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Symposium on Intergenerational Equity and Discounting

This issue brings together the essays presented at a conference at The University of Chicago Law School in April of 2006. The essays focus on how we should count future generations when considering projects that will have lasting effects. The most important and prominent example is global warming. Although global warming may have some immediate effects, most of the effects of global warming will be felt in the future. If we are to spend money today to abate global warming, we must understand how to measure the benefits to future generations against the costs incurred by the present. Many other projects have long term effects as well. For example, a decision on where to store radioactive wastes may have effects lasting many thousands of years into the future, and we must have a method of comparing the costs and benefits today with the potential costs and benefits in the future of any given storage mechanism. The goal of the essays in this volume is to shed light on this important question.

Most analysts (and we believe all of the essays in the conference) take the position that future generations should count, and most likely count equally to those currently alive. The major question comes down to the choice of a discount rate, how we compare cash flows occurring at different time periods. In everyday life, we use present values and future values to compare costs and benefits that occur in different times. Companies, for example, might make an investment today in the hope of turning a profit in the future. To determine whether the investment is worthwhile, they discount the costs and benefits to a single time period. When we consider public projects that can last generations, however, the effect of discounting can seem inappropriate. If far enough in the future, benefits can be reduced merely by the

mathematics of discounting to near zero. Thus, it is standard in analyses of the issue to show that with a long enough time period and a high enough discount rate, it is not worth spending trivial amounts today to save millions or billions of individuals living in the future. The alternative, a zero discount rate, produces similar absurdities. Suppose we discover that there is a policy in place that will reduce future output by a small percentage, say 1/100 of a percent, starting in two hundred years. If the economy grows over that time period, this small percentage of the future economy will be larger than a huge percentage of today's output. Without discounting, we would want to incur those costs today to prevent this future harm.

The discounting effect is so powerful that it can drive the entire analysis of the problem. For example, since the time of the conference but before the publication of this volume, the British Treasury published the Stern Review on the Economics of Climate Change.¹ The review, done by a well known public finance economist, Sir Nicholas Stern, was startling for its claims about the large potential losses from global warming and the need for dramatic current actions. It was particularly startling because it used standard models and data but produced quite different conclusions from other studies. (Most models, while showing that climate change abatement is worthwhile, produce relatively modest results.) The difference, it turns out, was driven by the discount rate. The Stern Review used a discount rate that was effectively zero while standard models have a positive rate.² We could alternatively imagine the Bush Treasury issuing a report, using standard models and data, that concluded that global warming abatement was not desirable with the difference arising solely because of the assumed discount rate.

Because of its importance, the issue of how to treat events occurring long in the future has long attracted significant attention from lawyers, philosophers, economists, and environmental activists. A number of Nobel Prize winning economists have weighed in on the issue, and several other conference volumes have previously been published. Notwithstanding the volume of prior work, there remains no consensus on the proper discount rate. The essays in this volume provide some new arguments and additional perspective on this de-

¹ Her Majesty's Treasury, *Stern Review: The Economics of Climate Change* (2006), online at http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm (visited Jan 29, 2006).

² See generally William Nordhaus, *The Stern Review on the Economics of Climate Change* (2006), online at <http://nordhaus.econ.yale.edu/SternReviewD2.pdf> (visited Jan 29, 2006).

bate. As would be expected, the essays come to no single conclusion, although most of the authors believe that a positive discount rate is appropriate. Most of the authors also believe the precise discount rate depends on a variety of empirical as well as ethical factors, such as the estimate of the future productivity of the economy and the ability of the current generation to transfer resources to the future through means other than the particular project (that is, if we are going to spend money today to help the future by abating global warming but we might want to see if we can spend the same money today and help the future even more by engaging in other projects). Although this means that after reading the essays presented here, we will not know that the right discount rate is a particular number, we think that we now have a clearer understanding of how to arrive at such a number.

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