40
Risk Management
Research on Risk Management, Assessment and Prevention
website: www.genevaassociation.org · email: secretariat@genevaassociation.org

Sustainability - Opportunities for Insurers

by Walter R. Stahel

This article was published in Risk Management No. 40, November 2006

A Question of Opportunities and Dialogue

In his latest book 'Revising the Invisible Hand'[1], Professor Deepak Lal shields capitalism and globalisation against criticism from ecological fundamentalists. The book shows in a critical analysis a divide between western countries and Asian economies. Professor Lal, an economist and historian teaching at UCLA, criticizes the European green movements and questions the legitimisation of NGOs, but also the missionary drive of the US and the moral imposition of the West. He fears that the green movement as a secular *Ersatz*-religion has the potential to slow down the benefits of continued economic globalisation.

Scientific critic has also started on the Global Warming debate. A group of British scientists believes that the famous hockey stick of the global warming in the IPCC report is flawed. Another group believes that the next Ice Age has already begun in the mid-1990s[2]. A well-known French scientist and former minister of education mourns that the 'right to scientific doubt' is violated in the GCC debate[3]. And the renowned meteorologist Richard Lindzen, professor at the MIT, denounces in the Wall Street Journal the number of colleagues who have lost their job or research funds after having opposed the official truth on GCC. Most of the non-mainstream articles are published in newspapers as scientific journals refuse them. Your servant is reminded of the same phenomenon under the Reagan administration that had hindered a discussion on the *Hamacker* theory.

An alternative approach to the GCC discussion is proposed in a new book by members of the Club of Rome, including Riccardo Petrella who for 16 years had directed the FAST programme (Fore-casting and Assessment in Science and Technology) of the European Commission. *Reading the Kyoto Protocol – Ethical Aspects of the Convention on Climate Change* [4] provides new insights.

Clearly, the number of questions on the science of science (science policy) on the ecology side of sustainability, and the motivations that are driving sustainability in different cultures, are increasing. The triple optimisation of economic, ecologic and social issues in European approaches normally focuses on the environment and social issues, as pointed out by Professor Lal. This is also underlined by the European synonym 'Corporate Social Responsibility' (CSR), whereas in the US, the term 'Triple Bottom Line' (TBL) is used.

---

[1] Deepak Lal (2006), *Revisiting the Invisible Hand: The Case for Classical Liberalism in the Twenty-First Century*. Princeton University Press, Princeton and Oxford, 320 p.
[2] "There is a problem with global climate warming – it stopped in 1998". Bob Carter, *Sunday Telegraph*, 9 April 2006.
[3] Claude Allègre, geophysician, "Le droit au doute scientifique"; in: *Le Monde,* 27 October 2006, p. 19.
[4] Etienne Vermeersch (ed.) (2005) *Reading the Kyoto Protocol – Ethical Aspects of the Convention on Climate Change*, Eburon Delft.

The science of sustainability, which many corporations use as a basis for their own actions, should be revisited – it encompasses much more than CO_2-emission! And the spell of 'good news is no news' should be overcome – the absence of hurricanes in the Gulf of Mexico this year is no news.

Position papers by experts such as the Chief Risk Officers of insurance companies, for instance on global climate change[5], receive much less exposure in the media than political statements. GCC might well be another example for a thesis developed by Ludwig Fleck in the 1930s. Fleck's thesis states that what counts as scientific knowledge is always co-determined by collective structures, but the constitutive importance of these structures is seldom perceived as such.

One strong light in this foggy situation comes from Japan, where a major insurance company has sponsored an extensive research study by leading scientists to present an independent analysis:

Science on Sustainability 2006 – A View from Japan

Over the last few years, the leading Japanese scientists have worked together on the RSBS-project (Research on the Scientific Basis for Sustainability) under the joint chairmanship of Professor Masayasu Kitagawa, Waseda University Tokyo, and Professor Ryoichi Yamamoto[6], University of Tokyo. The extensive report is available in Japanese on http://www.sos2006.jp; an English summary report is available from the RSBS-secretariat [7].

This extensive research has been sponsored by Tokio Marine & Nichido Fire Insurance Co. Ltd. (TMNFI). As part of its CSR activities, TMNFI has been supporting various environmental projects such as the planting of mangrove forests. TMNFI's participation in the RSBS-project reflects the recognition that for an insurance company, whose main line of business relates to risk manage-ment, analyzing and evaluating some of the greatest environmental risks faced by humanity today, such as climate change, resource depletion and water shortage, from a neutral standpoint, will help the company to live up its mission and responsibility in society.

And there are opportunities for insurers that are outside the scientific and political discussion and unaffected by cultural differences on how to interpret sustainability. Some of these opportunities with a solid political and scientific foundation have been grouped and structured in a new book, *the Performance Economy*, written by your humble servant, summarising his research insights of the last 30 years (see p. 24).

What Role for Insurers in a 'Performance Economy'?

Seventeen years after '*The Limits to Certainty, Facing Risks in the New Service Economy*'[8] by Orio Giarini and myself, I have picked up some of the key ideas in a new book '*The Performance Economy*' [9] and complemented them with a business perspective. The key message is that industrialised countries need to increase competitiveness by producing performance, maintaining performance over time, and selling performance. The tools to achieve these objectives are new business models based on **(1) intellectual asset management** (innovation) to generate wealth, **(2) physical asset management** to generate jobs and skills, and **(3) sustainable profits without** externalisation of the cost of risk and cost of waste, based on economic incentives to reduce losses and environmental burden while greatly reducing resource throughput.

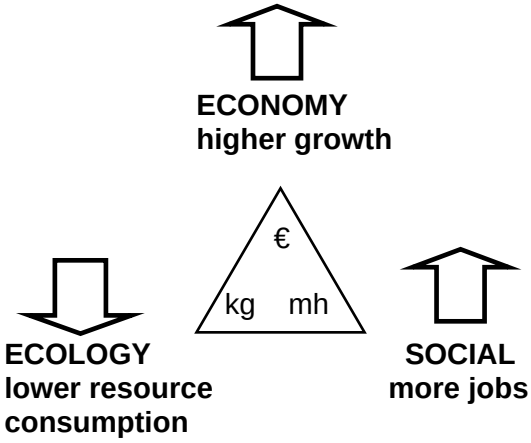
[5] Position paper signed by 19 CROs of the worlds leading insurance and reinsurance companies on Global Climate Change- can be downloaded from http://cronetworks.org/Cro%20Events/CRObriefing.pdf

[6] E-mail yamamoto@iis.u-tokyo.ac.jp

[7] E-Square Inc., Sanyo Building 3F, Shiba Daimon 1-1-33, Minato-ku, Tokyo 105-0012. phone 03-5777-6730, fax 03-5777-6735

[8] Orio Giarini and Walter R. Stahel (1989/1992) *The Limits to Certainty, Facing Risks in the New Service Economy*, Kluwer Academic Publishers Dordrecht.

[9] Walter R. Stahel (2006) *The Performance Economy*, Palgrave London, 250 p, ISBN 0230007961. Details on http://performance–econonmy.org .



'*The Performance Economy*' bridges the gap between the 2010 Lisbon Objectives of the European Union - **higher growth and more jobs** - and the sustainability objective of a **substantially reduced resource consumption** – water, energy and materials - especially of industrialised countries.

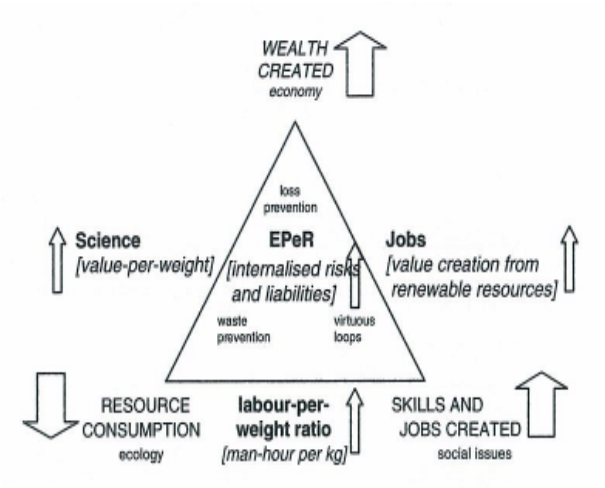
The latter issue, also called dematerialisation, is now studied by policy makers with regard to its application to public procurement – but in isolation from the two other issues, economic growth and job creation.

Risk management is a major capability in, and insurance an enabler of, the performance economy. Sufficiency solutions, loss prevention methods and risk engineering services help to avoid disasters and have a beneficial effect in social, economic and ecologic terms. Innovative approaches, such as weather insurance[10], facilitate the commercialisation of renewable energies. And performance requirements by insurers on operation and maintenance standards might help to prevent system breakdowns, such as the BP pipelines in Alaska[11]. Insurers can take a more active role in maintaining performance by closely observing the management of physical assets. Decaying infrastructures, be it dams, water and sewage systems, power transmission lines or railways, will often lead to criticalities and losses that hit society first and insurers directly or indirectly later. The flood losses after the failure of several dams in the wake of hurricane Katrina is one recent example.

New instruments of the performance economy, such as PFI (Private Finance Initiatives), offer insurers opportunities for investments and insurance contracts. These private-sector vehicles to finance, own and operate public infrastructures are driven by both a shortage of public funds to finance necessary infrastructure projects and a desire of manufacturers to break out of volatile production cycles. PFIs use private sector competencies in finance and risk transfer, by transferring public infrastructure projects into the market economy. With regard to less developed countries, PFIs are a key strategy within the Millennium Goals of the United Nations, defined at the beginning of the 21st century. PFIs could therefore become a major Corporate Social Responsibility (CSR) contribution of the Financial Services Sector. A growing demand by pension schemes to invest in infrastructures with a stable income base observed in the UK indicates that this starts to be recognised. AIG, Credit Suisse and GE, for instance, tried to take over Fraport, the company running Frankfurt Airport, earlier this year.

The sale of performance[12] opens new opportunities for investments in sustainability. Today, sustainable investments and sustainable investment funds are normally based on social or environmental criteria. *The Performance Economy* proposes two **decoupling metrics**, which enable a direct measurement of the economic, ecologic and social issues of sustainability in relation with each other [13] (in parallel to OECD's definition, they are 'decoupling sustainability indicators').

[10] See for instance 'insuring against climate change', *IIASA Options*, summer 2006, p. 11 www.iiasa.ac.at/research
[11] See p. 21, World Congress on Maintenance 2006 held in Basel.
[12] See also the editorial of the May 06 issue of this newsletter.
[13] OECDs DEI - decoupling environmental indicator. The term decoupling refers to breaking the link between *"environmental bads"* and *"economic goods.* It refers to the relative growth rates of a direct pressure on the environment and of an economically relevant variable to which it is causally linked. Decoupling occurs when the growth rate of the environmental pressure (EP) is less than that of its economic driving force (DF) over a given period. One distinguishes between *absolute and relative decoupling.* Decoupling is said to be absolute when the environmental variable is stable or decreasing while the economic variable is growing. Decoupling is relative when the environmental variable is increasing, but at a lower rate than the economic variable.



The new metrics of *The Performance Economy*:
- value-per-weight ratio [€ / kg], [$ / kg]
- labour-input-per-weight ratio [mh / kg].

The first can be calculated at the Point of Sale (POS) by each individual consumer for most physical goods.

Both can be calculated for a plant, a company, an economic sector, a region (if the statistical data is available) or a nation based on annual data.

And even an analysis of the past development is often possible.

In comparison with their competitors, companies with a high value-per-weight ratio profit from any rise in energy and raw material prices, and their business models incorporate a high protection against scarcities of natural resources. Investments in these companies are, therefore, protected from resource price volatilities independently of the reason – political unrest, interruption of trans-port routes, climate change, increase in global demand. A future attribution of tradable CO_2-emis-sion rights for preventive strategies, such as physical asset management, will increase their profit. The new business models of an extended performance responsibility (EPeR) enable sustainable profits without externalised costs for risks, liabilities and waste, thus reducing profit uncertainty.

'Engineered' Nanoparticles – A Potential Limit of Insurability in Nanotechnology

In the editorial of the Risk Management Newsletter No. 39, May 06, I proposed to distinguish:

- bulk nano-particles, which are ubiquitous and represent a public health hazard[14], and
- smart or functional nanotechnology, which represents opportunities for industrial insurers.

A third type has appeared in the meantime, 'engineered' nanoparticles. The US EPA, for instance, has proposed to use 'engineered' nanoparticles in big volumes to clean polluted industrial sites. These particles would clean the soil and transport the pollutants into the groundwater. But no solution has been offered so far on how to clean the intentionally polluted groundwater. There is a view among scientist that engineered nanoparticles may be an uninsurable risk.

The Question of Prevention: Mitigation, Adaptation and Protection

"Prevention is cheaper than cure!" is an old truth in risk management. Similarly, the fact that end-of-pipe solutions are the wrong approach to environmental management is old hat. So why do we not apply our knowledge to our acts?

2007 will see the 25th Anniversary of the **World Fire Statistics Centre** (WFSC), which The Geneva Association has managed for the United Nations, based on the idea that only the knowledge of the total fire losses world-wide will provide incentives to policy makers to take action. 2006 may have seen a change in the tide, as for the first time a report of the UN Committee in charge has contained more than a brief passing reference to the work of WFSC, and suggested that the efforts, which we have been making over the past 25 years to demonstrate the relevance of our work to that of the UN ECE-Committee are at last bearing fruit (…). We shall celebrate the anniversary by organising a seminar at the FFSA Auditorium in Paris during Sept. 07. Tentative theme: 'how can we get policy makers' attention to the need of fire prevention?'.

The question of emerging risks and emerging changes. Mitigation is the best and possibly only strategy for cyclical risk, such as bird flu (37 year cycle) and global climate change (the 100'000 year ice-age cycle). Solutions such as buildings designed as net energy producers and highly insulated buildings,

[14] See for example : www.nanotechproject.org (controlled by the US Woodrow Wilson International Center for Scholars), *Environment, Science and Technology,* online publication of 11 March 2006 (doi: 10.1021es052069i), *Journal of Occupational and Environmental Hygiene* 3, 250-261 (2006)

which do not need any heating and cooling (called zero energy houses, commercialised for instance by Sekisui Chemical Co. in Japan), will be a good investment independently of climate cooling or warming.

At a recent seminar on emerging risks in Tilburg, I stated that any change leads to new risks. This raises the question if it is more efficient to analyse emerging changes or emerging risks[15]. Change analysis can be structured to identify emerging risks and opportunities in four main classes:

A Risks from **changes in technology** and demand are normally entrepreneurial and opportunity-driven. Many entrepreneurs with a great idea lost their fortune and their health or life in the adventure - from the Gotthard rail tunnel to the Channel tunnel - while many others, such as Gordon Battelle and Bill Gates, made their fortune this way.

B Risks from **slow structural changes** are multifaceted and demand a capacity of seeing and accepting what one sees. Is combating the effects of slow social structural change a case for new partnerships between society, politics and insurance? Or is it a political issue? In France in 2005, vandals set more than 40'000 cars on fire – is this an accumulation of 'accidents' or civil war? Should the State reimburse French insurers for the losses they paid?

C Risk related to **cyclical natural changes** are influenced by history and the collective memory. Pandemics, floods, extreme weather conditions, even tsunamis, are more frequent than we think, but we normally only remember what we have witnessed ourselves in our lifetime. Long-cycles, such as climate variations are forgotten, and the non-human impact of e.g. changes in temperature on nature (insects, termites) is neglected. Mitigation may be the only solution here

D Risks related to **'out of the blue' changes** are the traditional domain of accident insurers: sudden, unforeseeable events not caused by negligence or intention. But these accidents will increasingly trigger havoc in combinations with A-B-C.

Combinations between A-B-C events lead to nat-cat catastrophes of a multiple magnitude: earth-quakes have always provoked fires (see papers of the MORE XL-Seminars), displaced fuel tanks in a flood normally lead to water pollution.

For each type of change, appropriate risk management strategies can now be developed, such as pre-emptive mitigation to adapt to cyclical changes. In some cases, this could mean abandoning inappropriate practices, such as planting cotton and rice in dry areas such as Australia. For other changes, partnerships between different economic players will prove to be the most efficient solutions.

Partnerships for Prevention. The MORE XL-Seminar on Partnerships for Prevention, Precaution and Protection held 20-21 Sep. 2006 in Zurich (,,,) analysed this issue and tried to show new ways to promote loss prevention solutions. But several legal and market obstacles to partnerships between industry and insurance have emerged. Two of them are sketched out here:

Wet Financiele Dienstverlening (WFD); Financial Services Act in the Netherlands

The Dutch regulation about insurance companies giving advice depends on the status, i.e. direct writer or not. Direct writers are allowed to advise clients directly. The same applies if you are not a direct writer with the difference that now the broker, insurance agents, etc., are your clients. You are not allowed to advise the insured directly in that case. And even with a broker present you have to be careful. Furthermore there are more and more guidelines regarding education. For more information http://www.afm.nl/corporate/default.ashx?FolderId=1697 or alternatively www.afm.nl / English / corporate / information / laws and regulation / financial services act (wfd).

Novartis takes the position that

> "*Changes in the product liability insurance market for originator pharmaceutical products have made purchase of such policies uneconomic. For certain pharmaceutical substances, coverage cannot be obtained at all. To cope with this change in market dynamics, Novartis has established provisions for the product liability risks of the Group. From January 1, 2006, these provisions will provide the sole means for affirmatively managing the product liability risks of the Novartis Pharmaceuticals Division. Product liability insurance coverage for all*

[15] These are extracts from a presentation by Walter R. Stahel at The Reinsurance Seminar, Interpolis Tilburg, on 15 June 2006.

> *other Divisions will continue to be acquired from third parties*." - p. 164, Novartis annual report 2005.

Novartis purchases product liability coverage for all her divisions except Novartis Pharmaceuticals, for which provisions are set-up.

(…)

Author: *Walter R. Stahel, Editor, Vice Secretary General and Director of the Risk Management Research Programme of The Geneva Association, walter_stahel@genevaassociation.org*

*This article was published by The International Association for the Study of Insurance Economics (**The Geneva Association**). Articles, documents and recent publications of the Association can be found on its website, at www.genevaassociation.org*