

TITLE PAGE

EXAMINATION OF THE ROLE OF REGULATORY
ENVIRONMENTAL FINANCIAL PENALTIES IN AFFECTING THE
ENVIRONMENTAL EXTERNAL FAILURE COSTS OF FIRMS IN A
DEVELOPING COUNTRY: A STUDY OF THE MANUFACTURING
SECTOR IN THAILAND

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DECLARATION OF AUTHORSHIP

I declare that the work embodied in this thesis is the result of original research and has not been submitted for a higher degree to any other university or institution.

I certify that, to the best of my knowledge, any help received in preparing this thesis and all sources have been acknowledged in this thesis.

Buntarika Jaikrajang

August 2012

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ABSTRACT

The incurrence of penalties by an entity for breaches of environmental requirements adds to the cost of an entity's operations and, thereby, affects its profitability and, ultimately, could possibly even affect its financial sustainability. Penalty costs form an integral component of an entity's broader category of external failure costs. However, these imposed penalties are a reflection of the broader issue of ensuring that entities which create pollution bear the consequent environmental costs or invest in changing their mode of operations. The imposition of penalties can be seen as a means of ensuring that the entity which causes the environmental damage bears at least a part of the costs that arise. The challenges and dilemmas are significant for economically developing countries.

This thesis examines three main variables that have been identified in the literature as acting on the possible incurrence of environmental penalty costs by an entity: characteristics of penalized entities, formal regulation, and informal regulation.

Although the influences of the three key variables on entities' environmental performance and environmental costs have been researched, insufficient attention has been devoted to their role in the circumstances of a developing country where economic development has a high priority. For this reason the study focuses on the imposition of environmental penalty costs in the manufacturing sector of Thailand because of the sector's significant role in the Thailand economy.

The investigation uses the general theoretical framework of the environmental pollution demand and supply function as reflected by the studies of Pargal and Wheeler (1996, p.1319) and Dasgupta *et al.* (2000, p.44). This study refined the reasoning and justification for the selection of appropriate measures to be used as indicators for each of the three broad variables that inform the core set of hypotheses developed from the review of the research literature. Each variable was elaborated into specifically linked measurable indicators that were used to better gauge the significance of the particular variable in relation to penalized entities. An analysis was then undertaken of the available public data that was collected and assessed on the 157 entities in the manufacturing sector identified as being financially penalized for not complying with the environmental regulations of Thailand, during the five year period 2003-2007. The Statistical Package for Social Science (SPSS) was used to explore the relationships and/or differences between each of the measurable indicators for each key variable.

The data was also used to assess the usefulness of two established yet different dual-category classification schemes for identifying sectors of the economy as sources of environmental degradation. That assessment found them to be less helpful in circumstances where economic development has moved to another more complex stage.

The analysis of the indicators showed that the degree of support for the different hypotheses associated with each of the three key variables (characteristics of penalized entities, formal regulation, and informal regulation) ranged from support to no support. The implications of the results are considered and explanations elaborated in terms of the theoretical framework derived from the literature.

The contribution of this study is in testing the various possible associations between imposed penalties and each of the three key variables through the set of measurable indicators reflecting them. The results provide insights into the position and role of several stakeholders involved in environmental issues (the entity, government, society) from the perspective of measuring, using and improving environmental information by:

- Enhancing entities' understanding of their potential cost-profitability risks in failing to comply with regulatory environmental requirements and the cost of undertaking alternative investment options;
- Assisting the evaluation of the scope and effectiveness of government environmental policy as well as the capacity and efficiency of regulatory authorities in implementing those policies; and
- Facilitating the communities understanding of their potential role and capacity to influence entities directly (informal regulation), or indirectly through government agencies (formal regulation).

Analysis of the data highlights the present dilemmas in managing the environment in Thailand as a developing economy, on an entity basis and as a society, as these dilemmas involve setting the policy framework for the internalization of environmental costs by entities, voluntarily or involuntarily, of some or most of the measurable costs arising from the environmental damage caused by pollution. The results of this study could assist in redefining the cost accountability framework for entities to better achieve sustainable economic development at the entity level in balance with national social development. Several suggestions are offered for further lines of research arising from this research.