Money flows and commodity movements ... have to be regarded as fundamental to contemporary ecosystems ... because these flows form a coordinating network that keeps contemporary ecosystems reproducing and changing in the particular way they do ... And as the flows shift and change their character, so the creative impulses embedded in any socio-ecological system will also shift and change in ways that may be stressful, contradictory or harmonic as the case may be. (Harvey 1993: 28)

Many insurance companies have become increasingly concerned about the implications which global climate change might have for their industry. By 1995, 'leading insurers from all the world's main insurance centres had spoken of the threat of bankruptcy from unmanageable catastrophe losses' (Leggett 1996b: 15). Increasing concern can be charted from an early report commissioned by the Reinsurance Offices Association in 1990. Representatives of Swiss Reinsurance, Munich Reinsurance (Munich Re) (the world's two largest reinsurers), some Lloyds' syndicates, and increasingly other insurance companies began to make significant claims that climate change could bankrupt the £1.4 trillion global insurance industry (see Leggett n.d.: 26-30; Schmidheiny 1992: 64-6; Schmidheiny and Zorraquin 1996: 121-2).

Their concerns are primarily about increased payouts on large-scale weather-related disasters and are fuelled by a substantial increase in annual payouts for such events since the mid-1980s, notably Hurricane Andrew in August 1992, which cost the global insurance industry \$20bn (Leggett n.d.: 16). The concern of the insurance industries is that these kinds of disasters may well increase. Because of this they have been actively courted by environmental lobbyists, particularly from Greenpeace (e.g. Leggett 1994; 1996a; 1997).

On the back of this concern, insurance companies have become increasingly involved in climate change politics. The first instance of this activity was a seminar organised for insurers and other financial sector representatives by Greenpeace at the first Conference of Parties (COP) to the UN Convention on Climate Change in Berlin in March 1995. This was followed by later interventions at climate negotiations (a seminar at the second COP in Geneva in

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July 1996), as well as by the development of a UNEP-sponsored Statement of Environmental Commitment by the Insurance Industry (UNEP n.d.), with follow-up workshops (UNEP 1997) and, again sponsored by Greenpeace, the 'Solar Investment Summit' in Oxford in December 1996, designed to bring together insurers, bankers and people from the solar energy industry, to stimulate investment in that industry (Leggett 1997). This last event led to the setting up of the Solar Century, an organisation intended to promote such investment by insurers.

By early 1999, however, little had moved since the early developments up to 1996. On the one hand, the focus on weather-related disasters has continued. For example, in a report published on 29th December 1998 by Munich Re, natural disasters caused 50,000 deaths and damages costing more than \$90 billion in 1998. This was the second highest figure ever. Munich Re said this compared with 13,000 deaths and damages of \$30 billion in 1997. Thanks to a combination of global warming and unusually heavy rain, 1998 was 'a year with an exceptionally large number of natural catastrophes ... [which] claimed the lives of about 50,000 people throughout the world (Reuters 1999).' The 1998 damage figure was exceeded only by 1995's \$180 billion, much of which was caused by the Kobe earthquake in Japan. Compared with the 1960s, the past ten years had seen three times as many severe natural disasters that cost the world's economies. after adjusting for inflation, nine times as much and the insurance industry 15 times as much.

On the other hand, the insurance companies have been rather quiet in political fora concerning climate change. At the third and fourth Conference of the Parties to the Climate Change Convention in Kyoto and Buenos Aires, there were meetings of the UNEP insurance industry initiative, but no real development of the position they had adopted, and little sense that the general position had generated more concrete plans. It was clear, as emphasised by Salt (1998), that insurance companies were fairly politically naïve compared to oil and coal companies in their dealings with government. It is therefore not clear which way the majority of insurance companies will go. There is some minor evidence of shifting investment practices, but clearer evidence that they are trying to make their calculations more actuarial, for example through funding the

TSUNAMI initiative, a research programme designed to calculate risks to insurers under conditions of climate change, and to shift the burdens onto the insured by raising premiums. They have only made rather general calls for governments to limit emissions, without mounting pressure.

Despite the lack of recent movement by insurers however, many involved in the politics of climate change remain optimistic that the involvement of insurance companies may precipitate changes in political responses to climate change, involving greater reductions in CO2 emissions than those currently envisaged. There is a recognition, in policy-oriented literature (e.g. Flavin and Tunali 1996), journalistic accounts (e.g. Brown 1996: 185–98) and academic works (e.g. Ward 1996: 871; Paterson 1996: 166; Newell and Paterson 1998: 696) of the potential importance of insurance companies as players in climate politics.

1 Political Economy, Global Finance

It has been fairly commonplace to suggest that climate-change politics have been to a large extent driven by the interests of those whose livelihood is gained by producing and distributing CO2-generating fossil fuels. The ability of oil and coal companies, and the oil-exporting states (joined from 1996 by Australia) to make sure that efforts to limit CO2 emissions have been thwarted by and large, is easily documented. It is argued that this has been possible because of the (widespread understanding of a) structural relationship between energy use and economic growth (Newell and Paterson 1998). Such arguments are couched in a political-economy framework emphasising the structural role of the state in promoting capital accumulation. But what is perhaps odd here is that most people working in such frameworks would argue that leading fractions of capital, with the capacity to define the interests of 'capital-in-general', are no longer the heavy industrial sectors of the Fordist era, who have prevailed so far in climate politics.

Rather, the prevalent argument is that processes both of globalisation, and of the industrial restructuring commonly known as post-Fordism, have disembedded finance from the 'real' economy, shifting the balance of power between different sectors of industry towards finance, as well as enhancing the power of financial markets and institutions over manufacturing capital. Cerny (1990) uses the term 'competition state' to describe this shift, whereby states are now seen as channels for investment, competing with each other to attract investment within a global economy, rather than as managers of a primarily national economic development process. Others, however suggest that this argument about the declining powers of states in relation to global finance is misplaced or overemphasised (e.g. Hirst and Thompson 1996; Helleiner 1994; Martin 1994; Watson 1999).

Interestingly, however, insurance is not itself discussed to any great extent in such debates (Strange 1996). The general focus of the debates about global finance is on foreign exchange markets and the emergence of a range of derivative financial instruments. This is largely because this is the major means of assessing relations between states and global finance. But it is an odd neglect, given the role which insurance plays in industrial investment and finance, and hence in more general processes of (global) capital accumulation. By the 1980s insurance companies and pension funds were becoming dominant in finance (where banks had been in earlier periods) (Leyshon and Thrift 1997: 121-2), and thus were becoming important even in foreign exchange markets, where the rapid growth in those markets was produced in part by deregulation, but also by the rapid growth in institutional investors' funds (Martin 1994: 259).

The insurance industry is itself an industry worth \$1.4 trillion globally. The following are some examples taken primarily from the UK for illustrative purposes. Institutional investors, comprising insurance companies, pension funds and unit trusts, comprise 58.5% of all share ownership on the UK stock market (CSO 1995: 7), with insurance companies accounting for 21.9% and pension funds 27.8%. Insurance investment has grown less fast than that by pension funds, but still has more than doubled its proportion of all shares owned since 1963 (ibid.: 8). Industrial investment is also important to insurance companies. 50.4% of life assurance company investment is in ordinary stocks and shares. The figure for general insurance is 19.8% (ABI n.d.; Howells and Bain 1994). General insurance requires greater liquidity than does life, due to

its more variable payouts and need to make allowances for extreme events (Clayton and Osborn 1965: 83). But approximately 80% of insurance company investment comes from life funds, so in terms of industrial investment the figure for life company investment is more important.

Such debates, therefore, offer some support for the optimism of observers of climate politics concerning the impact insurance companies might have on climate negotiations. But such optimism depends on two arguments: the strategies insurers will adopt, which are not yet clear; and the complexities surrounding their capacity to exercise the power which the above analysis implies they have, in relation either to states and/or to manufacturing capital, in order to effects shifts in CO2 emissions.

2 Insurance Company Strategies

The potential importance of insurers depends on which of three strategies they decide to adopt (the threefold typology is drawn from Leggett n.d.). The first such strategy is the status quo, where insurers hope that the rise of large-scale losses from storms and other weather-related disasters is temporary. The second involves overhauling the way insurance operates in order to reduce its exposure to such large-scale risks. Leggett terms the third strategy 'active strategic protection of the market in which it operates' (n.d.: 4). This involves on the one hand lobbying governments to act to reduce CO2 emissions, and on the other hand the 'strategic deployment of investment capital' (ibid.: 5), shifting investment away from fossil fuels and towards noncarbon based energy sources.

Few companies are now engaged only in the first of these. Many have gone for the second. They have done this partly by increasing premiums, partly by trying to remove cover from certain areas. In Florida, premiums were up by 72% between 1992 and 1996 after Hurricane Andrew (and doubled in the Miami area). In Hawaii, after Cyclone Iniki, one insurance company stopped offering residential cover. There are various problems with this second strategy. First, if data ceases to be actuarial, calculations concerning premiums will be very difficult to get right and the overall risks will still increase. Second, often insurers are regulated so that they cannot withdraw cover, and the premiums are also

regulated. Third, and perhaps ultimately most important, the strategy is self-defeating in the long term. Insurers make their money by insuring people and property, and if they progressively reduce cover, they progressively reduce their potential sources of income.

For environmentalists such as Leggett, who have been trying to persuade insurers to take climate change seriously, the third strategy is the most attractive one. However, the strategy of shifting investment practice can be broken down further. It could involve disinvestment from fossil fuel companies and reinvestment in renewable energy and energy efficiency. There is a debate within the insurance community about the viability of such a proposal, with the majority view sceptical of its practicability. But this involves shifting the balance of portfolios within existing investments and actively promoting investment in alternative energy sources and technologies (e.g. Nutter 1996: 82-90 - Nutter is the President of the Reinsurance Association of America). It also concerns direct use of solar energy in company buildings, and in property investment, in which insurance companies are important investors. Solar Century is founded on the assumption that investments by these companies in their own building stock would have significant impact on the market for solar Photovoltaic (PV) electricity, producing economies of scale which would then improve the competitiveness of PV and make it commercially viable (Leggett 1997).

A separate argument which has been advanced to encourage insurers to switch their investment practices is that if governments do act to limit CO2 emissions, then the profitability and therefore the share price of fossil fuel companies is likely to be negatively affected. Mark Mansley of financial analysts Delphi International has argued that institutional investors need a long-term strategy for investment in fossil fuels (Mansley 1994). Therefore there may be a purely market incentive to get out of fossil fuels or exert pressure within those companies to shift their strategic planning away from coal and oil.

3 The Complexities of Insurance Company Action

But how possible is it in practice to effect investment shifts which would lead both to reduced CO2 emissions and to indirect pressure on governments to adopt emissions reductions? There are all sorts of complexities which affect the possibility of this occurring in practice. First, this varies with different types of insurance company investment, of which three types - equity capital, loan capital and commercial property investment – are particularly important. The latter of these is, in principle, the one where insurers have the most immediate latitude for action. In the other areas, some suggest that such investment switching is not possible (e.g. Joly 1996: 193-7; Dlugolecki 1996: 170). This might be either because companies are regulated to maximise earnings, which impedes their freedom of action in investment decisions, or because they are often price-makers, and thus large-scale disinvestment in particular companies would lead the price to move against them. Other actors in this debate. however, suggest that significant shifts in investment are possible (e.g. Lloyds 1995).

The possibility of such shifts depends, apart from its financial viability, on a number of other factors. These include: shifts in discursive understandings by insurers, towards extended notions of 'fiduciary responsibility' (Joly 1996) for example; improved development of environmental reporting by companies to enable effective investment decisions on climate related criteria; the effect of the distinction between long-term and general insurance - while long-term or life assurance has the largest investment funds, it is general insurance which is most immediately hit by climate change; the links between different branches of insurance within the same companies; the relationships between those branches of insurance companies dealing with climate change impacts in terms of payouts on catastrophes, and those dealing with investment management.

In addition, the possibility of such investment switching depends to a certain degree on actions by governments. It is not clear that government actors understand the importance of insurance industry involvement and the constraints imposed by their control over large proportions of portfolio investment. They do not yet seem to regard such involvement as shifting the balance of forces in ways which make it easier to adopt emissions reductions. Nor are those government actors dealing with climate change aware of the regulatory constraints on

insurance companies responding to climate change coming from other government agencies. Government regulation plays a role in providing contexts and constraints for insurance investment in relation to climate change (the imposition of carbon taxes and promotion of renewables in particular would make such investment switching by insurance companies more viable (Joly 1996: 197)). More general regulatory constraints such as limits on investments going to particular categories or companies also affect the possibility of investment-shifting by insurance companies (Dickinson and Dinenis 1996).

4 Conclusions

To conclude, insurance is an industry which seems to have some genuine interest in addressing global warming, for its own business reasons. In debates about the relationship between business and environmental politics, the motivation of business is often assumed to be in conflict with the achievement of environmental goals. Responses by busienviron mental change environmentalism are often assumed to be either 'greenwash' (a repackaging of business-as-usual practices) (Beder 1997) (see Beloe this volume) or part of a more aggressive 'green backlash' against the environmental movement and the gains it has made (Rowell 1996). The underlying assumption is that the relationship between business and the environment occurs at the point at which attempts are made to regulate the way in which the activities of business generate environmental change, and thus focus is on changing business practice. But in this case, the relationship is rather different. Here, environmental change (caused by other business practices) affects the core activities of the business itself, and the assumption is therefore not that the business being discussed needs to be made to change its practices, either through reference to ethical arguments or through the use of government legislation, but because of a realisation of its direct economic interests.

There are all sorts of constraints which may impede the possibility of insurers achieving those goals. But a decent case can be made that if the insurance sector does decide strongly that it can and needs to play a forceful part in response to global warming, then it may powerfully shape global responses to this environmental problem. In terms of the political forces facing states, it would be the most powerful counterbalance to the fossil fuel companies and their allies yet to emerge. In crude financial terms, the two are about the same size, but the structural point about finance and globalisation is the important point here. Second, insurers can be important simply because of their own investment power. Their direct investment in commercial property is, in the short term perhaps, the most important in terms of giving large boosts to solar energy. Regarding share ownership, the situation is rather more complex.

Finally, this raises a number of questions about globalisation and environmental governance in general. It underscores a trend which other articles in this special issue have highlighted: the increasing tendency of environmental NGOs to target companies by appealing to their short-term financial and political interests, rather than relying upon governments to initiate corrective policy measures. It also suggests the possibility of alliances between those sectors and interests affected by environmental change which cut across the traditional battle lines of environmentalists versus industrialists. In more general terms, it indicates the central role of global financial markets to the success of efforts to address environmental change.

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