

Measuring Policy Uncertainty Using Coal Power Plants' Investment and Exit Decisions

Wendan Zhang*

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Abstract

Uncertainty in regulatory policies may reduce durable good investment, thereby leading to poor regulatory outcomes. Mercury and Air Toxics Standards (MATS) is an environmental policy regulating mercury and other air toxics from coal-fired power plants. The policy went through several legal challenges and was subject to high uncertainty before its compliance date. I measure the subjective belief regarding the MATS remaining in place using a modified investment and exit model. The dynamic structural model incorporates a difference-in-differences design to use the coal-fired power plants' investment and exit decisions to reveal the subjective probability of the MATS policy relative to local mercury rules. I estimate that plants believed that the MATS would not be implemented in 2016 as announced with around 17% probability before the compliance year. The result suggests that policy design should take uncertainty into account.

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Keywords: environmental regulation uncertainty, coal power plants, decision making under uncertainty

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