The Global Economy and Global Climate Change
Streaming video of a presentation by Britain's Sir Nicholas Stern at Yale

The section of the presentation selected for this session was the introduction to a debate between Stern and Yale economists. The speaker, Sir Nicholas Stern focused on the rationale for using one method of measuring or predicting the economic outcomes of climate change on the economy. This portion of the video was intended to set the stage for the actual debate.

It should be noted that the quality of streaming video is not comparable to that of standard video which made it difficult to view background slides that supported the speaker's comments. For those interested, the entire presentation can be viewed at http://yaleglobal.yale.edu/video.jsp. Sections include:

Stern Review on the Economics of Climate Change, February 2007
Introduction and Presentation
<http://streaming.yale.edu:8080/ramgen/cmibroadcast/Globalization/stern01_021507.rm>
Part 2 & 3: Sir Nicholas Stern and his team report the findings of a 700-page review that predicts economic costs of global warming. Introduction by Ernesto Zedillo.
<http://streaming.yale.edu:8080/ramgen/cmibroadcast/Globalization/stern02_021507.rm>
Stern Review Discussion: panel of Yale economists critique the review.
Part 1
<http://streaming.yale.edu:8080/ramgen/cmibroadcast/Globalization/stern04_021507.rm>
Discussion - Part 2
<http://streaming.yale.edu:8080/ramgen/cmibroadcast/Globalization/stern05_021507.rm>
Discussion - Part 3
<http://streaming.yale.edu:8080/ramgen/cmibroadcast/Globalization/stern06_021507.rm>

Presentation by Sir Nicholas Stern

What if the science is all wrong?

Stern explained if we go on as usual the risks we now run will be Earth transforming. Five to six degrees centigrade equals a radical change on the magnitude of that seen in the ice age. This would result in large scale population movements.

He suggested that another reason one might set aside planning for climate change would be if one accepted the notion that the Earth and its people can adapt to anything. But Stern believes this thinking is reckless.

Another rationale Stern felt might advocate for doing nothing is to believe that whatever the results of global climate change, they will be long in future - beyond our lifetime. He explained that this is known as *Pure Time Discounting* – this is unethical thinking and there is no way to beat off ethics in the markets. This is an area in which people are obligated to have a serious discussion. It's about the economics of risk.

Stern recommended that one could say, if you act on global warming and it is all wrong you may end up with some useful technology. However, if you do nothing and drastic climate change occurs the results can and will be catastrophic.

It is helpful to have a view of the major arguments.

Perspective

Stern explained that climate change is global in origins and results; it is long term. One can be in it and not see the direct relationships. It is also uncertain - we don't know what the different effects have/will have on production and consumption. We are playing with the planet here. This is a problem that requires a serious global approach.

Economics of Risk

Climate change is an international problem. Stern asked: What is the potential fallout? He suggested that risks are significant including storms, floods, heat stress, and loss of life. He notes that we have seen what happens with a .6 centigrade rise and increases to a 2 or 3 degrees centigrade rise in temperature are likely. The results would be monumental at to 5 or 6.

Relationship between Greenhouse Gasses and Temperature

Stern proposed that these are eventual temperatures and that there are long lags in system. There is a 5% chance of being off at the top and 5% chance of being off at the bottom. The figures drew on same science but from perspective of consumer.

Stern suggested that the numbers associated with climate change are troubling. With what we are putting into the atmosphere at 450 parts per million (ppm), we run the kind of risk of reaching a 5-6 degree increase. With 550 ppm there are shown to be additional kinds of risks. We will be at 450 ppm in eight or nine years if all else remains equal. He explained that modeling leaves out a great deal that is interesting. When one looks at world models, it is a broad brush perspective,

missing the detail. Stern suggests caution with use of model structures because they can't tell the whole story.

The Stern Review used Chris Hope's model of integrated climate change because it was simple and expressed the median range of existing model results. The model's criterion is *Expected Utility*. It asks us to think about damages and costs and the sum of utility. The concept used was the *Balance Growth Equivalent*. Calibration is done looking at initial consumption levels. Stern asked that we think of calibration and criterion: averaging over time, averaging over space and averaging over outcomes. He asked us to consider the gains or damages over business as usual and about the averaging process. He suggested that discounting, risk aversion and equity be used as driving forces – that ethics drive results. Stern also noted the model does not account for the melting of ice sheet or carbon feedback because not enough is known. Suggesting both the model did not include all externalities and areas of needed research.

Stern posed the following questions: What kind of ethics should you bring to the table? How strong any action should be? Where to begin? What kinds of actions are necessary? What should the details of policy be?