

COMPETITIVE STRATEGIES, RISKS, AND FINANCIAL INDEX RELATIONS IN OLIVE OIL MANUFACTURING FIRMS: EVIDENCE FROM GREECE

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Abstract

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The olive oil sector in Greece is a sector of special importance not only for agriculture but for the whole Greek economy. Despite the dynamic presents, olive oil manufacturing firms have to face many problems such as structural problems, low technological exploitation, and differences in the product price from producers to consumers. On the other hand, competitiveness is a concept difficult to measure and define accurately but is usually estimated either with Porter's five forces or with the use of financial indexes — the method also selected for this paper (Fischer & Schornberg, 2007). As a result the competitiveness estimation of these firms and as an extension the choice of the proper development strategies from them takes great importance and constitutes the aim of the current work. In addition, it is coming to fill the existing gap in the literature for the Greek olive oil sector. The main findings show that both the two largest olive oil manufacturing firms in terms of market share in the under study area have satisfactory results in terms of profitability, liquidity, and capital structure while the right investments of their profits may lead to the solution of their competitiveness problems.

Keywords: Competitive Strategies, Olive Oil Manufacturing Firms, Greece, Financial Indexes

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1. INTRODUCTION

The olive oil sector in Greece is an important part of the Greek agricultural economy as it covers 9% of the value of agricultural production in Greece compared to 1% in Europe. Moreover, Greece is the third largest producer worldwide after Italy and Spain, contributing 0.4% of gross domestic product

(GDP), presenting an international dynamic (Institute for Commercial and Administration Programmes — ICAP¹).

Although the sector has international potential, the olive oil manufacturing sector has structural weaknesses, mainly due to factors such as the fragmented structure of the sector, the low

¹ <https://www.icaprif.com/>

degree of technological exploitation, and the fact that only 27% of total production reaches the standardization stage, compared to 50% in Spain and 80% in Italy, the other Mediterranean countries that are direct competitors. In addition, the price difference from producer to consumer, which has been observed in recent years, is another challenge that, like the above, must be addressed by choosing the appropriate strategies for the sector to maintain and increase its competitiveness (data from ICAP).

Prices and economic capital are key factors influencing most olive oil companies. In Greece, the high costs of production have reduced the sector's competitiveness compared to other countries. As a result, many firms have been operating at a loss due to low product prices and high production costs. Evaluating the economic viability and sustainability of olive oil firms is complex due to the various contrasting factors involved. To ensure the economic sustainability of these firms and justify their competitiveness strategies it is essential to develop a thorough understanding of production costs (Malak-Rawlikowska et al., 2021).

On the other hand, the concept of competitiveness is a concept of vital importance for the viability of an industry as well as for the selection of appropriate strategies for it, but it is difficult to define and measure accurately (Abdullayev, 2022). Based on the existing literature, two main schools of competitiveness measurement can be defined. The first one has Michael Porter as the main exponent, with the famous Porter's five forces, which refers to the five forces that determine competition while the second one uses numerical indicators (Fischer & Schornberg, 2007). Analyzing financial data can be an effective tool to determine whether an investment will be profitable and how it might impact potential investors, like farmers. In order to assess and improve farm economic sustainability, financial ratios can be used (Zorn et al., 2018).

So, taking into account both the importance of olive oil manufacturing firms and the role of competitiveness for the firms the main purpose of this paper is to assess the competitiveness of the two largest olive oil manufacturing firms in terms of economic value in the region of Central Macedonia, Greece. This case study takes place with the use of selected financial indexes aiming to determine the appropriate further development strategies for them. Following this methodology, research questions such as:

RQ1: If the proper utilization of financial indexes lead to the selection of appropriate development strategies?

RQ2: In which direction will the proper utilization of financial indexes lead to the selection of appropriate development strategies?

This study comes to fill the gap related to the olive oil sector literature in Greece, especially after the COVID-19 pandemic, when the Greek economy is trying to make its restart, giving special importance to fields like agriculture where a competitive advantage traditionally existed. Moreover, it takes particular importance both at the academic and political level, intending to draw up and shape further development strategies.

The structure of this paper is as follows. Section 2 reviews the relevant literature. Section 3

analyses the methodology that has been used while Section 4 presents the main results of it are obtained. Section 5 continues with the discussion and Section 6 concludes the current study.

2. LITERATURE REVIEW

As referred to in the introduction, competitiveness is a wide concept of major importance for all firms operating in all different sectors of the economy, since the achievement of competitive advantage is their main objective and the basis for determining the strategy they are going to implement (Fischer & Schornberg, 2007).

To start with Michael Porter's theory of five forces justifies the competitiveness level and gives the ability to create a competitive advantage which the importance of achieving in all business sectors, is the main element of strategy formulation and selection (Wijnands et al., 2015). These are the bargaining power of suppliers, the bargaining power of producers, the threat of new entries in the sector, the threat of substitutes, and finally the existing conditions in each sector (Chikán, 2008). In addition to the referred five forces, managerial control and the right application of strategic management determine the competitive advantage and the choice of the appropriate strategy in manufacturing companies (Chikán et al., 2022). In the same line as Chikán (2008), Cetindamar and Kilitchioglu (2013) concluded that macroeconomic levels of management practices, bottom line, and business practices constitute the determinants of strategy at both microeconomic and macroeconomic levels.

Fischer and Schornberg (2007) studied competitiveness with the use of indicators such as profitability, market share, and productivity and concluded that the most competitive industry in terms of profitability and market share for the period 1995–2002 in the United Kingdom (UK) was the food and beverage industry. Moreover, the right operation of human resources such as the right job rotation enhances firms' competitiveness, strengthens the supply chain, and helps in the creation of the proper strategy for all the firms (Al-Shboul et al., 2022).

According to Belarmino et al. (2022), the economic sustainability of agro-industrial systems, reflecting firms' competitive capacity, can be attained through enhanced innovation, productivity, and effective price management. Their study aimed to assess the financial viability of olive groves and the competitiveness and economic sustainability of extra virgin olive oil using primary data and calculating financial indexes. The findings suggested that the burgeoning extra virgin olive oil sector in Brazil features financially viable olive groves, substantial competitiveness, and demonstrates economic sustainability.

Bernal Jurado et al. (2017), state that companies in the organic olive oil sector in order to ensure their long-term survival, must correct evident deficiencies. In this context, the study's goals include identifying the factors explaining the best organizational practices of organic olive oil producers and analyzing their efficiency in economic terms. Results showed that the most effective companies had better financial management and were bigger.

Tsiouni et al. (2024), analyzed the financial situation of the brewery industry. Using financial ratios to analyze economic utility, a company can improve profitability, reduce risk, and add liquidity. By doing so, it will be able to follow a successful strategy and create a competitive advantage. According to the results, large companies were able to pay their current liabilities, fixed costs, interest, and dividends, as well as handle current losses more effectively. Large companies had high liquidity levels and stock circulation rates. In small and medium-sized businesses, it was difficult to meet financial obligations and deal with losses.

As regards the beverage industry and more specifically the wine industry, a good brand was found as a very important factor in achieving competitive advantage and defining the proper strategy (Scorrano et al., 2019). More specifically in the wine tourism sector, the geographical location, the ownership regime as well as the communication techniques used are the most important factors in choosing a strategy to achieve a competitive advantage (Iaia et al., 2019). Regarding the firms in the agri-food sector in Italy, and especially the olive oil manufacturing firms, the creation of clusters and networks among micro-medium enterprises is the most important factor in creating a competitive advantage and stimulating their competitiveness (Bargoni et al., 2022).

In Mediterranean countries such as Greece, Turkey, Italy, and Tunisia, the increase of firms' market share in the olive oil market is a crucial factor for their viability and competitiveness (Türkekul et al., 2010). For the same countries but for a different time period, 2000–2019, Pechlivalonoglu et al. (2022) concluded that olive oil production, consumption, and export prices constitute the most important factors for the creation of export competitive advantage. In Tunisia, the use of Information and communications technology (ICT), the managing director's educational level as well as the ICT outsourcing have a significant impact and strengthen the competitiveness level of the olive oil manufacturing firms. As regards Spain and more specifically the internationalization of olive oil firms, it can succeed by using strategies such as the promotion in foreign markets and the publication of health benefits occurring from virgin olive oil (Martos-Martínez & Muñoz-Guarasa, 2023).

Financial analysis can also serve as an advisory tool for profitability and growth planning in olive oil firms. By analyzing trends in revenues and costs, firms can forecast future profitability and make informed decisions to enhance their operations (Calderón Díaz et al., 2020).

So, taking into account a significant part of the existing literature on the under-study subject and summarizing it from a critical point of it is understood that despite the many problems that may occur, the financial indexes can be used and lead to main results referring to the competitiveness level and the strategy which the specific sector may follow. Although financial indicators have been discussed in the literature, a systematic review of them has been lacking. For the first time, we have included all types of financial indicators related to production costs at the company level for Greek olive oil companies.

Consequently, in the following sections, the most important financial indicators according

to the theory are estimated for the justification of the factors that determine both the competitive advantage and the choice of the appropriate strategy in the two largest olive oil manufacturing firms in the region of Central Macedonia, Greece.

3. RESEARCH METHODOLOGY

In accordance with a great part of the existing literature (Porter, 1985; Fischer & Schornberg, 2007; Martos-Martínez & Muñoz-Guarasa, 2023; Bargoni et al., 2022), the competitiveness determination or the actual position of an economic unit is very important because it gives essential information about its profitability and its prospects for the future. The process is achieved in two main ways using Porter's (1985) methodology and the use of financial ratios. In this research, the most basic numerical indicators will be used which provide a picture of the actual situation of the whole economic unit in order to determine the degree of performance of its various activities. In this way, the most rational use of its means of action is achieved (Batsinilas & Patatoukas, 2012).

Generally speaking, accounting serves as a tool to determine if a business is profitable through its transactions. An accounting system can offer insights into a company's overall health and performance. Ratio analysis is a useful method for identifying indicators and symptoms related to a company's environment. For making basic economic conclusions, indicator analysis is commonly employed to evaluate production units and their strategic development (Tsiouni et al., 2022). Performance indicators can be used to assess a company's condition by comparing it with other firms in the same industry or by tracking their progress over time. As also referred to the literature review section a systematic review of financial indicators is lacking and for that reason, the eight most used indicators are both presented and estimated.

To start with the performance indicators, we will use the net profit index and the return on equity (ROE) index from which very important conclusions can be drawn since profit generation is the main purpose of companies that guarantees their long-term operation (Niarchos, 2002). The results of the profitability ratios are indicative of a company's profit performance over time, which is inextricably linked to its long-term viability, while they significantly influence the opinion of all the groups that are involved in the company's operations. Profitability ratios combine elements of the profit and loss account and the balance sheet. The net profit ratio shows the net profit of a business from its operating activities and is calculated by dividing net profit after tax by sales for the year. The higher the net profit ratio, the more profitable the firm is.

It is one of the most important ratios, as net profit is what is left to shareholders after covering all other liabilities of the firm (Batsinilas & Patatoukas, 2012). The ROE ratio shows the amount of profits generated by the contribution of shareholders' funds, this means that it shows the degree of equity utilization. It is obtained by dividing net operating profit by the average amount of equity. The higher the percentage of the ratio, the more successful the company is considered to be, as opposed to a low ratio which is indicative of inadequate management and productivity (Kantzios, 2013).

The liquidity ratios are used to determine both the short-term financial position of the company and its ability to meet its short-term liabilities. They measure a firm's ability to meet its short-term liabilities and to have additional cash resources to meet extraordinary cash outlays or to take advantage of business opportunities that arise. The most used ratio is that of overall liquidity, which is calculated by dividing the company's total current assets by its total current liabilities. This ratio shows the measure of an entity's liquidity as well as the margin of safety that its management maintains to be able to cope with any undesirable development in its working capital flow. A high general liquidity ratio reveals a favorable situation for the entity, at least in terms of liquidity, but not so much in terms of profitability. The second indicator to be used is the cash liquidity ratio which shows how many times the available assets of an entity cover its maturing liabilities and is obtained by dividing the available assets by the current liabilities. Cash liquidity expresses the ability of an economic unit to repay its current and past-due liabilities with the cash at its disposal (Kontakos & Paspasyrou, 1993).

Another important category of indicators includes the activity and functionality indicators that deal with the degree of utilization of the company's assets because it is in the interest of the entity to use its assets intensively. Activity ratios measure various 'speeds' of circulation, collection, and payment. The day's receivables collection speed indicator is obtained by taking the receivables collection speed indicator as the denominator, with the days of the year (360) as the numerator and shows how many days it takes to collect the entity's receivables. It is very important because it links sales to the credit policy of the firm (Gikas, 2002). The second indicator in this category is the asset turnover ratio which is an important way of measuring the overall efficiency of the firm in relation to its sales. It is positive for the firm to be able to manage all its assets in such a way that it can achieve as high sales as possible. It is obtained by dividing net sales by total assets. Essentially, this ratio studies whether there is an investment of capital concerning the sales made (Dritsas, 2019).

Lastly, the capital structure ratios include the equity-to-total capital ratio and the equity-to-fixed assets ratio. The capital structure ratios assess a company's ability to meet its liabilities and the degree of protection enjoyed by its creditors. The equity-to-total capital ratio shows, as a percentage, the part or portion of the total capital used by the company that is owned by shareholders. It is obtained by dividing equity by total capital (Batsinilas & Patatoukas, 2012). The equity to fixed assets ratio calculates and shows to any analyst or stakeholder towards that business whether, how, and with what use of capital the fixed assets of the business were repaid (Dritsas, 2019).

Using financial ratios can encourage owners of olive oil companies to incorporate the results of sustainability assessments into their management practices. In this context, analyzing and comparing annual data, rather than long-term averages, and benchmarking against other companies with similar structures, would be most advantageous for managers. Financial analysis is generally an advisory tool for companies (Birner et al., 2021). Olive oil companies can take advantage of this tool in several ways, including understanding costs and revenues, managing risks, planning for expansion, and gaining access to funding. Implementing financial analysis could provide the necessary information to operate more efficiently and profitably, making companies more competitive in a demanding market environment.

So, taking into account what is referred to above the two largest olive oil manufacturing firms in economic terms, in the region of Central Macedonia, Greece, were selected for the competitiveness estimation. These two firms were selected as samples for this case study due to the fact that they own the largest market share and maintain a dominant position in the market. The required data were collected from their published annual balance sheets and the required time for the data collection and the indexes calculation was two months. In Greece, the publication of the annual balance sheets is obligatory for all firms.

4. RESEARCH RESULTS

Continuing with the results, the estimation starts with the performance indicators specifically with the net profit ratio and the ROE ratio. The company Sithonia Olives S.A. has positive values in terms of the first index, which is very encouraging because it means that the years are profitable and that the net profit percentage is at significantly high levels. With these findings, the indicator is considered satisfactory for the company. The company Deas S.A. also has good prices since the net profit indicators have a positive sign in all years. There is only one major drop in 2021 due to the pandemic and the financial crisis and all the problems of entrepreneurship.

Next, considering the ROE ratio, the results of Sithonia Olives S.A. reveal that the ROE ratio overall shows that every year the company Sithonia Olives S.A. firstly has positive prices, which means that the years are profitable and secondly the percentage of net profit is at high levels. In total in the five years 2018–2022, shareholders have profits of 85.67% with an annual average of 17.92%. With these findings, the index is characterized as excellent for the company. For the company Deas S.A., the results are also considered excellent as the net profit before taxes in combination with the equity gives a great indicator. Overall for the period 2018–2022, the shareholders have a profit of 92.52% and an average year of 18.50% (see Table 1).

Table 1. Performance indicators analysis

<i>Performance indicators</i>	<i>2018</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>	<i>2022</i>	<i>Mean</i>
<i>Sithonia Olives S.A.</i>						
Net profit ratio (%)	31.40	20.42	19.03	23.58	18.05	22.50
ROE ratio (%)	19.92	15.15	16.52	17.26	16.82	17.13
<i>Deas S.A.</i>						
Net profit ratio (%)	10.88	9.94	11.54	7.85	8.12	9.67
ROE ratio (%)	20.40	20.61	21.75	14.26	15.50	18.50

In the group of liquidity indicators and the first indicator, the general liquidity indicator, every year the company Sithonia Olives S.A. has good values, i.e., greater than 1.5, in which case it is considered good. The general liquidity index for the company Deas S.A. shows prices and performance, slightly greater than 1.5 so there is good liquidity for the business. There is an increase in the current assets but also a greater increase in the short-term

liabilities of Deas S.A. For the second index of this group, the cash liquidity index, the results of Sithonia Olives S.A. show good values, higher than 0.45 for all five years, so it is characterized as very good for the company's liquidity.

For the company Deas S.A., the cash liquidity ratio is far from good levels with very bad values indicating that the company has a liquidity problem (see Table 2).

Table 2. Liquidity ratios

<i>Liquidity indicators</i>	2018	2019	2020	2021	2022	Mean
<i>Sithonia Olives S.A.</i>						
General liquidity index	4.88	5.8	5.72	5.51	6.36	5.654
Cash flow ratio	0.55	0.62	0.69	0.45	0.51	0.564
<i>Deas S.A.</i>						
General liquidity index	1.59	1.55	1.76	1.93	1.72	1.71
Cash flow ratio	0.04	0.03	0.01	0.04	0.03	0.03

For the activity ratios, the asset turnover rate for the company Sithonia Olives S.A. for the five years of examination fluctuates below unity but with a significant rise and is thus characterized as average for its values but very good for its upward trend. An important element is the increase in sales since the €4,618 thousand in 2018 reached €10,272 thousand in 2022. For the company Deas S.A., the asset turnover rate has moderate values with a downward trend. A positive element for the course of the business is the significant increase in sales between the years 2018 to 2022. The fall in the index is because the increase in sales

was less than the increase in assets. The receivables collection speed ratio shows how many days the business takes to collect its sales. One of the most important business issues is collection time, because the faster the company collects, the more the chance of losses from bad customers is reduced. The company Sithonia Olives S.A. has an average of 147 days to collect receivables, which is a lot. Deas S.A., on the other hand, has 129 days, which is less than the previous company, but still a lot. Both companies should reduce the time of receivables collection so that they are not led to borrowing to cover their obligations (see Table 3).

Table 3. Activity indicators

<i>Activity indicators</i>	2018	2019	2020	2021	2022	Mean
<i>Sithonia Olives S.A.</i>						
Asset turnover ratio	0.53	0.64	0.74	0.6	0.11	0.524
Receivables collection speed index (in days)	177	163	151	117	128	147.2
<i>Deas S.A.</i>						
Asset turnover ratio	0.79	0.85	0.79	0.7	0.69	0.764
Receivables collection speed index (in days)	132	124	125	131	132	128.8

Finally in the category of the capital structure indicators and the equity to total capital ratio, the results of Sithonia Olives S.A. support that the index is constantly above 50% which is very satisfactory. Small changes and trends are not alarming. For Deas S.A. the index is close to 40% and does not reach 50% in any year. With these values, the ratio is characterized as moderate, but it shows a downward trend, which is negative for its course. The ratio of equity to fixed assets is very good for the company Sithonia Olives S.A. since it shows

values higher than 100%. Changes in the ratio are not alarming and with these values, the ratio is considered excellent and indicates that the company's fixed assets were paid for by equity. An important element is also the increase in equity and fixed assets. The index is also very good for Deas S.A. because every year it has much higher values than the minimum good level which is 100% and that means that the fixed assets have been invested by the equity (see Table 4).

Table 4. Capital structure indicators

<i>Capital structure indicators</i>	2018	2019	2020	2021	2022	Mean
<i>Sithonia Olives S.A.</i>						
Ratio of own funds to total capital (%)	83.58	85.78	85.44	82.36	85.51	84.53
Equity to fixed assets ratio (%)	414.23	496.68	494.29	488.43	517.71	482.27
<i>Deas S.A.</i>						
Ratio of own funds to total capital (%)	42.04%	42.77%	41.90%	38.40%	36.29%	40.28%
Equity to fixed assets ratio (%)	172.01%	166.82%	165.40%	149.27%	137.86%	158.27%

5. DISCUSSION

The current paper examined two of the largest Greek olive oil manufacturing firms in the region of Central Macedonia using numerical indicators as basic tools to determine their competitiveness and also to choose the appropriate strategy to stimulate

them and promote the Greek olive oil sector. Despite its importance not only for agriculture but for the whole Greek economy the olive sector has to face many difficulties such as structural problems, differences in the price from the producer to consumer, and a low degree of technological exploitation.

The financial performance indicators selected for analysis led us to conclude that, on average, the olive oil sector faces moderate risk, with their business risk being higher than their financial risk. Additionally, the profitability of both production and financial assets is quite good. Regarding debt, the companies generally exhibit satisfactory financial autonomy and moderate debt levels. A liquidity analysis revealed that the companies are capable of meeting their short-term obligations. Overall, the olive oil companies in the Central Macedonia region are financially sustainable but should carefully manage their investments and working capital needs, giving simultaneously the answer to the research question of what the main strategies may follow in order to strengthen their competitiveness level, using with the right way indexes such as liquidity, profitability, and capital structure.

The good results of the two largest olive oil manufacturing firms in terms of the understudy financial indexes may lead the firms to invest in the correction of their structure and in action which will aim for vertical integration from the producer to consumers as a first step in the minimization of the price difference from producers to consumers, verifying in this way Chikán et al. (2022). Also, the investments in their technological modernization may be another solution to their problems which can be of special interest both at the academic and political levels and is also in line with the relevant literature (Pechnivanolou et al., 2022; Martos-Martínez & Muñoz-Guarasa, 2023).

6. CONCLUSION

Concluding with the current work and taking into consideration the above-mentioned results it can

be seen that both the understudy olive oil manufacturing firms present satisfactory levels of profitability with the only exception of the 2021 year. This can be explained by the COVID-19 pandemic results not only in the manufacturing firms but in the whole Greek economy. The same happens in the return of equity index which the results for the two firms are excellent.

In terms of liquidity, both Deas S.A. and Sithonia Olives S.A. have good results while a small difference in the activity indicators for both the two firms may be explained by the fact that the observed increase in sales was less than the increase in their relevant assets. As regards their capital structure they also appear an excellent result which means that both firms invest their different type of assets aiming at the creation of development strategies. This consists of a special point of interest both for academics and policymakers because the choice of the proper strategy for these firms may help in their further extroversion and development.

The fact that this work refers to the two largest olive oil manufacturing firms in the region of Central Macedonia may be a limitation of the research, but the fact that not only do they have the highest market share, but the majority of the olive oil manufacturing firms behave with a similar way, shall lead to safe conclusions concerning the trends, the prevailing conditions and the strategies that will be useful to be followed in the olive oil manufacturing sector.

The study of a larger sample of Greek olive oil manufacturing firms from all the Greek area and the comparison of the results between them constitutes the next step of the authors of this work. The findings of this study could pave the way for future research aimed at enhancing our understanding of sustainable olive oil production.

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