The Value of Debt in European Energy SMEs. Does Sustainable Environmental Policy Matter?

Francesco Fasano

Phd Student in Corporate Finance

UNIVERSITÀ DELLA CALABRIA

Abstract

This paper studies for the first time how capital structure decisions support the business of SMEs in the Energy industry, focusing on the moderating role of the environmental sustainability policies at country level. Results show a negative effect of the use of debt on energy SMEs value. However, such influence interestingly shifts from negative to positive when strong environmental commitment exists at country level. The findings suggest that countries investing in better environment quality policies, although constraining SMEs to adequate their production system, promote SMEs financial efficiency through a valuable use of debt.

RELEVANCE OF THE TOPIC

Nowadays a lot of attention is payed to environmental issues, pollutions and renewable energies. However, there is scarce attention to financial aspects of Energy firms, which need funds because of their huge plants, equipment and R&D investments. One of the causes of managerial failure when investing in sustainable projects is associated with wrong financial decisions.

INTRODUCTION AND RESEARCH GAP

Understanding financial behaviours of firms operating in the Energy industry allows supporting their activities aimed at developing corporate environmental sustainability, which is one of the main dimensions of Corporate Social Responsibility. This financial aspect is especially relevant for Small and Medium Sized Enterprises which represent 99% of all businesses in the European Union, but the same time they face many financial constraints (Berger and Udell 1998). This is the first study in this industry that investigates the impact of capital structure decisions, in terms of debt/equity choice, on SMEs value. It also studies how a country environmental performance (measuring trends and progresses of a nation in terms of environmental quality) influences the magnitude of the effect of debt on Energy SMEs value.

Literature streams enriched

Literature con capital structure and firm value + **Literature on capital structure decisions in specific industries** + **Literature on the role of a Country's environmental performance on firm performance**

Research Hypothesis

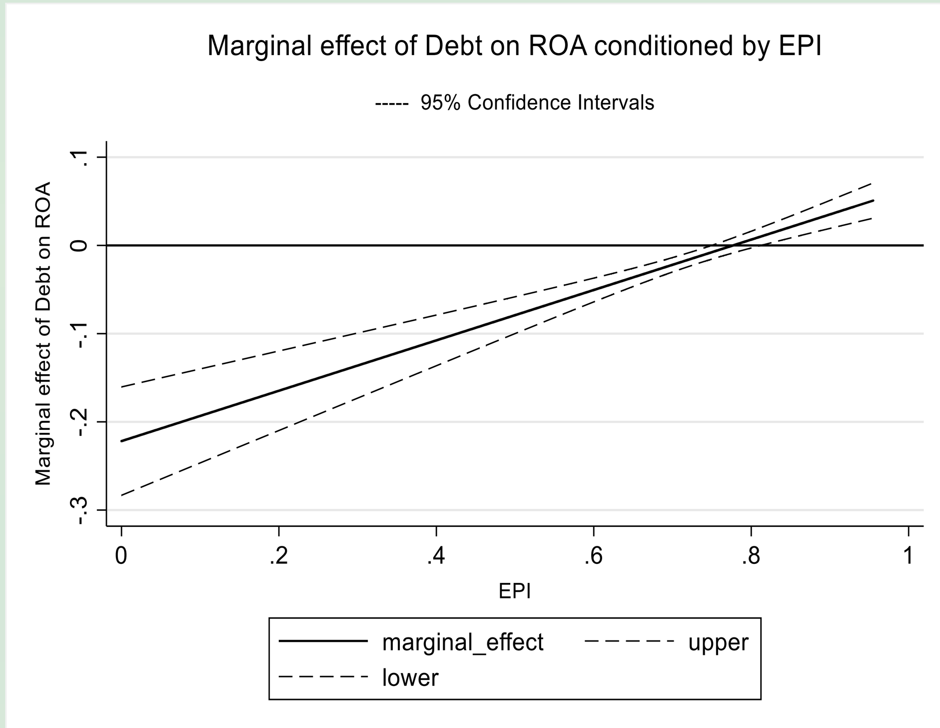
H.1 – Capital structure decisions negatively affect SMEs' performance in the Energy sector.

H.2 – The sustainable environmental policy at country level moderates the magnitude of the effect of capital structure on SMEs' value in the Energy sector.

RESULTS

	ROA
Debt	-0.191***
	(0.068)
EPI	0.011
	(0.064
Debt x EPI	0.237***
	(0.094)

Negative effect of *Debt* on *ROA* which confirms Hypothesis 1



Effect of the interaction

- Positive
- Stronger than the effect of debt on *ROA*

The negative effect of *Debt* on surprisingly turns from negative to positive in countries caring about environmental issues (where EPI index is higher), which confirms Hypothesis 2

A high-level of environmental performance at national scale spurs for a valuable use of debt, allowing SMEs to catch their enormous potential growth opportunities emerging from the Energy industry.

DATA AND MODEL

Sample: European SMEs according to the EU definition. Period: 2008-2015
Source: database Orbis of Bureau Van Dijk Type of SMEs: operating in the Energy sector (Extraction of petroleum and gas, electricity power generation, transmission, transportation and distribution, manufacture of gas and distribution, steam supply). Final sample: 12,615 firm-year observations

Model: *SMEs Performance = f (Debt, Environmental Performance Index, Debt × Environmental Performance Index, firm-specific control variables)*

Econometric methodology:
OLS
+
Multilevel technique
(which considers the different macro-level context in which SMEs operate)

Environmental Performance

Debt → **Energy SMEs Performance**

Environmental Performance Index (EPI)

EPI Environmental Performance Index

EPI measures the environmental performance at country level, i.e. the degree of attention of each country towards the achievement of environmental policy goals. It ranks countries' sustainability policies, considering about 20 performance indicators

EPI data are collected by the "Yale Center for Environmental Law & Policy" (YCELP), the Yale Data-Driven Environmental Solutions Group at Yale University and the Centre for International Earth Science Information Network (CIESIN) at Columbia University.

CONCLUSION AND DISCUSSION

Conclusion

- The environmental performance at country level moderates (from negative to positive) the effect of debt on EU energy SMEs performance. Debt is better used to support business success when EPI is high.
- The role of finance for EU energy SMEs is thus conditioned from the attention of Countries towards sustainable activities.

Theoretical implications

- Future researches should pay more attention to macro-level environmental patterns when studying the behaviour of firms operating in the Energy sector;
- The study intends to stimulate an emerging new stream of research studying the financial behaviors of energy firms;
- The work identifies a promising research direction to better understand the reasons why the environmental performance at country level has a positive effect on the relationship between debt and performance.

Policy and practical implications

- The government should improve SMEs access to outside sources of finance in the high growth potential Energy industry, as EPI spur for a valuable use of debt;
- Countries should invest in environmentally sustainable projects, since they provide restrictions and constraints to corporation, but also improve Energy SMEs efficiency;
- At the firm level, managers should better manage financial aspects of firms operating in the Energy industry in order to avoid failure;
- Managers could establish new investments in contexts with high EPI, where it is more likely to have success.