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# Internal finance, financial constraint, and pollution emissions: evidence from China

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## Abstract

This study explores the role of internal finance on firms' environmental behavior, focusing specifically on sulfur dioxide (SO<sub>2</sub>) emissions in China's rapidly growing industrial sector. Using a rich and unique dataset provided by the Ministry of Environmental Protection (MEP), our baseline results find a statistically significant positive relationship between asset tangibility and SO<sub>2</sub> emissions intensity, revealing that credit-constrained firms with higher tangible assets contribute to elevated pollution levels. Additionally, we observe that firms with stronger internal finances experience a significant reduction in SO<sub>2</sub> emissions. Our empirical analysis uncovers two key mechanisms through which internal finance influences firm behavior. First, firms with stronger internal financial health, as measured by metrics like cash flow, current ratio, and coverage ratio, are more inclined to invest in Research Development and Total Factor Productivity, especially in credit-constrained sectors. Second, these financially robust firms are more proactive in adopting SO<sub>2</sub> abatement technologies, an effect that becomes more pronounced in the context of credit-constrained firms. Our findings offer a nuanced understanding of how internal financial resources can serve as a dual lever for both innovation and sustainability, particularly in settings where external financing is limited.

**Keywords:** China, Pollution emissions, Financial constraints, Internal financing, TFP

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