 2004) how President Bush urged him to improve the monitoring of the US economy, not on a quarter-by-quarter basis, but month by month, so that immediate policy action could be taken at the very first sign of a slowdown.

This philosophical difference of approach between Europeans and the Americans is not new. For at least the past 30 years, successive US Secretaries of the Treasury have been critical of the way that European countries have conducted their economic policy. The US complaint is twofold. First, they claim that European countries – and most notably Germany – are too preoccupied with inflation: that the moment that it starts to accelerate, the Europeans stamp on it by taking policy action to slow the economy. When Europeans retort that they know better than does any American the danger – economic, social, and political – that can flow from excessive inflation, the Americans make their second argument. If inflation is such a concern, they say, the right way to deal with it is to have a flexible, adaptable, economy that can shake inflation out of itself with only a brief slowdown. Europe's labour-cosseting, socially over-protective, adjustment-stultifying policies, by contrast, mean that inflation, once in the system, can be eradicated only through protracted and costly recession.

Hence the difference in approach. US governments, regardless of political hue, barrel down the back straight, foot to the floor, braking only at the last moment before the corner. Once through the corner – if they do not leave the track – the accelerator goes back to the floor. In Europe, by contrast, the approach down the back straight is more sedate, the corner is taken smoothly, and the acceleration out is less sharp. The $640bn question is, of course, which method of driving the economy wins the race.

Certainly, the US policy stimulus achieved its immediate purpose: it staved off recession. But it also took the federal budget from a surplus of around 2 percent of GDP to its present 4 ½ per cent deficit, the biggest swing since the Second World War. It also put the US current account of the balance of payments, which at the start of every previous recovery since 1949 has been approximately in balance, in deficit to the tune of 5 percent of GDP. Meanwhile, incredibly easy monetary policy, in fuelling the auto and housing boom, has resulted in consumers and households taking on unprecedented levels of debt in relation to income. The worries from all this are threefold:

- that investors, worried by the US budget deficit, will start to push bond yields back up to their 1980s levels;
- that the dollar will slide further vis-à-vis other currencies as it did in the mid 1980s, bringing inflation back into the US economy; and
- that households and consumers will find themselves in trouble when the Fed becomes obliged to hike rates to combat the falling dollar and rising inflation.

The worry about Europe, by contrast, is that it simply may never get a proper recovery started. It may be that steadiness of policy begets confidence; that confidence begets expenditure; and that that expenditure induces further expenditure, particularly by businesses.

But it could also be that slow growth becomes self-perpetuating. If businesses judge that consumers are going to be cautious with their expenditure, saving more for their old age as they face an uncertain pension future, then businesses in turn will be cautious themselves about laying down new capacity, for fear that it will lie unused.

Thus the US has opted for growth, even if it comes at the expense of stability: and the Europeans for stability, even if at the expense of growth. So far, the evidence as to which is the better driving style is unclear, for the experiment has not yet run its course. It will be next year, at the earliest, before the evidence starts to come in. What may well prove to be a drama is yet to play out.■

Missing in action: big picture for Iraq

The Observer, 31 August 2003

A good statement of the problem takes you half way to the solution.

That was a favourite saying of the late John Fay, historian, one-time Head of the Organisation for Economic Cooperation and Development's Economics and Statistics Department, and one of the myriad people who worked on implementing the Marshall Plan. And right he was, provided that the "good statement" is constructed within a relevant framework. The opposite holds true too: analyse a problem using an inappropriate framework, and you will almost certainly end up with a blunder.

The 1973/74 OPEC oil price shock was one such case. Economic analysis and policymaking following the Second World War had been conducted by the major countries predominately in terms of managing demand at the macroeconomic level. And understandably so, given that the principle cause of the Great Depression of the 1930s had been a worldwide deficiency of aggregate demand. But one result of this fashion for concentrating on aggregate demand was that, when the Arab-Israeli war and subsequent oil embargo quadrupled oil prices, imparting an additional inflationary thrust to already inflationary OECD economies, the economics profession analysed the issue within a demand-side framework. I was one of the culprits who made the fundamental mistake of using a demand-side framework to analyse what was at root a supply shock. Economics is supposed to be about supply and demand, but we forgot about the supply side.

The Asian crisis of the late 1990s was another case of using the wrong policy framework. Blowups in emerging economies, which had become commonplace – Argentina, Brazil, Mexico, Turkey – were almost invariably caused by the propensity of governments to spend in excess. The requisite data to fill out the framework had become reasonably good too, so that the hair-shirt IMF policy prescription, while not necessarily liked, generally worked. But Asia was different. The cause of the problem was excess spending not by the state, but by the private sector.

At first few recognised the problem for what it was – though Paul Krugman was commendably early. And even when they did, IMF officials found that the data simply were not there to quantify the problem, and hence calibrate the policy response. Not only generals, it would seem, are condemned to fight the previous war.

Unfortunately, the saga of the inappropriate framework goes one. The collapse of communism presented the western world with a wonderful opportunity to set a disillusioned people off on a new course. It also, as I remember then-OECD Secretary General Jean-Claude Paye remarking at the time, presented Europe with the opportunity to do for the Russian people what the US, through the Marshall Plan, had done for them. Paye had an order of priorities. First, establish law and order. Second, create a democratic parliament. Third, build competent and corruption-free public institutions – a ministry of finance, a central bank, a system of courts. Fourth, enact a modern framework of commercial law, including importantly the establishment of property rights and enforceable contracts. And fifth, and only fifth, liberalise the economy.

Unfortunately Europe did not really take the lead, leaving the US and the IMF to fill much of the vacuum. And their framework was lacking. I remember one senior US economist arguing vigorously that, animal spirits having been suppressed during fifty years of communist rule, essentially all that was needed to create a modern Russia was to release those animal spirits, whereupon a competitive market economy would rise, Phoenix-like, from the ashes of central planning. It was not to be, however. The US/IMF programme, which directed its attention primarily at number five on Paye's list, certainly released Russian animal spirits. But in the absence of the effective system of institutional checks and balances that our forefathers had put into place in western societies, the almost immediate result was lawlessness, theft, corruption, and massive inequalities. The point here is that the economists who conducted much of the analysis were born after the second World War. They took today's institutions so much for granted that they did not realise the vital role that institutions needed to play in Russia. Matters are improving now: but it was a rocky start.

And so to Iraq. When it comes to reconstructing an entire society, as the experience with Russia shows, the task is much greater than 'merely' fixing an economic crisis. Many appropriate frameworks are needed – political, legal, economic, and social among them. It was – and remains – as naïve to expect that a well-functioning society and economy would spring up automatically in Iraq upon the overthrow of its dictator as it was to imagine that a functioning society and economy would spring up in Russia merely upon the liberalising of the price mechanism. Unfortunately, most of the people with actual experience in establishing post-war societies are now dead. The history, however, lives, and it is encouraging that British academic experts on colonialism are now finding themselves in strong demand in US universities.

Certainly history has a lot to tell about the appropriate frameworks. The planners of the 1944 allied invasion appreciated, for example, that it is essential immediately after the cessation of hostilities to establish law and order. The allies sent in large contingents of military police on the heels of the advancing army to ensure just that. They also recognised that it is essential that people receive the basics of life. In the Europe of 1945, “basics” meant food and heating. In the searing summer heat of Iraq, as New York Times journalist Tom Friedman wrote recently, for basics “read electricity”.

Part of the reason that these things are not happening in Iraq, or not happening fast enough, is that they are expensive. Peacekeeping in Bosnia and Kosovo costs $250,000 per soldier per year. It would require 400,000 troops in Iraq, costing some $10 billion (£6 billion) per year, to provide the equivalent troop presence to that of the British in Northern Ireland at the peak of the troubles there. And Northern Ireland had a functioning police force. Reconstruction also requires a massive managerial and technical input, as any German involved in the reconstruction of the former GDR will testify. But to make these obvious points is only to scratch the surface of the problem.

The fact is that societies and economies are complex, and post-war policies, if they are to succeed, have to be made in full and humble recognition of that. While Anglo-Saxon economic and political thought loves theories, those theories tend to be of the pedagogic sort taught in universities. These provide insights that would otherwise be obscured by society’s complexities. But effective policymaking requires dealing with the complexities. For sure, the theory has to be right: but so do the details. All the details.

Another wise person with whom I once worked, and who, like John Fay, had been involved in the post-war reconstruction of Europe, was the late Greek OECD official Vasili Gondicas. Whenever, as young economists, we presented a theory-based solution to him, he would listen courteously. And then he would observe “It is more complicated than that.” He was infuriating. But he was right.■

The English patient? Europe, heal thyself

The Observer, 11 August 2000)

Once a year, when Doctor Keegan goes on holiday, usually to the continent, he invites me in for a week as a locum. I use the opportunity to review the overall health of his large practice – the world economy no less. Compared with twelve months ago I am more worried about the United States; just as concerned about Japan; and more troubled than the authorities appear to be about the risk of contagion to Europe. And the English patient? As so often, the UK is a special case. Consider the detail.

The United States, a large, robust, and usually dynamic economy, has been dealt a series of body blows over the past year. By last August, everyone knew that its pulse was slowing, but at that time it seemed that the pace of activity would recover, as a result of the large stimulus that had been administered by policy-makers– a continual drip feed of interest rate reductions from the start of the year, and a major tax cut.

But that diagnosis is beginning to look optimistic. For, just as the economy was beginning to stabilise, consumer and business confidence was damaged anew by the events of September 11. The policy response was to boost government spending, and to cut interest rates further. In total, the policy boost over the last eighteen months or so has been the biggest since World War II.

Then, early in this new year, just when it looked as if the economy was finally turning the corner, confidence was hit yet again, this time by the euphemistically–termed corporate governance revelations.

All of that amounts to a troublingly–large number of shocks for policy to contend with. But now there has been even more. Just two weeks ago came the further revelation that the economic data that analysts had been working with were all wrong: that the Department of Commerce has revised its so–called benchmark figures on economic activity substantially down. It now appears that, instead of experiencing just one quarter of output decline last year, the US economy in fact experienced three in a row: the US was in recession – albeit a relatively mild one – almost all year.

The US patient was thus sicker than anyone understood last summer, and since then has been hit hard and repeatedly. Few doubt that the US economy will recover. But the convalescence may take longer than the prognosis made before the true facts were available. While the dreaded "double dip" recession for the US still does not seem likely, growth could be below par, at a 2 ½% rate or so, for the rest of this year and next. Clearly the economy is in a vulnerable state, particularly should there be another shock. Dr Greenspan will almost certainly be using up some more of his (increasingly scarce) rate-cut ammunition.

Japan was sick last year and still is, even though it is experiencing a modest pickup. Japan's banking system, saddled with monumental bad loans as a result of the collapsed property price bubble, would for all practical purposes be bankrupt were its assets valued at market prices. The insurance industry looks increasingly unable to meet its legally–enshrined obligations. The national debt has ballooned as a proportion of GDP. The domestic price level is falling, something not seen in any major economy since the Great Depression of the 1930s. And no real end is in sight. Prime Minister Junichiro Koizumi came to office promising to dispense some tough medicine, but he seems to have misdiagnosed the patient. His fiscal austerity has exacerbated deflation and worsened the plight of the banks, to the point where last week he was forced to give in to pressure to water down the planned removal of the government guarantee on bank deposits. This was understandable, in the circumstances, but is official recognition that the economy has in no way been restored to health.

In Europe, as Doctor Keegan will be seeing again for himself, the quality of life is high, although there is a case for some preventative medicine. The average French worker, for example, produces as much per hour as does his US counterpart. He or she works fewer hours, however, and so does not have as high monetary standard of living, but the corresponding longer holidays contribute to a high non-monetary standard of life. State education systems generally are respected; the public health system provides a quality service, albeit at a cost; and the trains run fast and to time.

Yet the continental mood is not entirely happy, and this is not all hypochondria. The economic recovery is patchy. While some regions – Spain, Portugal, Ireland and even France – have seen employment grow briskly, Germany, still absorbing its eastern transplant, remains lethargic. Left to its own devices, the continental economy would almost certainly recover to at least reasonable health. But there are risks. The first is of a renewed infection from the United States. Most diagnosticians were surprised by how much Europe's business confidence and investment weakened last year. This confidence collapse was far greater than could be accounted for by transmission through the usual international trade channels. It was almost as if Europe had contracted flu over the phone. And this could happen again.

The second major risk for Europe is that the euro rises substantially vis-à-vis the dollar. European politicians hooked, on the strong-currency nostrum, would love that. But European manufacturers, facing stiff competition from now more competitive US firms, would not. And European economic activity would be weakened by reduced exports and stronger imports.

There are longer term, structural, problems too. The continent's population is ageing, and will not be able to afford to pay its citizens the pensions that governments have promised. Yet, unlike their counterparts in the United Kingdom, the continent's politicians have not yet faced up to the need for reform. Labour and social policies too are in need of change, to increase the incentives to work while maintaining a decent standard of social protection.

The English patient has, as ever, a particular health issue. Superficial examination suggests that the UK economy is in rude good health. But as we look into its eyes, we wonder whether we see evidence of a binge. Could it be that the economy is suffering from the comparatively rare, but virulent, Barber/Lawson syndrome, whereby a rash of government expenditure and a feverish house price boom are followed by macroeconomic bust? It could be, but there we would like to call for a second opinion. Doctor Martin and Professor Godley will report in due course.■

Why global recession is not nigh

The Observer, 12 August 2001

The mood amongst many economic commentators is currently dire. And it is easy to see why. Economic activity is slowing in each of the three largest economies – the United States, the European Union, and Japan – which together account for some three quarters of OECD GDP and nearly half of the output of the entire world economy. Take that slowdown in conjunction with the fact that most projections for the near term are made basically by extrapolation, and it is easy to see why there is an assumed virtual inevitability about the global economy sliding gracelessly into recession.

But the pessimism of the momentum forecasters is being overdone. Momentum can always be countered by a force is sufficiently strong, and right now some truly heavyweight forces are starting to bear on the world economy.

To start with, there is oil. When its price is rising, as it was until around the start of this year, oil is toxic for real incomes and thereby demand. Every major run-up in prices – 1973-74, 1978-79, 1990-91, and 1999-2000 – has eaten into the incomes of oil consumers and slowed world demand substantially. Ultimately, of course, the oil–producing countries spend their newly–gotten income and world demand rises again. But this takes time: there is inevitably a world slowdown first, and that is one of the major factors that of late has been afflicting the world economy.

But the process also works in reverse. When energy prices fall, energy producers continue to spend their new–found accumulated income reserves, while energy consumers, seeing petrol, gas and coal prices eating less into their incomes, spend more. If world oil prices merely stabilise over the next 12 months – and they could well fall significantly – this will represent the end of a negative drag of some 1%-odd on OECD countries' income.

Then there are important positive policy forces, most notably in the United States. That economy, which has seen the largest deceleration in domestic demand growth, is also the one that stands to see the largest (positive) contribution from policy. First and foremost is the reduction in official interest rates that fed chairman Greenspan has been delivering since the start of the year. In the past, each 100 basis points of reduction in official interest rates have added, after a multi–month lag, something like 0.8 percentage points to GDP growth. On that basis the 275bp cut seen so far should add over 2 percentage points to GDP growth, starting in the second half of this year.

Then there is the US tax rebate. In the past, US consumers have typically spent around half of any such cut. If they react true to form this time, their additional expenditure should add about 1 percentage point to domestic demand growth, again in the second half of the year.

Of course, history never repeats itself precisely, if only because circumstances are never exactly the same. And certainly the "tech wreck" makes this occasion different from earlier episodes, even if the true extent of the excess investment – which we put at $50bn-odd – is overstated by some commentators.

But also fundamentally different this time is the fact that inflation is no constraint on policy. In contrast to previous end–of–expansion episodes, this time around the Fed can cut as much more as is required to get the job done. Dr. Greenspan has many more rate–

cut pills in his bottle, and all the evidence is that he is determined to see to it that the United States takes its course of antibiotics right through to the end. If more rate cuts are required, he will not hesitate to prescribe them.

So much, then, for the United States. What of the euro area? Certainly, euro pessimism is the current vogue, and much play is made – rightly – of the size and importance of Europe's supply–side structural problems. These matter, and considerably, for the medium performance of the European economy. But the conjunctural issue is demand, not supply. And here there is some reason to be optimistic.

Particularly instructive was the way that euro-area domestic demand growth jumped in 1998 immediately the six-year episode of Maastricht fiscal tightening concluded This suggests that underlying 'animal spirits' in Europe, even if less vibrant than in the US, are not easily killed off. Turning to the present, the oil price effect is likely to be bolstered in Europe by an easing of food prices, which over just the past six months alone have subtracted more than half a percentage point from consumers' real incomes.

Taking the United States and Europe together, therefore, there are several good reasons to expect that incomes, particularly of consumers, which together account for over 60 percent of all expenditure in the economy, will shortly receive a marked fillip. Although guessing at timing is always hazardous, it could well be that the second quarter will prove to have been the slowest of the year.

Unfortunately, this potential good news seems most unlikely to extend to Japan. While the export sector is efficient and in good overall health, domestic 'animal spirits' are severely depressed. Domestic demand in Japan has performed miserably for over a decade. And there is worse. Japan's banking system, saddled with monumental bad loans as a result of the collapsed property price bubble, is for all practical purposes bankrupt. And the insurance industry stands increasingly to be unable to meet its legally–enshrined obligations.

Furthermore, as if all that is not enough, the domestic price level is falling, at several percent per year, something not seen in any major economy since the Great Depression of the 1930s. This encourages consumers to postpone their purchases, which stand to be cheaper tomorrow than they are today. It means that interest rates stand considerably higher than the rate of inflation, preventing conventional monetary policy from providing sufficient stimulus to the economy. And, as the numerator escalates and the denominator diminishes, it causes the already–high national debt to balloon as a proportion of GDP.

There is a real risk that, if Prime Minister Koizumi does not soon bring forth a complete and convincing package of reform measures, and if the Bank of Japan is not thereby induced to monetise and adopt at least a zero inflation target, there will be a crisis in Japan in the autumn.

Furthermore, other parts of Asia too are problematic, although the gravity of the situation should not be overstated. To begin with, some economies, most notably China's, are doing well, and Hong Kong too is recovering. It is a number of the smaller countries that are suffering, ranging from Singapore – economics – to Indonesia – politics. But it is important to avoid ‘double counting’: many of Asia’s problems are derivative upon the slowdown in the world’s major economies, rather than an independent source of weakness.

How, therefore, does all this add up? Our best judgement is that the sum of the positive forces of energy (all energy-consuming nations), fiscal and monetary policy (the US), and food prices (Europe) will serve to reverse the current negative domestic demand momentum in the United States and Europe before the end of the year.

But Japan, unfortunately, remains the inglorious large exception. Somehow the international authorities – the G7, the IMF, and the OECD – have to convince the Japanese authorities of the gravity of their situation. And they have to convince Mr. Koizumi to take bold and complete action, lest Japan turn from being a potential to an actual source of damage to confidence worldwide.■

Main drivers of financial markets

Neue Zürcher Zeitung, 3 January 2000

Introduction

Economies and financial markets stand to be influenced importantly in the new millennium both by continuing fallout form the recent crises, and by three major forces – the global technological revolution; global competition; and the ageing of populations.
Meanwhile Europe’s economies and financial markets will be influenced also by two additional forces – the single market; and the single currency.

Difficult legacies

Just one year ago, with consumer and investor confidence worldwide battered by financial crises in Asia, Russia, and Latin America, growth in the OECD economies in 1999 seemed likely to be below potential, or worse. But confidence rebounded, astonishingly quickly: final GDP figures for 1999 are likely to show near-3% OECD growth, with the prospects even better for 2000.

With inflation unlikely to be a problem in most countries, financial markets are basically confident about 2000. But this could be a bit complacent. For the new millennium inherits some awkward legacies.

The US. This all-important economy has repeatedly defied Fed attempts to slow it down. But, with labour increasingly scarce, the Fed now has to ensure that the economy decelerates – before inflation becomes a problem. Furthermore, with its current account deficit of the order of 3.5% of GDP, and its foreign debt of the order of 15%, the US will ultimately have to increase national savings. Failure to do so could lead to a collapse of the dollar – at a time when the authorities are concerned that inflation pressures may rise.

Japan. While the massive fiscal expansions have finally reversed Japan's hard landing, private domestic demand remains weak. Hence only lacklustre, 1%-odd, growth seems likely in 2000. The Bank of Japan will continue its zero interest rate policy. But the precarious public finances – public sector debt is already over 110% of GDP, and rising fast - is likely at some point to exert strong upward pressure on bond yields. And the prospect of a bond market sell-off, as well as the yen's premature appreciation, threaten the recovery.

Continental Europe. Economic growth has finally gathered momentum, and stands to exceed 3% in 2000. However while most countries are in a good fiscal and inflation position, the policy challenge is to improve their unsatisfactory employment performance. Better structural policies would help. But the political constituency for reform is lacking. Monetary policy therefore will bear an undue share of the anti-inflation burden. The risk is of economic growth being held back, preventing employment from rising properly.

From Legacies to Forces

Beyond these legacies are a number of important forces that stand to shape the world economy and financial markets further into the new millennium. Three of these forces are global: and two more stand particularly to affect Europe.

Global technological change. The most powerful long run force acting on the world economy and financial markets will continue to be technology. Living in the eye of the technology cyclone it is easy to underestimate its importance. For what is at work is nothing less than a revolution – a global information and communication technology revolution – whose impact is so big that it is surpassing that of the industrial revolution. Consider.

While the industrial revolution consisted of essentially of one-off technological advances (the steam engine, the electric motor, etc), today's revolution is one of continual substantial improvements across a whole range of new technologies. It is today almost a truism that the capacity of electronic devices doubles, and their prices halve, every few years.

This is producing massive productivity gains in the manufacture of computer technology, with the United States and Asia the predominant beneficiaries. But the effects are going well beyond manufacturing: today's revolution is permeating services as well as goods. Communication, retailing and wholesaling, and financial services are all being affected fundamentally.

Furthermore, so far only a fraction of what has been discovered and invented has been implemented. Were discovery and invention to cease tomorrow – and there is no hint of this – economies would nevertheless stand to enjoy decades more of strong productivity growth merely by implementing what has already been invented.

Global competition. A further powerful difference from the industrial revolution is that the intensifying competition is impelling a much faster adoption of technological change. In part this stronger competition is a result of the revolution itself. But this increased contestability is also the result of important policy changes taken over the last half century. Most notable has been the progressive move to freer trade in manufactures and services.

A corollary is disinflation. This is powerful, and growing. Take just one example, e-commerce. While this is as yet in its infancy, e-commerce sales are doubling annually. Conservatively, e-commerce can be expected to be slicing at least 0.5 percentage points off CPI inflation in the United States by 2002, and in Europe by 2004.

Europe's single market and single currency. In addition to all these forces, continental Europe is likely to be affected by two of its own. The first is the establishment of the US$6.5tr single market, which is now broadly comparable to its US$8.5tr US counterpart.

The second is the creation of Europe's single currency and attendant deep, liquid capital market. Businessmen now have both the incentive and the financial mechanisms to rationalise Europe's productive structures into line with its large, open market. The takeover by Olivetti by Telecom Italia, four times its size, is a case in point. But such pressures are already being felt widely - in Europe's automobile industry, its pharmaceutical industry, the retail sector, and the financial services industry.

Ageing. While slower-acting, population ageing too is a powerful and inexorable force. Over the coming 20-odd years, the ageing of the European population will lead, in the absence of policy changes, to a doubling of the number of pensioners to be supported by the population in work. Major policy changes will inevitably come.

Implications for markets

These legacies and forces are going to change the economic and financial landscape dramatically. We would highlight the following longer-run developments.

- **The technology revolution.** The proportion of the workforce engaged in goods production will keep falling, and employment in the service sector will rise. Productivity growth will accelerate. Self-employment may well become more important. The demand for venture capital will snowball. Technology stocks will boom.

- **Global competition.** Disinflation will continue, with nominal interest rates and bond yields remaining low. With companies unable to raise prices, any significant wage pressure is likely to be met quickly by the accelerated adoption of new technologies and the laying-off of labour. Share price performance will depend crucially on managements' ability to handle these processes.

- **Europe's single currency and market.** This will amplify the impact of the global forces on Europe. The pace of corporate restructuring stands to be dramatic, resulting in rapid productivity growth, but a disappointing reduction in unemployment. Continental Europe's stock markets will outperform.

- **Ageing.** Demand will shift importantly towards the services demanded by rich, ageing societies. Europe stands to see the rapid development of a private supplementary-pension industry, and both Europe and Japan the emergence of an important private health-care industry. The retirement age will be raised; the value of state pensions reduced; and state-pension contributions increased. Private top-up pension schemes will burgeon.■

America's crisis of confidence

Sunday Times, 1 November 1998

Pity the poor Bank of England Monetary Policy Committee (MPC). Just as it seemed to be on track to hit the government's inflation target without doing too much damage to economic activity, its calculations are thrown into disarray by global crisis. Now the calculations are all about the threat of a global slowdown, if not outright recession.

For, suddenly, events have taken an unexpected turn. An unprecedented series of events around the world has, without warning, hit a vital part of the world economy's engine room, America's capital markets. Nobody saw this coming. And, now that it has, nobody is quite sure how serious it will prove to be.

The beginnings were, after all, fairly modest. The economic crises in Thailand and the rest of south-east Asia were fairly small beer in global terms. Even when they moved to the larger, north-east-Asian economies, non-Japan Asia stood to do only limited direct harm to world trade and hence economic activity in the leading industrial countries, whose economies account for about 80% of the world total. But Russia changed all that.

Russia, everyone knew instantly, was serious. Despite its geographical size, it has only a puny economy, accounting for less than 2% of world output. The point is that Russia defaulted; and default invariably engenders fear. Investors, from the most sophisticated fund manager to the humblest private saver, are used to the idea of 'normal' trading losses and to the fact that financial assets can go down as well as up in value. But default is altogether different. Default means the loss of principal.

Further, if Russia was able to renounce its financial obligations, might not other countries be tempted to renege? It was ominous when Malaysia at least partially opted out of the world's financial system by imposing capital controls. There has been no default there, at least not yet. But it was disturbing. Then there was Brazil, with its large debts, domestic and foreign. Might it, or other medium-sized countries, be tempted, or forced, into default?

Investors began to mutter darkly about world financial collapse. Japan, with its broken banking system and falling prices, started to be seen as a harbinger. Most market participants had felt fear before - when oil prices quadrupled in 1973/74, for example, and during the October 1987 US stock market crash. But they had felt nothing like this. For that it would be necessary to go back to the 1930s.

What happens now? History is likely to prove a poor guide: circumstances, institutions and knowledge are different this time round. Already, at least two consequences are clear. First, the importance of the crisis countries has proved to be greater than their economic size. The real effect they have had, collectively, has been to generate and propagate fear, not only at home but also abroad, spurring a flight from emerging-market assets and other credit markets to the biggest industrial countries' government bonds. This has hugely widened yield spreads, in what amounts to nothing less than a fundamental re-pricing of risk (see the chart).

Taken by itself, this might not have mattered, and indeed may well be desirable. But fear also led investors, as Alan Greenspan, Federal Reserve Chairman, put it, to "disengage", with strange and frightening consequences. Important parts of the American capital market simply froze up, ceased to function. Almost overnight it became impossible for borrowers to raise money, at any price, in these markets.

In America this really matters. Whereas in Europe and Japan almost all the intermediation between savers and borrowers is undertaken by the commercial banks, in America two-thirds of the credit-creation process is effected by the capital markets - asset-backed securities, commercial paper, corporate bonds, junk bonds, and the like. And these markets locked up. Suddenly, a broad range of borrowers found themselves cut off from their well-spring.

Unless companies are able fairly soon to resume their habitual borrowing, they will have to scale back their investing. With that will come layoffs, a weakening of consumer confidence, then a fall in consumption. America will be headed towards growth recession - indeed probably already is.

Certainly that is the analysis of the Fed, which signalled its concern and the fact that it was on the case by - highly unusually - cutting the federal funds rate by a quarter point between meetings. And it has indicated its willingness to do so again, repeatedly if necessary. The Fed was until recently concerned by the possibility of irrational exuberance in the stock market. Yet it cut rates practically the moment they started to fall.

It was right to do so: the Fed has acted, and stands ready to act further, to save not the American stock market, but the American capital markets – and thereby avert recession.

The outcome for the economy will be the balance between the negative force of fear-induced declining confidence and the positive force of the Fed acting early and decisively. An American growth recession - growth less fast than potential, implying rising unemployment - seems most likely. And it would be too sanguine to imagine that Europe will be unaffected. If the American economy slows significantly, the trade and financial links between the two great trading blocs will ensure Europe follows, in direction if not magnitude (see the table). But if confidence has been damaged more than we realise - as it turns out to have been in Japan - the result could be full-blown recession.

There are grounds for some optimism. While growth recession is probable and full recession possible, depression does not seem likely. While it is easy for an economy to slip from growth recession into full recession, to go from full recession into depression would require, on the evidence of the 1930s, that the authorities in the major countries make three serious mistakes. They would have to tighten monetary policy when they should be loosening it; tighten fiscal policy instead of leaving it alone or easing it; and revert to trade protectionism. It seems highly unlikely that America, Europe, Japan and the UK would make all these mistakes.

On the balance of probabilities, therefore, the MPC should plan on a global environment of growth recession, or possibly full-blown recession. But, hopefully, its calculations need not extend to outright depression.■

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[1] Quoted by Paul Krugman, *International Herald Tribune*, 5 November 2003. Others remember Stein slightly differently, but the point is the same. .http://www.nabe.com/am2000/grnspnvid.htm

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