*Financial Statistical Journal (2023) Volume 6 Issue 1*
doi: 10.24294/fsj.v6i1.2348

REVIEW ARTICLE

# The financial performance of energy companies: A review of literature

**Felicetta Iovino**[1,2,3,*]

[1] *School of Business and Management, Queen Mary University of London, London E1 4NS, UK; felicettaiovino@yahoo.it*
[2] *University of London, London WC1E 7HU, UK*
[3] *UNICAF University, 7130 Larnaca, Cyprus*

## ABSTRACT

The financial performance of energy companies has become a significant object of investigation in the most recent international literature following the processes of privatization, liberalization and deregulation that have characterized these enterprises in the last twenty years. The objective of this work is to carry out an analysis of the main international literature on the subject. To this end, the main aspects considered as determining the aforementioned performances will be highlighted, constructing a related synthesis framework with possible further and future research guidelines.
***Keywords:*** financial performance; energy; markets; electricity; gas

ARTICLE INFO

Received: 21 March 2023
Accepted: 10 April 2023
Available online: 15 April 2023



## 1. Introduction

The entry into the market of a plurality of supply-side businesses and the freedom of choice of its energy supplier for final customers on the demand side has completely transformed a sector that for decades had been anchored, in most European countries and beyond, to a single large state monopoly enterprise.

The new and different private energy companies therefore find themselves competing on the market for the conquest of final consumers, in the case of sales companies, or in the sale at renumbering prices of their energy production, in the case of up-stream companies.

Therefore, the companies operating in the completely liberalized phases, production and sale, have the necessity to pursue adequate economic-financial results. In this sense, these performances have become a central subject of investigation by the main international literature on the subject.

The main studies suggest a relationship between sustainability, environmental and social performance and economic and financial performance. Other studies still suggest the central role played by the structure of capital. Further studies focus on other economic aspects, but also social ones.

The purpose of this paper is to examine the main literature on this subject in order to outline a synthesis of the preliminary results achieved.

## 2. Methodology

To achieve the aim of the paper, an extended search in the main database has been conducted.

WOS, Scopus, Google Scholar and SSRN have been used. The words "energy firm financial performance" and "energy financial performance" have been employed. The areas of research used are business, economics, management and statistics.

The papers are identified among those published from 1980 to 2018. The results consist of about 1300 papers. Then a thorough desk analysis of each paper was conducted. Finally, 27 papers were identified as closely related to the research topic. In the end, we have considered 20 papers as some of them came from the same authors and were very similar.

Then the papers were grouped on the basis of the main analyzed determinants of the economic-financial performance of energy companies using a semantic similarity criterion.

## 3. Results

Eight main determinants have been identified by means of the methodology used. They are related to different aspects that can be divided into internal and external factors. The authors analyzed not only strictly financial aspects.

Indeed, social, productive and political aspects have been investigated.

In the following subparagraphs, we will report the papers identified for each macro-group or the determinant object of the survey.

A. Production—Raw materials

The aspects related to the different modes of energy production play an important role in defining certainly the selling price of the product as well as the relative costs sustained by the energy companies. Among these elements, a primary role is assumed by the price of oil. However, the analyzed literature reached only apparently contradictory conclusions.

In fact, Dayanandan and Donker[1] show that the price of crude oil has a positive and significant impact on the financial performance of US oil and gas companies.

Instead, Vătavu et al.[2] analyze how the price of crude oil and the relative volume traded affect the profitability of oil and gas companies in the United Kingdom. This paper suggests the oil prices and the volume traded do not have a strong influence on the profitability and other financial ratios of British oil and gas companies.

B. Sustainability

The literature emphasized the link between financial and economic performance and the sustainable attitude of the company.

Almost all of the studies identified show sustainable activities carried out by energy companies are shown to have a positive link with financial performance.

In fact, a study by Pätäri et al.[3] finds a positive relationship between sustainable development and the financial performance of energy companies.

Feng et al.[4] find in their study a positive relationship between social responsibility and the financial development of Chinese energy companies.

The study by Jiang et al.[5] also shows that corporate environmental responsibility impacts financial performance by analyzing the Chinese case. The study shows that environmental proactivity has a positive effect on economic and financial performance. Moreover, private ownership compared to the state one allows to obtain better results.

However, two studies among those identified show a negative relationship or a lack of relationship between environmental/social performance and financial performance.

Indeed, Filbeck and Gorman[6] show a negative relationship between the types of performance mentioned above. Finally, Pätäri et al.[7] find that investments in corporate social responsibility do not have a strong impact on the financial performance of companies.

C. Effects of state intervention: Taxation and subsidies

Some authors have verified the effects of state intervention both with subsidies and with taxation on the financial performance of energy companies. In fact, the introduction of a tax on coal has been identified as a cause that reduces the financial performance of medium-sized energy companies that use coal compared to companies that use nuclear power[8].

The situation is instead the opposite in the case of state subsidies granted to energy companies.

Indeed, Zhang et al.[9] analyze the effects of subsidies on the financial performance of wind and solar power companies in the Shanghai and Shenzhen stock markets. They find a general positive effect of direct subsidies, but the impact on the financial performance of wind energy companies is higher than of solar energy companies.

D. Country-specific economic and social factors

The analysis of the economic and financial performance of energy companies has been carried out by some authors, also referring to the role played by the specific characteristics of the country in which they operate. These studies include that of Gupta[10].

The author has highlighted that when innovation and technology are well developed in the country, financial and economic performance are equally adequate.

E. Marketing policies

Marketing policies used by energy companies are another element analyzed as a tool capable of influencing related economic and financial performance. Some authors, such as Iovino[11,12], have shown how relational marketing policies are a tool through which energy sales companies can both retain customers and acquire new ones. The studies show a positive effect on the financial performance of energy companies. Furthermore, internet marketing is also an additional tool that has a positive impact on retention and the conquest of new clients by raising the level of satisfaction and therefore loyalty[13].

F. Capital structure

The traditional relationship between the different sources of financing, i.e., the capital structure and its effects on the financial performance of energy companies has been the subject of some recent studies.

They mainly demonstrate a positive effect of the use of debt and therefore of leverage with respect to the use of capital[14,15] on the economic-financial performance of the energy companies, on the other hand, the results of the study by Cole et al.[16].

The study by Cole et al.[16] has different results. In fact, it analyzes the relationship between the structure of capital and some indicators in U.S. energy firms. This study finds a negative link between capital structure and business performance.

G. Operational performance

Operational performance and therefore activities related to the energy core business were also investigated. Both studies identified agree to demonstrate a substantial positive effect of improving operating performance on economic and financial performance.

Indeed, Sueyoshi and Goto[17] find such beneficial effects by analyzing 104 American energy companies in the period 1990–2004.

Also the study by Altoé et al.[14] previously analyzed about its results relative to the capital structure, demonstrates as further the positive effects of the improvement in operating performance on financial performance have been achieved.

H. Transformation of the energy market

Scholars have also focused on the analysis of the results of the processes of general restructuring, privatization and liberalization on the financial performance of energy companies. The studies identified agree in identifying substantial positive results of these transformation processes. In fact, Arocena et al.[18] reach these conclusions by analyzing the Spanish electricity market. Similar positive results are reported in the study by Silvestre et al.[19].

The study by Jiang et al.[5] previously analyzed with respect to environmental responsibility, demonstrates this effect with reference to Chinese energy companies.

## 4. Discussion

Therefore, on the basis of the international literature identified and analyzed, it is possible to construct a framework that provides a snapshot of the state of the art. In this sense, the research conducted so far on the main determinants of the economic-financial performance of energy companies can be summarized in two macro-groups. In fact, the analyzes are due to internal factors and factors external to energy companies. **Table 1** is a framework of the state of the art of research conducted so far.

**Table 1.** Internal and external factors affecting on financial performance of energy companies (our elaboration).

| | | | | |
|---|---|---|---|---|
| **Analysis unit** | Objective of the analysis—Financial performance of energy companies | | | |
| **Internal factors** | Sustainability | Marketing policies | Capital structure | Operational performance |
| **State of the art** | + | + | + | + |

| | | | | |
|---|---|---|---|---|
| **Analysis unit** | Objective of the analysis—Financial performance of energy companies | | | |
| **External factors** | State: taxation/subsidies | Country-specific economic and social factors | Transformation of the energy market | Cost of raw materials |
| **State of the art** | –/+ | + | + | + |

## 5. Conclusions

Analysis of the economic-financial performance of energy companies has received increasing attention over time from the scholars. In fact, many studies have tried to identify the main variables on which to act in order to improve the economic and financial results of these companies. So, the factors investigated were different. Among these, certainly, a majority percentage is that of the studies that investigate the relationship between the corporate sustainable responsibility and the consequent performance of the main economic-financial indicators. These investigations, even with some results in the opposite direction, identify a general positive relationship. A similar positive relationship is identified for other variables that can be activated directly from within the company. Among these are the different marketing policies with a relational approach based on internet marketing, the structure of capital, in particular the entity of debts and operating performance.

Further studies have highlighted the role played by factors not directly controllable by the company and therefore definable externally. Among the main factors analyzed are the State Intervention, through subsidies and taxation, thus determining a reduction or growth in costs incurred by companies. Furthermore, studies have been conducted on the influence of country-specific factors, as well as on the cost of the raw materials used and the effects of the general process of transforming energy markets.

The paper then examined the main existing literature about our object of analysis in order to understand possible future and further research spaces. This review therefore is an interesting source for all those interested in energy companies and helps to stimulate further interest in possible future developments.

## Conflict of interest

The author declares no conflict of interest.

## References


1. Dayanandan A, Donker H. Oil prices and accounting profits of oil and gas companies. *International Review of Financial Analysis* 2011; 20(5): 252–257. doi: 10.1016/j.irfa.2011.05.004
2. Vătavu S, Lobonț OR, Para I, Pelin A. Addressing oil price changes through business profitability in oil and gas industry in the United Kingdom. *PLoS One* 2018; 13(6): 1–22. doi: 10.1371/jPurnal.pone.0199100
3. Pätäri S, Jantunen A, Kyläheiko K, Sandström J. Does sustainable development foster value creation? Empirical evidence from the global energy industry. *Corporate Social Responsibility and Environmental Management* 2012; 19(6): 317–326. doi: 10.1002/csr.280
4. Feng Y, Chen HH, Tang J. The impacts of social responsibility and ownership structure on sustainable financial development of China's energy industry. *Sustainability* 2018; 10(2): 301. doi: 10.3390/su10020301
5. Jiang Y, Xue X, Xue W. Proactive corporate environmental responsibility and financial performance: Evidence from Chinese energy enterprises. *Sustainability* 2018; 10(4): 964. doi: 10.3390/su10040964
6. Filbeck G, Gorman RF. The relationship between the environmental and financial performance of public utilities. *Environmental and Resource Economics* 2004; 29(2): 137–157. doi: 10.1023/B:EARE.0000044602.86367.ff
7. Pätäri S, Arminen H, Tuppura A, Jantunen A. Competitive and responsible? The relationship between corporate social and financial performance in the energy sector. *Renewable and Sustainable Energy Reviews* 2014; 37: 142–154. doi: 10.1016/j.rser.2014.05.012
8. Locatelli G, Mancini M. Small-medium sized nuclear coal and gas power plant: A probabilistic analysis of their financial performances and influence of $CO_2$ cost. *Energy Policy* 2010; 38(10): 6360–6374. doi: 10.1016/j.enpol.2010.06.027
9. Zhang H, Zheng Y, Zhou D, Zhu P. Which subsidy mode improves the financial performance of renewable energy firms? A panel data analysis of wind and solar energy companies between 2009 and 2014. *Sustainability* 2015; 7(12): 16548–16560. doi: 10.3390/su71215831
10. Gupta K. Do economic and societal factors influence the financial performance of alternative energy firms?. *Energy Economics* 2017; 65: 172–182. doi: 10.1016/j.eneco.2017.05.004
11. Iovino F. The choices of marketing policies of energy companies (Italian). *Management Delle Utilities* 2012; 4: 23–35.
12. Iovino F. Relationship marketing by energy companies. *Review of International Comparative Management* 2015; 16(5): 558–573.
13. Iovino F. Internet marketing in energy companies: The case of a Roman electricity company (Italian). *Mercati & Competitività* 2014; 3: 141–161. doi: 10.3280/MC2014-003008
14. Altoé AV, da Costa Jr N, Lopes ALM, et al. Technical efficiency and financial performance in the Brazilian distribution service operators. *Socio-Economic Planning Sciences* 2017; 59: 79–92. doi: 10.1016/j.seps.2017.01.003
15. Akhtar S, Javed B, Maryam A, Haleema S. Relationship between financial leverage and financial performance: Evidence from fuel & energy sector of Pakistan. *European Journal of Business and Management* 2012; 4(11): 7–17.
16. Cole C, Yan Y, Hemley D. Does capital structure impact firm performance: An empirical study of three US sectors. *Journal of Accounting and Finance* 2015; 15(6): 57–65.
17. Sueyoshi T, Goto M. Operational synergy in the US electric utility industry under an influence of deregulation policy: A linkage to financial performance and corporate value. *Energy Policy* 2011; 39(2): 699–713. doi: 10.1016/j.enpol.2010.10.043
18. Arocena P, Blazquezb L, Grifell-Tatjec E. Assessing the consequences of restructuring reforms on firms' performance. *Journal of Economic Policy Reform* 2011; 14(1): 21–39. doi: 10.1080/17487870.2011.538982
19. Silvestre B, Hall J, Matos S, Figueira LA. Privatization of electricity distribution in the Northeast of Brazil: The good, the bad, the ugly or the naive?. *Energy Policy* 2010; 38(11): 7001–7013. doi: 10.1016/j.enpol.2010.07.015