

New actors in the environmental arena

Climate Change Risks and the Insurance Industry's Response*

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In this article it is argued that the increased frequency and intensity of extreme weather related events have triggered a concerned response from the international insurance industry in the climate arena. While the Swedish insurance industry has taken some measures regarding direct climate related impacts, the implications on the industry from climate change, as a broader societal issue, is largely left



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ignored. Partnership with the scientific and political communities as well as adoption of new policies, incentives and investment strategies can contribute to the protection of the industry as well as the climate.

1. Introduction

The balance of evidence suggests a discernible human influence on global climate (IPCC, 1995b).

Human activities are increasing the atmospheric concentrations of greenhouse gases, which tend to warm the atmosphere. These changes in greenhouse gases are projected to lead to regional and global changes in climate and climate-related parameters such as temperature, precipitation and weather. Potentially serious changes have been identified, including an increase in some regions in the

incidence of extreme high-temperature events, floods, and droughts (IPCC, 1995a).

1.1 Risk of climate change for the insurance business

The insurance business is first in the line to be affected by climate change. It is clear that global warming could bankrupt the industry (Linden, 1994).

The year 1995 set a new record in the history of natural disasters. The total economic loss (180 billions of USD) was three times the previous record of USD 65 billion (1994), and would have exceeded that figure even without the earthquake catastrophe of Kobe, Japan. The trend of a raised frequency of

* This project has been financed by Svenska försäkringsföreningens minnesfond

natural catastrophes such as windstorms and flooding has been obvious since 1960 (Munich, 1996). While the scientific community is not unanimous in its assessment, there is growing support for the theory of natural catastrophes linked to the increase in greenhouse gases, and the rise in mean global temperatures. Since 1990, the insurance industry worldwide, has paid over \$48 billion for weather-related losses, compared to losses of \$14 billion for the entire decade of the 1980's (Brown, 1996).

Does that mean we should use the lack of certainty as a reason for inaction? I find that hard to accept because in most business decisions we do not act on scientific certainty. The whole question of scientific certainty is a question of probability (Loughran, 1996).

By 1995, leading insurers from all the world's main insurance centres had spoken of the threat of bankruptcy from unmanageable catastrophe losses (Leggett, 1996). Two days before 150 governments convened in Berlin (March 1995) to continue the negotiations under the United Nations Framework Convention of Climate Change (UNFCCC), Greenpeace arranged a global warming seminar to bring together large parts of the financial sector; insurers, bankers, and pension-fund representatives (Leggett, 1996). At the same time several other seminars were arranged. The seminars included the financial sector, environmental NGOs and scientists (Swiss Academy of Science, 1996).

This and similar seminars (at the COP-2 in Geneva and COP-3 in Kyoto)¹ are examples of the international insurance industry's response. Another example of insurers' climate risk response is the development of the United Nations Environment Programme (UNEP) initiative; 'Statement of Environmental Commitment by the Insurance Industry'. By signing the Statement, companies undertake to make every effort towards achieving a balance of economic development, the welfare of

people and an environmentally sound management. A final example of the industry becoming increasingly outspoken in its concern about climate change is underlined by an industry-authored report for the IPCC, Working Group II (Mills, 1996).

1.2. Aim and structure of the paper

As shown above, there is an international insurance business response emerging in different contexts. The purpose of the research is to look into the Swedish context. This paper examines the Swedish insurance business's response to the risk of climate change.

The structure of the paper is first to explore in more detail and present three broad response categories. These categories are founded on both empirical evidence and theoretical analysing. Second, the Swedish insurance response will be analysed in light of these three broad strategies. Third, the discussion sums up the main empirical and theoretical findings and add some modest proposals for the Swedish insurance industry in order to lower the business's vulnerability to climate change.

2. Possible responses to the risks connected to climate change

Within the international literature, it is possible to identify three different types of active response strategies. Two out of three insurance business strategies can be summarised as "active strategic protection of the markets in which it operates" (Leggett, 1996). This includes;

1. Insurance industry influencing international environmental agendas
2. Adoption of new policies, incentives and investment strategies

In order to succeed with the first two strategies and to be able to predict and successfully

adapt to future climate risks, a third strategy is necessary;

3. Increasing interaction with the scientific community

2.1 Influencing national and international environmental agendas

One way to avoid the overall climate change risks is to stabilise the atmospheric concentration of greenhouse gases, mainly carbon dioxide, methane and nitrous oxide. This would ultimately require reducing current global emissions by 50 to 60 percent over the next century (Lepetto and Lash, 1997). The interstate negotiations in Kyoto in December 1997 showed, with great emphasis, the difficulties and complexities involved in the climate change negotiations. Although states are the main actors on this level, other types of actors also play important roles. Examples are environmental non-governmental organisations (NGOs), such as Greenpeace, and other types of lobby organisations, such as Global Climate Coalition (funded by the US coal and oil industry).

It is clear that the international insurance industry has started to influence the international climate agenda. An example is the earlier mentioned collaboration with Greenpeace and UNEP, and the launching of manifold statements of concern. Before 1995, the international insurance business responses emerged and were launched outside the policy community. In 1995 and 1996, however, the insurance business increased its activities during the climate negotiations. Today, there seems to be a possibility to further develop these relationships with the policy community. The precondition for this is the recognition that business and politics, on all levels (from local to global), have much to win by entering new types of collaboration and alliances.

A concrete historical example of this is the stratospheric ozone issue. The 1988 Montreal

Protocol on Substances that Deplete the Ozone Layer was heralded as an unprecedented collaboration between some of the major western governments and part of the largest transnational corporations. The question then is whether it is possible for the insurance industry to influence the 1992 United Nations Framework Convention on Climate Change (UNFCCC) in the same way as the American chemical industry, in close collaboration with policy makers, influenced the Montreal Protocol?

Even though companies do not believe climate change will affect them directly, other important reasons for enhancing the understanding of the potential response from the policy community exist. For example, the agreement in Kyoto gives countries a time limit until the year 2008-2012, to cut emissions of heat-trapping gases by an average of 6 % below the 1990 levels. The insurance industry needs to understand what implications this trend has for their capital investments. Also, how is the ongoing FCCC negotiating process likely to be changed under the next negotiation round in Buenos Aires in November 1998 and further into the third millennium?

2.2 Adoption of new policies, incentives and investment strategies

A great variety of industries could be affected by climate change. That change concerns both those whose business is adversely affected regarding the direct effects of climate change *per se*, and those industries whose activities are partly responsible for causing climate change, and will be affected by the political and public climate change response. The insurance industry is an important investor in the financial markets, so both of the above presented possibilities need to be discounted when doing financial investments. The new operational strategy is certainly not

limited to a change in premiums; the scope is much broader.

The industry can adopt its own policies and incentives with innovative concepts by offering, for example, climate “friendly” insurance products (i.e. in motor liability insurance), sponsoring of climate protection projects, eco-audits in environmental liability insurance (Munich Re 1998). Further, it can also contribute financial as well as intellectual incentives for innovations in large-scale technology and infrastructures (such as making buildings owned by insurance companies more efficient, improving the energy efficiency of industrial and transportation activities, and developing and diffusing technologies for the appropriate use of renewable resources).

2.3 Interaction with the scientific community

As future climate extends the boundaries of empirical knowledge (i.e., the documented impacts of climate variation in the past), it becomes more likely that actual outcomes will include surprises and unanticipated rapid changes (IPCC, 1995b).

The most authoritative assessment of the scientific knowledge of climate change comes from the Intergovernmental Panel on Climate Change (IPCC); a scientific body set up to coordinate and assess climate research. In light of the above statement from their latest assessment, it is therefore of utmost importance for the industry to follow and interpret the ongoing research process. The relationship to the scientific community needs to be developed towards increasing the possibility of understanding what climate change could mean to their company. Obviously, the international insurance, and especially reinsurance business, invests a considerable amount of resources in climate change research. Franklin W. Nutter, President, Reinsurance Association of America comments on this by saying:

It is also crucial that we enhance the dialogue that we have begun with climatologists and other experts studying climate change and the impact it may have on the future. We also committed to the administration that insurers will become better informed about energy efficient technology, that is now available, or will come available (Leggett, 1996).

3. The Swedish insurance industry and its responses to climate change

Obviously, the climate issue and the risk for climate change have become important within the international insurance industry in general, and especially among reinsurers. According to our literature survey, there is plenty of evidence suggesting that the world’s insurance companies should examine their business, and investigate how the trend has affected their activities so far. Further, they should also consider what alternative actions there are to prevent unnecessary damages in case of a future disaster caused by climate change.

In light of this international discussion, it is of interest to investigate the Swedish insurance industry’s response to the identified risks caused by a prospective climate change. During January 1998, we interviewed the environmental Directors of the five largest insurance companies in Sweden: Skandia, Trygg-Hansa, Folksam, Wasa and Länsförsäkringar. Further, Skandia’s expert on natural disasters was included in the study. Questions were asked about the company’s view of the phenomenon ‘climate change’, and what actions one had taken to secure the company against climate risk. Also the future company policy was brought up: What additional action can the industry take to prevent it from the possible disasters related to climate change?

Below, a summarised report from these interviews is presented. The results are structured according to the three response strategies which was outlined in part two (2.1 - 2.3).

3.1 Influencing national and international environmental agendas

With few exceptions, the Swedish insurance industry does not consider climate change as an immediate risk for their company, or to Sweden in general. Skandia, for example, has actually stated that climate change does not exist. Wasa and Länsförsäkringar hold a similar view. Trygg-Hansa and Folksam stated that it is not within the realm of the company's objective to hold a scientific opinion on the matter. However, they admit that climate change, if a reality, may impose a substantial risk to their business.

No matter what action plan the companies have adopted against climate risks, there seems to be a common understanding regarding the complexity of the kind of risks that climate change constitutes. According to the companies, the main problem when handling the issue is not the fact that it is occurring, but its effects on society, its displacement, timing and consequences for business.

Without answers to the above queries, Trygg-Hansa has nevertheless chosen to apply the *precautionary principle*. The changing weather patterns (e.g. increase in storm frequencies) has been considered as enough evidence for taking action. Skandia has also chosen to apply the precautionary principle, but not as a response to a probable global climate change, but as a response to the increased amount of storms during the 1990's. Hence, Skandia does not associate increased storm frequencies with the phenomenon of climate change or with the greenhouse effect.

Up to date, the drafting of the UNEP document is perhaps the most outspoken response to a possible climate change, corresponding in time and content with the Kyoto negotiations in Japan, December 1997. According to Skandia, the co-operation with UNEP was a unique event, where the insurance industry worked with an intergovernmental organisa-

tion for the first time. Until then, co-operation and interaction with the political sphere had occurred within national business-oriented policy sectors such as the Swedish ministry of, and standing committee on, industry and commerce.

Together with Folksam and Wasa, Skandia and Trygg-Hansa have drafted the document. Wasa has followed-up their engagement in UNEP by establishing a special "climate change group". The purpose of the group is to follow the continuous work within UNEP and to decide whether the proceeding work there has any relevance to Wasa's interests. Wasa also regard UNEP as a good and efficient forum for the insurance industry to act as a policy maker in the future. Another reason for Wasa having a special group focusing on climate change, is the necessity of staying updated with the political decision making.

Trygg-Hansa welcomes the UNEP initiative and is especially attracted by its point of departure, i.e., *the precautionary principle*. The principle as such is not only a "lifeline" in case of climate change and the damages it may cause to the industry, but it is also a guarantee against future possible policy changes from the Finansinspektionen (a state agency charged with the responsibility to make sure that no unnecessary risks are exposed in the companies' portfolios).

We conclude that, Trygg-Hansa is the Swedish insurance company that takes climate change most seriously. The company is, for example, participating within the "inner circle" of UNEP, closely collaborating with Carlos Joly, former Senior Vice President for Environmental Policy and Investments of Norwegian UNI-Storebrand. Within the Swedish Insurance Federation (Sveriges Försäkringsförbund), Trygg-Hansa has also worked on behalf of the industry's Environmental Directors, in order to establish a context within which issues like climate change can be discussed.

Although it is the *reinsurers* who in particular have been the main supporters of the insurance business's engagement in reducing CO₂-emissions so far, the issue has relevance to the insurance companies as well. What is discussed within UNEP and national and international political arenas will later on have a significant relevance to the Swedish companies. This is also something that the industry has realised and several of the companies maintain that they follow the debate within the political sphere regarding climate change.

Some of the Swedish companies have concluded that climate change is no longer only a scientific matter, but a political one as well. According to the study, several companies stressed the importance of following the international natural science debate, as well as the national politicians' *perception* of the debate. The latter is deemed especially significant as the political response depends on how the political establishment perceives the scientific debate and the results from the climate change research.

One of the findings from the study is the potential for new forms of collaborations between the political and the business sphere, given that the latter recognises potential climate change as a risk for the company, or at least as a wider societal risk. Up to date, this form of collaboration should be considered "embryonic" rather than an established form of co-operation. However, in the future these types of collaborations may grow in importance, not only for climate change specific but also for environmental issues in general.

3.2 Adoption of new policies, incentives and investment strategies

An apparent response to the increased frequency of extreme weather related events (such as storms) that has occurred during the 1990s can be seen in the fact that all the greater insurance companies in Sweden, with the exception of Folksam, have left the rein-

surance system. It is not clear whether or not this is a direct response to the climate change risk. Thus, Skandia admits that it has left the reinsurance system as a response to the increased storms. However, the company still maintains that there is no causal relation between the increase in, for example, storms (globally) and climate change. This denial of the existence of climate change does not, however, imply that the company does not agree with UNEPs precautionary principle. Taking action in support of CO₂ reductions has merits on its own, according to Skandia.

Other companies, like Trygg-Hansa, say they lack the scientific expertise to have an opinion on whether the increase in number of storms during the 19th century is connected to a probable climate change. According to the precautionary principle, complete evidence of climate change is not a necessary condition for taking action. Thus, a fully proven existence is not necessary. Trygg-Hansa's interpretation of the principle can be summed up by the statement that "the *tendencies* speak for themselves".

According to several of the companies, the co-operation within UNEP has many advantages, such as making available written material which otherwise would never have been available, newsletters, correspondence, contact with other companies and other experiences valuable for the industry. One important response recently debated internationally is *asset management*. We have found that Swedish companies differ in their opinion about the possibilities for, and advantages of, changes within this field. Skandia and Trygg-Hansa maintain that even if their companies realise that its extensive investment business might be important for the future environment, the industry presently lacks clear instruments that enable them making general judgements about the environment and the business of interest. These instruments do not have to be specifically related to climate change, but could be

part of a more comprehensive plan for environmentally healthy investments in general.

Hence, while Skandia and Trygg-Hansa view themselves as potential actors, Wasa considers its company too small to play a significant role regarding the future environment. Nevertheless, they believe that *asset management* has a potential to become a tool for the financial industry enabling a more active approach in the environmental arena. Wasa proposes that if a company can show their customers that the financial investments has to reach an environmental objective², then there is a possibility of creating a future demand for environmentally sound savings. These ideas are, however, still in their infancy. Nevertheless, as a response Wasa has started to create an environmental profile for some of their funds. But Wasa maintains that one must be responsive towards the customers' demands, since there is no use spending money on funds without demand.

As indicated above, both Trygg-Hansa and Skandia have come further in the development of asset management not only by focusing on "ecofunds", but also on education, i.e. trying to introduce an *environmental awareness* into their financial staff. At Trygg-Hansa environmental awareness is sneaking through the backdoor via the company's recruiters. There is a new generation of investors who are about to take over asset management, according to Trygg-Hansa; a generation that views environmental issues from a new and different perspective.

Folksam is collaborating with the International Institute for Industrial Environmental Economics (IIIEE) in Lund to find criteria for future environmentally sound investments. According to Folksam, the insurance industry has the potential to play an active role to the benefit of the environment, both by carrots and sticks. For the industry to become efficient, however, Folksam believes that a dialogue to enhance unity is needed. However,

in the end environmental commitments can not draw attention from the main purpose of all industrial activity, i.e., a good earning capacity, Folksam concludes.

Another of our findings is that the insurance business does not at present recognise asset management as a possibility. Investing in CO₂-efficient companies is beyond their current time-horizon. Further, CO₂-efficiency *per se* is also seen as too far-fetched to attract investors. An important reason for not being interested in more long-range asset management and an environmentally-lead investment base, is the responsibility to the stockholders. The industry spokesmen say that, if the company strays from the path of profit maximisation, they risk losing the stockholders' confidence.

To sum up, we conclude that asset management in general is considered as an important response to environmental problems. However, the specific use regarding the climate change issue is uncertain. While the Swedish insurance industry do not perceive climate change as a risk to the day-to-day business, a more comprehensive mitigative or preventive climate change policy is not considered motivated.

3.3 Interaction with the scientific community

Since, today, a great amount of research effort worldwide is spent on climate change, it is internationally considered very important to stay updated with this research. But how has Swedish industry *positioned* itself in this matter? We have found that Skandia is the Swedish company which has established most contacts with the scientific community. For several years the company has had an expert on natural disasters following up on the scientific results emanating from the research on climate change, such as the IPCC reports, and participated in climate change conferences.

Just as Länsförsäkringar, Skandia has also collaborated with the Swedish Meteorological and Hydrological Institute (SMHI) using their meteorological data for the *Swedish region* when trying to gather data concerning significant evidences for climate change or an increase in storm frequencies.

When the climate change issue entered the international agenda in the beginning of the 1990's, Länsförsäkringar made an inventory of their storm-related payouts and concluded that within their area of interest, there are no signs of increased storm frequencies. Skandia drew the same conclusion after conducting similar analyses. Internationally, however, Länsförsäkringar has made the judgement that the storm frequency *has* increased, leading them to withdraw their receiving of reinsurance in 1993. While Skandia has withdrawn their receiving of reinsurance too, this is not because of any increase in storms, but according to the precautionary principle.

Neither Folksam, nor Wasa and Trygg-Hansa respectively, have so far had any closer contacts with the scientific community regarding the risk of climate change. Trygg-Hansa lacks resources to conduct research on their own (such as the one performed by Swiss Re in Zurich). Further, the company has not considered it necessary to prove the presence of climate change to take action. The existing tendencies, it is argued, can be placed within the framework of the precautionary principle, which is enough.

We interpret this as if Folksam takes the existence of climate change for granted, but since Folksam believes that the effects are globally spread out, the direct consequences for their own business are considered modest. Like Trygg-Hansa, Wasa also finds itself lacking financial resources to stay updated with the scientific community. Further, Wasa lacks the policyholders' mandate to follow up the international research results. Wasa has therefore adopted a strategy of 'wait-and-see'.

4. Discussion

According to the study, the Swedish insurance industry takes a wide variety of stands on the climate change issue. Broadly, two categories, based on different lines of reasoning, seem to be present. The first one is to do *nothing*. This category could be based on different levels of analysis (or even absence of analysis). On the simplest level it may, for example, constitute almost ignorance of the scientific (social and natural) understanding of climate change in general, or questioning of the specific link between climate change and extreme events. On the more advanced level, the reasoning behind includes an assessment of the sensitivity³ of the own business to various possible impacts of climate change. Further, even though the business in question is sensitive to changes in frequency and intensity of weather related catastrophes the vulnerability will anyhow be low; the reason being that there will be time and capacity for adaptation, hence no precautionary action is needed. The corporate strategies emanating from this category range from "business as usual" to "wait and see".

The second category is to do *something*, that is to mitigate, anticipate and adapt. The remaining part of the discussion will deal with this category, more specifically. According to the study, three corporate strategies emerge.

1. Influence international environmental agendas
2. Adoption of new policies, incentives and investment strategies

In order to succeed with the first two strategies and to be able to predict and successfully adapt to future climate risks, a third strategy is necessary;

3. Increased interaction with the scientific community

If the industry considers climate change as a potential risk for insurance companies, or at

least as a wider societal risk, approaching the political sphere is a reasonable way of protecting oneself from those risks. Such collaboration already exists, but should so far be seen as "embryonic" rather than an established form of co-operation. However, in the future these types of collaborations may grow in importance, not only with respect to climate change in specific, but also environmental issues in general.

An illustrative example of this form of collaboration is the creation of Länsförsäkringar's new recycling insurance, as a response to the politicians' demand for a new "producer responsibility". In this case, business, as well as the politicians, had everything to gain by collaborating with each other. The politicians could refer to a market-based solution (the new recycling insurance) and Länsförsäkringar could encourage the politicians to tighten the law resulting in an advantage to the company.

Presently, however, the Swedish insurance industry views this form of collaboration as a bit too risky in general, as they perceive the political sphere of being far too naive. Politicians are still too coloured by their old conception that business and industry are *per se* environmentally 'bad guys'; i.e. not interested in developing environmentally sound strategies. Hence, politicians are not in a position to understand the conditions of the industry, according to the perceptions of the latter. Further, politicians do not recognise the fact that it makes good economic sense to be an environmental forerunner, as the demands for "green" processes and products are increasing.

In the context of adopting new policies, incentives and investment strategies, there seem to be at least two aspects of climate change that the insurance industry needs to take into consideration. First there are the immediate physical - and consequently economic risks. Examples of such include cost as a result of hurricanes, floods, wildfires, ava-

lanches, sea surges, hailstorms and droughts. The Swedish industry seems, to a certain extent, to have taken some of these risks (storms and floods) under consideration. Second is the development of climate change as a societal issue. This stems from the fact that, even if the industry oneself does not consider climate change as a risk, other parts of society, such as politicians, customers and investors, may do. This may result in increased taxes and changed laws for industries (in which the insurance business has invested), greater customer demands (who, for example, buy insurance or convey their pensions to the insurance industry). The matter of climate change thus gives birth to the need of *long-term strategic planning*. How society will respond to the scientific climate change risk communication, is an issue that needs more attention. Attracting investors with, for example *alternative investment strategies*, such as in renewable energy (instead of fossil fuel) or offering possibilities for people to invest their pensions in *ecological funds*, are relatively painless examples of how to give oneself a profile of having "climate change awareness".⁴ The latter being an example of a preparation for an increase in the public demand for action in the climate change issue.

The scientific understanding of climate change increases every year. Although the implications of climate change for the frequency and severity of natural catastrophes are uncertain, new scientific developments increase the management of the issue. For example, computer models have been developed for simulating catastrophic events in a region.⁵ Sensitivity and vulnerability of many natural ecological systems, socio-economic systems and human health systems are being analysed, even though large uncertainties still remain. Social science research on, for example, the politics of climate change and the effects of the climate convention as well as attitudinal surveys of the public perception of

climate risk are underway. Staying updated with scientific research on these issues, seems to be important, and relatively cost-efficient. A substantial improvement would be to keep the initiatives together and form a *working group*, in order to facilitate a dialogue between the insurance companies, the scientific community, and the public authorities.

Due to the importance of interaction with the scientific community, this responsibility should be placed on an operational and strategic level. This enables the advancement in scientific knowledge to be an integrative part of the development of the companies' overarching policy.

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6. Notes

- ¹ Conference of the Parties, i.e., the States who signed the UNFCCC
- ² Such as energy efficiency measures or sustainable development indicators.
- ³ In this context, sensitivity refers to the degree that the industry is affected by different impacts; and vulnerability refers to the degree that the industry can be harmed.
- ⁴ See for example also President Clinton's "Climate Awareness Initiative" in the preparations for the negotiations in Kyoto, 1997
- ⁵ At the International Institute for Applied Systems Analysis (IIASA) this work proceeds within the Risk, Modelling and Policy (RMP) project. The developed model received the Kjell Gunnarson Risk Management Prize at the annual meeting for Risk Analysis in June 1997.