

Optimal Liability Rules: The Case of Renewable Resources

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Abstract

Illegal extraction is a serious issue in many renewable resource industries, such as fisheries and forestry. This traditional approach is to model the resource firm as one cohesive unit or an individual. However, in many cases violations are not committed by an individual, but by agents acting on behalf of an owner or a firm. We ask what the optimal liability scheme is when the illegal extraction activity is carried out by employees representing a firm, rather than by an individual, when the employees can engage in avoidance activities to reduce the risk of detection when extracting illegally (Kornhauser, 1982). We develop a principal-agent model with imperfect information and analyze who should be held liable and punished: the employees, the firm/owner, or perhaps both parties? We find the optimal policy, which involves determining liability rules in conjunction with quotas and punishment levels. The renewable resource case is particularly interesting because it is the firm, and not the agent, that benefits directly from illegal operations. This is in contrast to most of the existing literature on corporate crime and liability, which assumes that only the agent benefits directly from illegal activities. We show how this affects the optimal liability rules.