

# Environmental Liability Law and Induced Technical Change – The Role of Discounting

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**Abstract.** We analyse the incentives of environmental liability law for inducing progress to emission abatement technology. We consider three liability rules: strict liability, a negligence rule with an emission norm as the due care standard, and a double negligence rule which combines the emission standard with an abatement technology norm. In the case of distortive discounting, i.e. where the private discount rate deviates from the social one, we show, how the level of distortion influences the ranking of liability rules, according to the criterion of generated social cost.

**Key words:** discounting, emission abatement technology, environmental liability law, induced technical change

## 1. Introduction

In its earlier phase the economic theory of environmental policy has been mainly concerned with the static efficiency of alternative environmental policy instruments: How do these instruments compare as regards their ability to achieve a predetermined emissions reduction goal at minimum abatement cost? These analyses have been conducted on the basis of given abatement cost functions of polluters. There have been some studies investigating the incentives of alternative policy instruments to change abatement technology and, thereby, abatement cost.<sup>1</sup> However, this literature has been side stream. The overall picture has been changing within the last 10 years. The number of studies theoretically or empirically investigating how transferable discharge permits, effluent charges or command and control policy induce technical change in abatement has dramatically increased.<sup>2</sup> The equilibria, with regard to abatement and technology choice under these alternative instruments, are compared to each other, as well as to socially optimal choices.