

**New Insights Lecture on
“The Economics of Climate Change, a Global Deal and the Role of Asia”**

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The Right Approach

Lord Stern began his lecture by emphasising that the issue of climate change transcended artificial and restrictive agency borders; and had to be led at the most appropriate level befitting the complexity and urgency of the issue, at the heads of state level. He characterised climate change as a wickedly fascinating problem given its multi-dimensionality, affecting economics, politics, international relations, science and sociology.

Lord Stern further noted that the conventional cost-benefit analysis approach was not the right way to approach and frame these issues, because cost-benefit analysis gave rise to strategies of action where the changes proposed were small and constrained given that they usually occurred along a given, pre-determined path. He elucidated that we should adopt a risk management framework instead. What we needed now were fundamentally non-marginal, big strategies. Therefore, it was important to choose the “right economics” and to understand climate change from the more expansive perspective of a risk management framework.

Risks and Targets

Global Temperature Increase

The amount of increase in carbon dioxide (CO₂) emission was dependent on the amount absorbed by planet Earth. Lord Stern cautioned that we had been overestimating the amount of carbon which was absorbed by the planet and underestimating the amount of emission that went into increasing the carbon stock within the atmosphere. The larger the stock, the more heat trapped, and thus the higher the temperature increase. More worryingly, we had also underestimated the risks of high temperatures associated with the increase in carbon stock. A temperature increase of 5°C would be highly disastrous, as the melting of polar ice caps would trigger widespread floods and drought, causing extreme storms, extensive crop, leading to inflation. The world would be transformed following massive population movement and redrawing of the human geography, potentially causing big conflicts and fuelling greater geopolitical tensions.

Lord Stern indicated that these impacts were not simply small probabilities of extremely high damages but substantial probabilities of very high damages. He warned that if the world continued on the business-as-usual track, there would be a 50% chance of global temperatures increasing by 5°C this century. The last time the earth saw a temperature change of this magnitude was during the last Ice Age.

Cost of Action versus Cost of Slow Action/Inaction

Bringing attention to the previous estimates of the climatic change impact on global temperatures as being overly conservative, Lord Stern reiterated that we had erred on the side of underestimating the damages from slow action or inaction. CO₂ emission cuts of 30% to 50% by year 2050 were imperative to achieve the target stabilisation range of 500 to 550ppm CO₂ emission. He highlighted that cost of action was much less than the cost of delayed action or inaction. It would be much tougher to attain a stabilised level of CO₂ once the atmospheric carbon stock is allowed to build up over time. In view of this, we should seriously look into cutting pollutant emission and quickly step up efforts to adopt greener practices across the board.

Marginal Social Costs

While it was also important to get a sense of the marginal social cost of action and inaction, Lord Stern reminded that the calculation for social cost was different and beyond simple cost-benefit analysis. He maintained that planning should begin now, with the establishment of clear targets and good policies that allowed for measured action in a cost effective manner. There were many associated co-benefits attained by moving to a low-carbon economy including energy security, reduced pollution, greater bio diversity and new market opportunities. Delayed decisions and actions would result in rushed decisions later when the challenge “sinks in”, and this could lead to lack of clarity of action and poor policy, which would increase costs.

Emissions and Technologies

Reducing CO₂ Emission Requires Action Across Sectors

While stressing that energy efficiency across sectors was critical, Lord Stern singled out land-use—the sector that accounted for 9% to 18% of global CO₂ emission—as a relatively cost-effective area for carbon savings. As a result, it was essential to tackle the issue of deforestation. Actions to prevent further deforestation were relatively cheap as compared to other mitigation measures, and costs were also generally low for early action on a significant scale. Lord Stern recommended that we work on curbing deforestation and ensuring energy efficiency at the earlier stages, and developing new technologies which could be implemented further down the track.

He was of the opinion that coal and oil reserves would eventually be completely drawn down, and it was essential to find alternative energy sources within this century. Furthermore, if we used up all our coal reserves, the resulting greenhouse gas concentrations would climb to a very dangerous level, adding around 400ppm to CO₂ concentrations, or “enough to fry the earth”.

Policies and Price Do Matter

Lord Stern pointed out that while there were many options to reduce CO₂ emissions, e.g., reducing energy consumption, the two fundamentals to bear in mind were policies and prices. While good policies encouraged people to be more energy-efficient, bad policies could increase costs substantially. On the other hand, markets could determine the price of carbon very efficiently. Having an effective market mechanism in place with the right price of carbon would encourage people to cut back on CO₂ emissions.

Lord Stern added that as rich countries shift their manufacturing activities to places like China and India, “country responsibility” would become a very difficult concept. He was of the view that there should be the concept of “group responsibility” in play.

Public-Private Partnerships for Technology

Noting the trend of declining private-public R&D since 1982, Lord Stern stressed that efforts should not simply focus on fixing externalities in the market involving CO₂ emission, and that there were very strong reasons to push ahead with technology development and R&D as well.

A Global Deal

Basic Criteria of a Global Deal

According to Lord Stern, the basic criteria of a global deal included: (i) effectiveness; (ii) efficiency and (iii) equity. It would be tough to broker a global deal unless it was equitable. Morally, rich countries also had to assume responsibility for the damages caused by them, especially when the poor countries were the worst-hit.

He advocated a reduction of greenhouse gas emissions by 80% by 2050 (the level necessary to avoid the worst impacts of global warming), as the rudimentary principle for a feasible global deal. Currently, each individual currently produced an average of 7 tonnes of carbon a year. To mitigate the effects of climate change, this had to come down to 2.5 tonnes by year 2050—a challenging task considering that each American produces 25 tonnes of carbon a year, twice that of Europeans (Singaporeans produce about 10 tonnes annually).

Key Elements of a Global Deal

On targets and trade, Lord Stern felt that rich countries should each take on strong individual targets, and commit to credible milestone targets along the way. Their trading structures and schemes should be designed to be open to trade with other countries, including developing countries.

On funding issues, he zoomed in on deforestation that required huge investments in governance—“soft” infrastructure which was crucial. He also touched on the urgency for technology-sharing, but cautioned against rich countries pushing expensive technologies to poorer countries. It was apparent to him that the rich countries had to deliver on their aid commitments to the developing world in the context of extra costs of development arising from climate change.

How could Asia and Singapore Play a Big Role?

Lord Stern said that with more than half of the world’s population living in Asia, there was pressure to cut greenhouse gas emissions in the region. Asia had to be at the heart of the story and lead the change. Despite its small size, Singapore could play a key leadership role in this respect.

Singapore could be a model for a successful balance between going green and achieving economic progress by leveraging on technology and efficiency. Given Singapore’s reputation of

efficiency and effectiveness, if it could achieve a low-carbon economy quickly, it would be a powerful and convincing model for countries in the region. As Singapore was a major trading nation notwithstanding its small size, it could also play a significant role in designing the trade structure that could contribute to addressing the global carbon trading system.

Enforcement by Domestic Politics

Pointing to the increasing emphasis that political parties and politicians place on climate change issues, Lord Stern noted that domestic political pressures would be a strong and key driving force for governments to act responsibly, ahead and in anticipation of a global deal.

This is true not just in the rich countries, but also the developing countries. He cited India as an example, where the people saw the impact of climate change in terms of water security, food security, dangers of ice melt, Himalayas flooding, etc., and the ensuing impact on the nation's economic development. Even ordinary farmers in India and China were starkly aware of the water, food and environmental problems and were able to attribute these to the effects of climate change. As such, the right measures, coupled with appropriate market institutions, could help overcome the inequities of climate change and provide incentives for developing countries to play a strong role in global deal, eventually taking on their own targets. Lord Stern concluded by commenting that he remained optimistic that a global deal can be brokered, but reiterated that the need for action was increasingly urgent as time went by.

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