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

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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 that regulates mercury and other air toxics from the 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 single-agent 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 probability of MATS being enforced in 2016 as announced was around 74% before the compliance year. This uncertainty surrounding the enforcement of MATS delayed plant compliance with the regulation, and therefore increased the total amount of Mercury released during the period.

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