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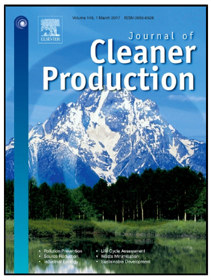

Does energy efficiency affect financial performance? Evidence from Chinese energy-intensive firms

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Does energy efficiency affect financial performance? Evidence from Chinese energy-intensive firms

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Abstract: Energy-intensive firms are confronted with increasing pressure to improve energy efficiency and reduce energy consumption. This paper explores the relationship between the energy efficiency and financial performance of a sample of firms in China based on a panel dataset for the period 2010–2014. Six financial indicators representing the benefits of different stakeholders are used in the analysis. Our empirical results show that energy efficiency is positively related to return on equity, return on assets, return on investment, return on invested capital and return on sales but has no significant relationship with Tobin's q. In addition, we examine the interaction effect between energy intensity and firm growth and find that firm growth helps to enhance the positive relationship between energy intensity and financial performance. Our findings provide incentive for firms to be proactive in their efforts towards energy conservation and emissions reduction.

Keywords: Energy efficiency; Energy intensity; Financial performance; Stakeholder theory; Chinese firms

1. Introduction

Energy plays an important role in driving modern economic and social development. According to British Petroleum (BP) (2016), global energy consumption is likely to increase by 34% between 2014 and 2035. As the world largest energy consumer and CO_2 emitter, China has made substantial efforts to improve energy efficiency and control fossil fuel consumption in the past decade. Since 2006, plans for energy reduction have been incorporated into the national strategic plans and policies in China (Zhang et al., 2016). The Eleventh Five-Year Plan set the target of reducing

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