# Market Power in the Eco-industry: Polluters' Incentives under Environmental Liability Law

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ABSTRACT. *This paper analyzes the output and abatement choices of perfectly competitive downstream polluters who are subject to environmental liability law and procure abatement from an imperfectly competitive eco-industry. Under strict liability, polluting firms choose suboptimal abatement, but socially optimal output given abatement. Under negligence with firm-specific abatement standards, polluting firms choose suboptimal output but socially optimal abatement given output. Under negligence with industry-wide abatement standards, the output and abatement choices of most firms are socially suboptimal. Second-best considerations are offered for each case. Under strict liability (negligence), these apply to the level of liability (the behavioral standard).* (JEL H23, Q58)

## I. INTRODUCTION

### Motivation and Main Results

The control of environmental pollution by means of abatement and activity choices is indisputably of great importance to the well-being of current and future generations. Such pollution control can be achieved by implementing different environmental policy instruments. Under very strict assumptions, all common environmental policy instruments induce first-best behavior (e.g., Endres 2011). These strict assumptions comprise—inter alia—perfect information and perfect competition. However, the incorporation of realistic conditions into the setup reveals, first, that policy instruments may no longer assure the first-best outcome, and, second, that policy instruments may perform differently.

The policy focus of the present paper is on the performance of environmental liability law, which represents an important environmental policy instrument (e.g., Bennear and Stavins 2007; Xepapadeas 1997). Although environmental liability law is often neglected in the literature on the economics of environmental policy, the practical importance comes to the fore in many contexts. For instance, the 1988 Exxon Valdez disaster prompted the 1990 Oil Pollution Act, under which the owners of tankers involved in oil spills in U.S. waters are faced with massive liability. Indeed, as this paper is being written, extensive litigation in the United States is under consideration after the dramatic oil spill caused by the sinking of the Deepwater Horizon drilling platform. Apart from cases making the headlines, liability law is also of importance in numerous smaller cases. A particularly well-researched case-in-point is litigation based on the U.S. "Superfund" legislation. Chang and Sigman (2007, 2010) recently carried out an empirical analysis related to this issue. In the paper at hand, environmental liability law is analyzed in terms of two alternative liability rules, namely, strict liability and negligence. Under strict liability, the polluter is required to compensate harm irrespective of behavior. Under negligence, the polluter's being held liable is contingent on the breach of a behavioral norm. In practical legislation, it commonly depends on the activity whether strict liability or negligence applies. For instance, the Environmental Liability Directive of the European Union[1] lists activities that are subject to strict liability, while other activities are subject to negligence. In some practical cir-

[1] Directive 2004/35/CE of the European Parliament and the Council, Official Journal of the European Union L 143, 30.04.2004, 56-77.

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