Dasgupta and Weitzman have shown that the saving rates implied by the Stern Review's values for the rate of pure time preference and the elasticity of the marginal utility of consumption are too high from either a normative (Dasgupta) or descriptive (Weitzman) perspective. Given the attention this debate has received in the literature, there is a need for a rigorous presentation of the determinants of saving rates in models actually used to evaluate climate change policy. This paper provides the first detailed investigation of the implications of Stern's parameter choices for saving, firstly in standard neoclassical growth theory and then in a widely used climate policy model based on that theory, Nordhaus's Dynamic Integrated model of Climate and the Economy (DICE). In theory and practice, optimal saving rates in the presence of near-zero pure time preference are far from the near-100 per cent ones obtained from simpler models used by several of the Review's critics. We show that in DICE, for the utility function used in the Stern Review, optimal saving rates do not exceed 32 per cent, and that this falls to 26 per cent when using Stern's revised value for the elasticity of the marginal utility of consumption.