



The Bulletin July 2009

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Welcome to issue 3 of 'The Bulletin'

This is the third issue of the Bulletin - a monthly(ish) newsletter produced jointly by Ian Pearson of Futurizon and Rohit Talwar of Fast Future. In each issue we provide short views on a range of topics and issues shaping the future.

In this issue we look at four topics:

- How Robust is your Economy?
- Preventing coastal Erosion
- Artificial Stupidity
- Artificial Intelligence – Servant, Friend or Master?

We hope you enjoy them and welcome your feedback.

To book Ian or Rohit for a speech, or discuss your research and consulting needs please contact us at idpearson@gmail.com or rohit@fastfuture.com

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How Robust is your Economy?

In this thought piece we highlight three questions which people in each country should ask themselves to judge the capacity of their economy to prevent and withstand future economic shocks.

We are constantly being asked for our views on the economic outlook and on how the economy may evolve in the coming years. As stated in a previous newsletter, we believe that a spending dam-burst is imminent, but that doesn't mean we are over the worst of the crisis. For example, the IMF tell us that only around half of a total estimated US\$4.1 trillion of sub-prime losses have worked their way through the system globally. The IMF and OECD are also warning that the impending pensions crisis could have ten times the impact of sub-prime and the debt of rich G20 economies will exceed 100% of their GDP in 2010.

However, despite these growing risks in the 'system', not every country is equally affected and we believe there are many different scenarios for how the downturn and recovery could play out - with V, U, W and L shaped trajectories all plausible for different economies from where we stand today.

We believe you have to look at this on a country by country basis to assess the resilience of the economy to future shocks, judge the level of confidence among businesses and consumers and define your strategy for riding out the situation. To help determine how resilient your own economy is to future shocks, we suggest asking yourselves the following three questions about your country:

1. Will the current regulatory system and the changes planned in the near future prevent your banks from creating crises such as the one we've just experienced?
2. Do your governments now have better early warning systems and coping mechanisms to detect and deal with future banking crises while they are only weak signals?
3. Does your economy have the financial resources to manage another bail out on the scale of the one we've just experienced?

Preventing Coastal Erosion

In this article we propose an alternative approach to tackling coastal erosion around the globe which would also cut carbon emissions and reduce plastic levels in landfill and waste dumps.

The latest nightmare environmental forecasts suggest that much of the UK coastline will be affected by severe erosion. Indeed, some parts of the Norfolk coast are already suffering dramatic erosion. The official policy is not to protect such areas, but to allow erosion, for various reasons. In areas where protection is needed, often, concrete blocks are dropped into the sea to absorb or deflect the wave energy.

A seemingly unrelated environmental problem is the disposal of plastic. Much is recycled now, but a lot still ends up in landfill sites or waste tips, which are filling up fast all over the world. Big concerns have also been raised over the potential for non-biodegradable plastic to remain in the environment for hundreds or thousands of years.

However with a bit of imagination, both of these problems could be tackled together. When plastic is recycled, it is gathered and compressed into cubes for easy handling and distribution. If these cubes were wrapped and weighted, they could be thrown into the sea instead of concrete blocks, solving several environmental problems at once. Concrete production consumes energy and produces large amounts of carbon dioxide, both of which would be averted. Raw material costs would be reduced since the plastic is waste and in plentiful supply. It would hang around in the sea for many years, and as the blocks accumulate, they would provide an artificial reef, before becoming a good base for reclaimed land, while reversing the erosion process. During this time, the plastic blocks would be locking up carbon, making the plastic 'reef' carbon negative, as compared to the carbon neutral recycling process. And of course, landfill would not fill up as fast.

A plastic reef could be used to effectively seal off a region of coastal sea, making it possible to use it as landfill for other kinds of waste without the danger of sea pollution. This would accelerate the creation of reclaimed land as well as creating more landfill capacity.

One major obstacle is that under EU law, it is currently illegal to dump plastic in the sea. At the same time, landfill is highly taxed. It would be very sensible to review both of these obstacles to make such solutions feasible, as there would be very substantial environmental benefits. It is ironic that laws designed to protect the environment are now the major obstacles to one environmental solution.

Artificial Stupidity

Here we highlight the risks of increasingly slavish reliance on artificial intelligence systems for decision making in domains ranging from healthcare to insurance.

Artificial intelligence continues to have ever-greater impact on our everyday lives, even though it is mostly behind the scenes performing tasks such as improving search engines, recommending music, finding the fastest route and so on. On a good day, an AI system can make as good a medical diagnosis as a GP. Indeed, many GPs now check their own diagnosis against an on-line expert system (a fairly basic but effective form of AI). However, doctors are still needed because their own human skills are able to obtain more valuable data from the patient by asking questions and noticing body language signals such as hesitancy, facial expressions and so on. This extra data can lead the doctor down new channels of enquiry and improve diagnosis.

Airport security too is starting to use AI to spot potential risks, by examining human behaviour, even the ways people walk, and their responses to questions. Such uses of AI, with appropriate precautions, are beneficial, improving our well-being while reducing costs. However, in spite of this progress, most AI is still very bad at understanding the world and offering good solutions. We all remember Microsoft's paper clip 'assistant', which was often far worse than useless. The term 'artificial stupidity' arose to describe such low quality AI 'solutions'.

Now a new, worrying trend is emerging, where people are forgetting to use their own judgement along with the AI, and just accepting the output without question, and using it as an excuse when it all goes wrong. It may in fact be due to our litigation culture. We are becoming familiar with stories of trucks getting jammed in corners on country lanes because drivers blindly followed their satnavs. More serious is the trend of doctors beginning to rely too much on AI instead of their own judgement.

Ian's own personal experience a year ago highlights the pitfalls of becoming totally reliant on machine intelligence: "A doctor told me that the deep vein thrombosis I am certain I had (and I am no hypochondriac) couldn't be one because there was 93% chance that I shouldn't have one. A 93% chance is just that, no more. It is not certainty. But because I only had a 7% chance of having a DVT, I was sent home without any treatment, or any suggestion of a possible alternative cause for my symptoms. The effects afterwards correlated very highly with it having been a DVT, one of the 7%, but if I had died from it the doctor would have been seen to have followed the book and I would be just another medical statistic. My medical records still state that it was not a DVT, but that is something that was never actually checked." Such abuses of computer systems are becoming much more common, and it is a dangerous trend. When 'probably is' becomes the same as 'is', we have a real problem.

Blind faith in computers appears to be increasing, with growing state use of computers and AI systems, and too few checks made on accuracy. When AI makes deductions from false data, then the results will be wrong, yet the consequences are just as real, leading to anything from a poor credit rating to death. Litigation threats increase the desire to have someone or something else to blame, the computer being an ideal candidate that we all love to hate. But unless we nip this trend towards blind technological reliance in the bud now, it will become a real threat, both to the benefits that can be harnessed from properly-implemented AI and to our lifestyles.

Artificial Intelligence – Servant, Friend or Master?

In this second article on AI we explore some of the alternative views on how humans and machines might co-exist in an increasingly artificially intelligent world.

A fascinating session on the future of connectivity run by the Club of Amsterdam at the RSA in London on June 25th highlighted some critical challenges posed by technological advancement. The suggestion was that a combination of massive increases in processing power, communications speeds, bandwidth and machine intelligence were going to leave humans as poor relations to the computer systems which would run commerce and every other aspect of our lives. As futurists we've heard these discussions many times before but what's interesting now is how the pieces are falling in place sufficiently to warrant real public debate on how we want to live in a world where literally everything from roads to our shoes could be web enabled and 'intelligent'.

A vision was painted of the computers taking care of business while we enjoyed infinite leisure time and had 3D movies projected into our brains. This concept is actually taken a stage further in the forthcoming film 'Surrogates' – in which humans stay at home and live their lives entirely through their robot clones which represent them in the 'real world'. At the debate, an alternative view was that AI systems would actually be harnessed to serve us better. Imagine the mobile phone come credit card that prevents you from making a

purchase because you'd exceed your personal carbon limit or which encouraged you to pause or end a phone conversation because you were becoming too stressed.

For us, three critical questions arose from the debate. Firstly once artificially intelligent computers with a capacity for learning start to design other computers, would there be any mechanism to monitor or control what was happening? Secondly, how would society make the choices about the role of technology in our lives – or would it just happen through a continuous process of encroachment? Finally, what about the 4 billion on the planet living in genuine poverty? They cannot all become subsistence farmers with a mobile phone to help them find the best market prices. Will this group at the bottom of the pyramid simply be left to eke out a life as they do now, if not how could these advances in technology genuinely enhance their health, education and income prospects? Or would our leaders – human or machine – make still more drastic choices about the lives and value of the underclasses?

Ian and Rohit on the road

If you'd like to meet with us on our travels, in the next few weeks Rohit will be speaking in Brighton, London, Wolverhampton, Amsterdam, Brussels, Abuja, Prague, Lucerne and Berlin and Ian will be speaking in Glasgow, London, Neuchatel and Chicago.

What is the Bulletin?

The Bulletin is a response to requests from our respective clients and contacts to provide a monthly update of our current thinking on what's happening in the world around us and what could shape the future we're moving into. To book Ian or Rohit for a speech, or discuss your research and consulting needs please contact us at idpearson@gmail.com or rohit@fastfuture.com

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Forthcoming Dates for your Diary

July 15th – 16th, 2009 World Technology Summit & World Technology Awards, New York, USA \$995 - \$1,650

July 17-19, World Futures Conference, Chicago

July 21st - 24th, TED Global, Oxford, England, Cost \$4,500

September 18th - 20th, Get Inspired - International Association of Facilitators European Conference, Oxford, England - Cost - IAF Members £592.25 / Non Members £649.75

October 14th-16th, Visioning 20.20 – Escaping the Age of Stupid, 5th European Futurists Conference, Lucerne €1040

October 21st -24th, Poptech 09 – America Reimagined, Camden Maine, USA Cost
US\$3,500