

# An afternoon with Jean Tirole

By Demelza Hays & Julia Hoefler Martí

The TSEconomist Magazine has come a long way since its humble beginnings two years ago. The beginning was slow, but hard work and support from TSE enabled the team to produce greater work for each subsequent edition. Once the issues with design, organization, and content were overcome, the team started thinking of ways to increase the magazine's audience. During a brainstorming session last semester an idea was presented to sponsor an event on campus. However, the event couldn't be just any event. It had to be an event that connected students with the school and with the magazine in an unprecedented way. It had to be an event that would fill MB II to its entirety with excess guests sitting on the floor and on the stairs. It had to be an event that would be talked about for years to come. It had to be the Tirole Talk. With support from TSE Chairman, Jean Tirole, the school, and the BDE, the talk was a huge success. Director of the M1 in Economics, David Alary, provided a brief introduction to the event before Tirole took the stage. The topic of his presentation was "Applying Theory to Policy Matters: Some Economics and Politics of Global Warming." He began by explaining that the study of economics gives us a great advantage because it provides us with a conceptual framework that we can apply within any field that we pursue. One drawback of economics is that it is complex. Its complexity hinders our ability to clearly articulate to the media and to policy makers what should be done to achieve certain outcomes. Unlike other social sciences, Tirole explained, economics is very powerful because it can directly impact the way people live.

Tirole transitioned into the main topic of the lecture by describing his work during the climate negotiations in Copenhagen in 2009. During the Kyoto Protocol, very ambitious targets were agreed upon with great enthusiasm. However, the sense of urgency



and excitement present during the summit did not last for long. With a completion date of 2050, countries were doing very little in the short run to reduce CO<sub>2</sub> emissions. Why is this? The answer, again, lies in economics. We must think about what the cost of negotiation is. In a sense, there are two costs. One is free-riding: it benefits each individual country if everyone else cleans up their pollution and they do not, because the costs of pollution are not well-internalized. Additionally, a very interesting point that Tirole made was that the countries who do less to reduce CO<sub>2</sub> in the current period will actually have greater bargaining power during subsequent negotiations. This is because the longer countries wait to reduce emissions, the costlier it will be for them to do so in the future; countries facing higher costs can thus bargain for greater concessions. Therefore, one obstacle is how to incentivize the countries that will lose the most from adhering to an agreement on environmental protection. Sadly, the only real solution is to do what has always been done, and compensate those who pay the most for pollution taxes or permits. This seems unfair, as a number of those affected are rich countries – but, Tirole acknowledged,

there is no other feasible way. Tirole provided an example of the system utilized in the US to control sulfur dioxide pollution during the 1990s. In order to implement the cap and trade program, the government gave a large allowance to the sulfur-coal intensive power companies concentrated in the Midwest. In comparison, Europe's emissions market got off to a rocky start. To begin with, all new entrants were given free permits (not only the losers), which effectively encouraged pollution instead of reducing it. Secondly, they stipulated that if a firm shut down, they would lose all of their permits. Since a firm could not profit from the sale of the permits, firms would stay in business even when it was no longer profitable to do so. Finally, there was a problem with the allocation of too many permits, and the spot price eventually dropped to almost nothing (0.26 €) while the futures price was still being reflected as 23 €.

A large problem is that enforcing these agreements is very difficult: there is no system of credible penalties. Tirole's own view is that countries should use the World Trade Organization to impose sanctions, essentially coupling the WTO with global warming institutions. However, this carries with it the danger

of killing the WTO as an organization. A second measure he argued for would be to use the IMF: countries would agree at a global level on a maximum level of emissions, and overshooting these emission targets would translate to a cost in terms of sovereign debt, imposed by the IMF. Tirole challenged those who might think that, as economic organizations, the WTO and IMF have nothing to do with global warming. Instead, he argued, they have everything to do with global warming because they have at their disposal very effective methods of ensuring states comply with emission targets. However, as of yet this remains a pipe dream.

Being an economist helps greatly within the realm of policy making. To illustrate this, Tirole spoke of one of the creations that resulted from the Kyoto summit: the Clean Development Mechanism, which would allow investors in first-world countries to subsidize projects in LEDCs in exchange for emission permits on the European market. A wonderful idea on paper; however, it suffered from several drawbacks. In point of fact, it incentivized governments to not enact pollution laws or undertake these emission-reducing projects on their own, as they hope to receive money from richer countries to do so. There were also important general equilibrium effects to be taken into account: for example, protecting a section of rainforest prevents logging, which raises the price of wood, which encourages logging elsewhere. So money is spent and nothing is gained. This, Tirole reflected, is a topic on which economists disagree, not so much in terms of the content of the arguments, but in terms of which argument is strongest. This is intrinsically an empirical matter, as without good data it becomes impossible to know which argument wins out. For example one thing that is often demanded in European countries is that, as they have carbon taxes and other countries do not, a border tax should be instated to adjust prices of imports. In a sense this is perfectly justified from an economic point of view as it offsets a distortion and puts pressure on low-carbon-tax countries at least in terms of international trade. However, there are also drawbacks: for one thing, it represents a form of protectionism, something economists have been fighting for centuries. Then of course there is the issue of measuring the carbon content of imports: for example, there is no carbon tax in China, but there are also clean industries; we do not want to punish the clean industries, and so measuring both the direct and indirect carbon content is important – but we currently have very little information on these things.

Here there is a large scope for economists to improve things. The first thing that is needed is a clearly defined target and market-based solution at a worldwide level, instead of letting individual governments decide which sectors to reduce pollution in, which has proven costly in the past. Secondly, there is separation between efficiency and redistribution concerns; it is an unfortunate reality that compensation will have to be given to rich countries in order to get them on board. However, before even thinking about these two things, the world's countries must first agree on good governments. A worldwide CO<sub>2</sub> market and government structure are necessary (but still to be defined): again Tirole emphasized the role of the WTO and IMF. A method of measuring emissions by each individual country is also necessary, as well as an effective negotiation process. These measures would already be a huge success; experience has shown that when we do not listen to the economics, in environment as in other areas, then in the long run we will go nowhere. First we have to get the fundamentals right – and then we can discuss the road ahead. ■

# IAST Distinguished Lecture: Interview with Robert Boyd

By Eva Raiber & Ildrim Valley

On September 19th, Robert Boyd, an anthropologist from the University of California, Los Angeles (UCLA), opened the new series of the IAST Distinguished Lectures on Social Sciences with a presentation on “How Human Culture Shaped Human Evolution”. Based on various examples, he tried to convince the diverse audience that humans are the only species that are capable of accumulating knowledge and certain behaviour over generations. This allows innovations to spread and to accumulate. However, this process of cumulative cultural evolution also requires humans to sometimes ignore their own reasoning based on individual experience and instead imitate what the majority within their social group is doing. It leads to novel behaviour and further innovations but also facilitates the spread of false beliefs that are based on biases. Prominent examples include societies' varied beliefs of supernatural agents or the existence of certain prestige systems in societies. While some beliefs might seem strange to outsiders, those norms are possibly beneficial to group behaviour.

His lecture provided for an interesting change in most economic students' and fellows' workday and a look beyond one's own specialisation. We were able to talk to Robert Boyd about his own not so straight forward academic career and his view on interdisciplinary abilities of economists and other scientists.

**Q: You started off with an undergraduate degree in physics, how did you end up in evolutionary psychology?**

That's complicated. When I was an undergraduate, I worked at the Scripps Institution of Oceanography, UC (University of California), San Diego, in the underwater object lab. By chance, the guy down the hall in the same building did mathematical models of fish populations for management purposes. His models are for example regularly used in tuna fishery. This sounded very interesting compared to what I was doing so in the last year of my undergraduate I took as many biology classes as I could in my physics major. I then went to graduate school at University of California, Davis, in theoretical ecology with a special interest in population modelling. I did a standard education but towards the end of my graduate career I was assigned to teach a course