Regulatory Compliance with Costly and Uncertain Litigation*

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Abstract
Harrington (1988) and more recent papers by Heyes and Rickman (1999), Livernois and McKenna (1999), and Heyes (1996) have attempted to explain how a relatively large fraction of firms are thought to be in compliance with environmental regulations despite the fact that expected penalties for these violations are deemed rather low. This paper offers an alternative explanation for the interesting paradox by incorporating costly and uncertain litigation.

Key words: environmental regulation, enforcement, compliance

JEL Classification: K32, K42

1. Introduction

Harrington (1988) presents data that indicated a relatively large fraction of firms was in compliance with environmental regulations despite the fact that very few firms were ever convicted and forced to pay the large fines associated with the violation of environmental regulations.¹ However, if the expected penalty for non-compliance is small, why do so many firms comply? In this paper, a different explanation is established for this paradox.

Normally, we would not expect a firm to voluntarily adopt a costly emissions abatement program. Inspections and fines are often used by an enforcement agency to create incentives so that firms choose to comply with various environmental regulations. Despite these incentives, some firms may still remain non-compliant. Some firms may remain non-

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¹ Livernois and McKenna (1999), Cropper and Oates (1992), and Russell et al. (1986) all provide further evidence to this apparent contradiction.
compliant even after an inspection has identified that the firm has been in violation of one or more environmental regulations. Firms may choose to contest the validity or accuracy of the inspection in a court of law. Anecdotal evidence indicates that some firms will pursue litigation even though they have clearly violated environmental regulations.\(^2\) Simply having regulations or performing inspections and levying fines do not necessarily ensure firms will be compliant. Indeed, forcing a firm to comply with a regulation can be a costly undertaking for an enforcement agency.

Previous literature dealing with this paradox has always assumed that compliance is assured once the violating firm has been detected. In practice, litigation proceedings can last for months or even years and always carry some degree of uncertainty. Earlier literature has not considered the case where firms do not comply with regulations once they have been inspected and found in violation.

Harrington’s original model allows for the classification of firms into different groups that are subject to different compliance incentives. More recent papers by Heyes and Rickman (1999), Livernois and McKenna (1999), and Heyes (1996) have also attempted to explain the paradox that Harrington pointed out.\(^3\) Heyes and Rickman (1999) create a model where an environmental protection agency deals with a given firm for multiple enforcement issues. Livernois and McKenna (1999) approach the topic using a self-reporting mechanism and Heyes (1996) uses the idea of persistent pollutant effects and private information. All of these papers capture an essential aspect of the relationship between the firms and the enforcement agency but do not address the continued non-compliance of a firm once it has been detected.

This paper incorporates the possibility of costly and uncertain litigation. The fundamental assumption made in this paper is that some firms may not come into compliance once they are found in violation of an environmental regulation. Some firms may challenge the issue through the court process. Since the litigation process is not certain and is costly, the enforcement agency may find it optimal, under plausible conditions, to lower the fine for non-compliance so that the industry compliance rate is increased. This is because lower fines reduce the likelihood that a firm will proceed with litigation.

This paper is similar in ideology to Kambhu (1989), Nowell and Shogen (1994), Bose (1995), Jost (1997), Kadambe and Segerson (1998), and Helland (2001). These papers, to varying degrees and under varying precepts, address how the litigation system impacts enforcement. This paper specifically employs concepts developed from the economic analysis of law. Posner (1992, 1973), Cooter and Rubinfeld (1989), Png (1986), and Calfee

\(^2\) Ontario Ministry of Environment documents cite numerous instances where individuals or firms were clearly in violation of one or more environmental regulations and still pursued their case through the courts. For example, in 1990, a defendant who was a known repeat offender was charged with operating an unapproved waste site. Surveillance of the defendant’s trucking yard indicated that it was being used as an unapproved waste storage site. In 1991, nine charges were laid against the defendant in relation to this case. In 1994, eight of the nine charges lead to a conviction and fine. The defendant then appealed this case.

\(^3\) Also see Raymond (1999) and Harford and Harrington (1991) for further analysis of Harrington’s original work.