The Impact of the Covid-19 Crisis and the Verification of the Assumption of Continuity - The Case of the Accommodation, Restaurant and Similar Sector

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Abstract

With the emergence of Covid-19 and its spread around the world, the lives of people and businesses have been severely affected. To contain the transmission of the virus, several countries have applied restriction measures that have led to a reduction in business activity, with the Accommodation, Restaurants, and Similar sector being one of the most affected. To analyse the impact of the Covid-19 crisis and the assumption of continuity for the sector under study, a sample composed of 110 companies belonging to the sector in question and that obtained legal certification of accounts from 2010 to 2020 was defined. Based on this sample and the sector averages, economic and financial indicators and three predictive models of bankruptcy were applied to analyse the performance variation recorded by this sector during the study period. Through this analysis, it was possible to verify, from 2019 to 2020, a very significant variation in the economic and financial indicators and an increase in the number of bankrupt companies, which means that the pandemic has worsened the financial situation of the companies and that they present a higher risk of bankruptcy in 2020.

Keywords: Accommodation, Restaurants, and Similar sector; Economic-financial analysis; Covid-19; Bankruptcy

1. Introduction

In Portugal, the impact of the Covid-19 pandemic was quite severe in economic terms, there was the suspension and restriction of activities in various sectors such as tourism, culture, construction, restaurants, among others, thus leading to a reduction in business activity and an increase in unemployment and the number of bankruptcies. According to Banco de Portugal (2021), of all sectors that were affected by this health crisis, the Accommodation, Restaurants, and Similar sector was the most affected and where a slower recovery is expected. A survey conducted by AHRESP (*Associação da Hotelaria, Restauração e Similares de Portugal*) in March 2021 showed the difficulties experienced by this sector. In this survey it is possible to verify that 49.00% of companies in this sector record invoicing breaks in the order of 90.00% in March, and 17.00% of tourist accommodation companies admit to proceeding to insolvency, increasing this value to 29.00% compared to Restaurants and Similar.

As it was possible to verify, this crisis that began in 2020 and which to date is present, had a very significant impact on the economy of Portugal, and therefore it is imperative to carry out an economic and financial analysis that allows us to obtain a more detailed perception of how this sector reacted to these adverse times and their real implications. Thus, given the foregoing, the objective of this study is to answer the following questions:

Q1: What is the evolution of the economic and financial indicators of companies in the Accommodation, Restaurants, and Similar sector from 2010 to 2020?

Q2: Do companies in the Accommodation, Restaurants, and Similar sector have a higher risk of bankruptcy in 2020 compared to 2019 (pre-pandemic)?

Q3: Have companies belonging to the Accommodation sector had a greater impact on the pandemic than companies in the Restaurants and Similar sector?

2. Business report

2.1. Reporting process

In July 2002, the United Nations adopted the International Financial Reporting Standards (IFRS) of the International Accounting Standards Board (IASB), intending to improve the quality of financial information, making it more comparable and transparent internationally, increasing confidence in financial markets and protecting the interests of investors (Rocha, 2021). The introduction of this new regulation required all Portuguese companies, whose shares were traded on the European market, to prepare consolidated financial statements following the IAS/IFRS at the beginning of 2005 (Rendas, 2021).

On January 1, 2010, in Portugal, the *Plano Oficial de Contas* (POC) was replaced by the *Sistema de Normalização Contabilístico* (SNC). This new accounting model has ensured compliance with the IAS/IFRS implemented by the European Union (EU) and is based on the *Normas Contabilísticas e de Relato Financeiro* (NCRF), which is an adaptation of international accounting standards (Rocha, 2021).

According to Barbosa (2015), the reporting process consists mainly of the financial statements of companies where they manifest their financial performance as well as changes that may have occurred during the period.

Financial statements are thus a key instrument where information on the economic and financial situation of the company is given and serves as a basis for organizations and stakeholders at the time of decision-making.

2.2. Financial Information Analysis

In general, the analysis of financial information allows us to observe the current financial situation of the entity and is essential for planning the future of the company, both in the long and short term.

Reinforcing this idea, Rosillón and Alejandra (2009) refer that "the use of appropriate tools and techniques seeks to evaluate the financial position and results of business activity in the present and past to obtain the best estimates for the future".

The financial analysis thus consists of a technical analysis that allows the synthesis and systematization of economic and financial information, transforming the data into information that is useful to stakeholders (Henriques, 2021).

2.2.1.Univariate analysis

The univariate analysis, or method of ratios, is typically the most used method for processing the information present in the financial statements and allows the analysis of financial and economic results over a given period.

According to Roda (2011), "the calculation of ratios enables the assessing of the economic and financial evolution of a company between years of activity and allows comparing values between companies in the same sector".

In this method, and according to Peres (2014), the variables are observed and analysed individually, and there is no objective of finding an integrated relationship between two or more variables.

2.2.1.1. Liquidity

A company's liquidity consists of its ability to meet short-term obligations and these indicators enable the understanding of to which extent short-term liabilities are covered by the assets that will be transformed into financial resources in the same period.

However, its analysis alone may not be sufficient to determine this same capacity, so it will also be necessary to understand the concept of the Treasury, and consequently the Net Working Capital (NWC) and the Working Capital Requirements (WCR). The NWC corresponds to the difference between short-term Assets and short-term Liabilities:

$$NWC = Current\ Assets - Current\ Liabilities$$

On the other hand, the Working Capital Requirements (WCR) should be used to analyse the operating assets and liabilities.

$$WCR = Operating\ Assets - Operating\ Liabilities$$

The difference between NWC and WCR corresponds to the level of Treasury of the company.

Among the liquidity indicators, the ones that will be analysed are the Current Ratio, Quick Ratio, and Cash Ratio. The Current Ratio can depict how many times the firm would be able to pay its current liabilities if it converts all its current assets to cash.

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

The Quick Ratio excludes from the analysis inventory and therefore only considers cash and current assets that can be quickly converted to cash.

$$Quick\ Ratio = \frac{Current\ Assets - Inventory}{Current\ Liabilities}$$

Lastly, the Cash Ratio shows how many times the firm would be able to pay its current liabilities using its most liquid assets.

$$Cash\ Ratio = \frac{Cash + Marketable\ Securities}{Current\ Liabilities}$$

2.2.1.2. Capital Structure

While liquidity ratios aim to assess the company's situation in the short term, the capital structure ratios allow for medium and long-term analysis as well as debt burden. Fabozzi (2013) states that the entity's financing method determines the financial risk that the company is willing to take, namely the relationship between Liabilities and Equity.

The Equity Ratio quantifies the percentage of the Total Assets of the company that are financed by Equity, that is, allows the verification of the financial soundness of the company.

$$Equity\ Ratio = \frac{Equity}{Assets}$$

The Debt Structure ratio is used to differentiate the company's indebtedness on a temporal basis. If this ratio has a reduced value, a large

part of the Liabilities is short-term, which will put more pressure on the Treasury.

$$Debt\ Structure = \frac{Long\ term\ Liabilities}{Liabilities}$$

2.2.1.3. Efficiency

The indicators of efficiency assist the evaluation of the effectiveness and degree of use of the resources that are applied in the company's activity, that is, enable the characterization of the operational aspects of a company.

One of the indicators of efficiency is Asset Turnover, and this ratio evaluates how efficiently the company is using its resources, given that the higher the value of the ratio the more efficient the company will be.

$$Asset\ Turnover = \frac{Sales}{Assets}$$

Average Payment Period (APP) is the ratio that indicates the average time it takes the company to settle its debts to suppliers while the Average Collection Period (ACP) measures the time it takes customers, on average, to pay their debts. Regarding the Average Inventory Period (AIP), this indicator estimates the average number of days stocks are in storage. By relating the three indicators, it is possible to obtain the Exploration Life Cycle Duration (ELCD), which represents the average time that companies take from the acquisition and transformation of inventories to their sale to customers.

$$ELCD = AIP + ACP - APP$$

Other indicators analysed in this context were the evolution of the annual average cost and income per employee.

2.2.1.4. Profitability

The profitability ratios analyse the degree of efficiency of the resources that are applied by the company and the return on investments, given that, the higher its value, the higher the income of the resources invested. One of the profitability ratios considered was the Return on Assets (ROA), which is a measure of profitability used to analyse the return generated by an entity's Total Assets. The higher its value, the higher the profits generated by the company with the Assets it had available.

$$ROA = \frac{Operating\ Result}{Assets}$$

2.2.1.5. Risk

According to Martins (2004), "the risk analysis aims to ascertain the extent to which the results of companies are sensitive to a certain set of factors that influence their activity". Among others, the Degree of Financial Leverage (DFL) and the Safety Margin (SM) stand out. According to Breia et al. (2014), the DFL assesses the sensitivity of the results before taxes related to a change in operating results. This indicator usually rises when financial expenditures increase.

$$DFL = \frac{Operating\ Result}{Earnings\ before\ taxes}$$

SM corresponds to the difference between the revenues and costs of the products or services, which fluctuate according to the level of activity of the company. This indicator thus represents the surplus of sales, projected or actual, over the equilibrium point (Maher, 2001).

2.2.2.Multivariate analysis

According to Peres (2018), multivariate analysis is an evolution of univariate analysis because it allows the distinction between two or more groups of objects using a set of variables simultaneously. As mentioned by Santos (2000) "multivariant models are models that explain the dependent variable as a function of several independent variables. For example, bankrupt/active depending on profitability, liquidity, solvency, etc". Edward Altman was the

first researcher to use these models to predict business bankruptcy with his Z-Score model in 1968 and since then he has conducted two revisions. The latest one is from the year 2002 and is the following:

$$Z'' = 3{,}25 + 6{,}56X_1 + 3{,}26X_2 + 6{,}72X_3 + 1{,}05X_4$$

With $X_1 = \frac{Working\ Capital}{Assets}$ $X_2 = \frac{Retained\ Earnings}{Assets}$;

$X_3 = \frac{EBIT}{Assets}$; and $X_4 = \frac{Equity}{Liabilities}$.

As the analysis is performed on Portuguese sectors and companies, it is indispensable to use the Carvalho das Neves model of 2012 to obtain results more appropriate to the Portuguese reality. Also, according to a study conducted by Peres and Antão (2019), the model of Lizarraga (1998) was the most effective business bankruptcy forecasting model, in a set of 21, for Portuguese and Spanish companies that belonged to the tourism sector.

2.2.3. Value Creation Analysis

Since the 1980s, there has been a change in the paradigm of companies where their main objective has become the creation of value for shareholders rather than the maximization of profits, largely due to globalization and consequent increase in competitiveness among companies (Rodrigues, 2016).

EVA® is one of the most used metrics to measure the value creation of companies and according to Jordan et al. (2012) has contributed to the change in the criteria of financial analysis in organizations, agglomerating in a single indicator all factors related to value creation. According to Peres (2018) "it is a measure of evaluation of the company's performance, which seeks to measure the value created, occurring when it generates results higher than the cost of capital".

$$\text{EVA}^{®} = NOPAT - WACC \times IC$$

With NOPAT = Net Operational Profit After Taxes; WACC = Weighted Average Cost of Capital and IC = Invested Capital.

Given that the WACC is calculated as follows:

$$\text{WACC} = \frac{D}{D+E} \times K_d + \frac{E}{D+E} \times K_e \times (1-t)$$

With D = Debt; E = Equity; Kd = Cost of debt; Ke = Cost of equity and t = Effective tax rate.

Another widely used indicator is the Gross Value Added (GVA) which translates the wealth generated by an entity during an established period and that according to the INE (2017) represents the "gross value of production, deducted from the cost of raw materials and other consumption in the production process".

2.3. Accommodation, Restaurants, and Similar sector

According to INE (2021), this sector "comprises hotel establishments, campsites and other places of short-term accommodation, restaurants, beverage establishments, canteens, and home catering. The Accommodation is of a temporary nature and can be provided as an isolated or integrated service ".

Regarding Restaurants and Similar, the INE (2021) states that "restaurant units may also only provide meals for consumption on-site or at the same time provide other integrated or combined services (drinks, shows, etc.)".

3. Methodology

To perform an analysis of the sector under study and to answer the research questions, a sample of Portuguese companies was selected, given that they would have to obtain ten years of

activity between 2010 and 2020 and be subject to legal audit. Based on these criteria and after removing the outliers, it was possible to attain a final sample consisting of 110 companies, 70 from the Accommodation sector and 40 from the Restaurants and Similar sector. In addition to this sample, the average company for each of the sectors was also obtained through the Banco de Portugal. Given these samples and the sector averages, univariate analysis, predictive models of bankruptcy, and value creation analysis were used to assess the impact of the pandemic on the economic and financial situation of the sector under study.

4. Case study

4.1. Economic contextualization

The subprime crisis that began in the USA in 2008, quickly spread to other countries, and several financial institutions were forced to declare large losses and some even bankruptcy. The EU was no exception, with a drop in GDP of around 4.30% compared to the previous period in 2009. In 2020, in a time of economic growth around the world, the COVID-19 pandemic emerged. Given the social distancing, self-isolation, and restrictions imposed by governments, there was a reduction in the workforce in all economic sectors, which led to the loss of many jobs and a very significant decline in European GDP.

In Portugal, the economic crisis was also felt. With the increase in external debt, the budget deficit, and the worsening of the financing conditions, Portugal was forced to resort to the International Monetary Fund. With the rescue plan, Portugal was subject to a fiscal adjustment and consolidation program, which consisted of reducing expenditures and increasing taxes. In 2020, due to the pandemic, Portugal recorded its biggest fall in GDP (8.40%), the fourth largest in the EU, only surpassed by Greece, Spain, and Italy, countries also dependent on tourism.

4.2. Results

4.2.1. Univariate analysis

4.2.1.1. Liquidity

Although the sectors presented very satisfactory liquidity values for the period under analysis, the results obtained in the Treasury, despite a trend of positive evolution, were mostly negative. Comparing both sectors, in terms of Treasury and in terms of liquidity, NACE 56 generally presented a result higher than NACE 55.

Concerning the evolution of the indicators from 2019 to 2020, there was an improvement in both average and sample companies in both sectors, except for the NACE 55 sample, which recorded a decrease in Treasury in this time interval.

4.2.1.2. Capital Structure

Analysing the capital structure, it is possible to observe a large discrepancy between the samples in terms of the percentage of Assets that are financed by Equity and that most companies have achieved a higher result than the theoretical framework. At the level of long-term Liability, there is already some difference between both sectors, where NACE 55 has values much higher than NACE 56 in the study period.

Comparing 2019 with 2020, there is a decrease in the percentage of Assets that are financed by Equity and an increase in the proportion of long-term Liabilities.

4.2.1.3. Efficiency

Overall, it was verified that the Asset Turnover and the ELCD remained relatively constant until

2019, while the average annual cost and income per employee showed a moderate increase during the same analysis period.

Between 2019 and 2020 there was a change in the trend of all indicators, with increases in ELCD, APP, ACP, and AIP and reductions in the rest. Comparing the values of both sections in each of the ratios, there was a higher value for NACE 56 in Asset Turnover and a lower one for the rest, with the largest differences between the sections being registered in the ELCD, AIP, and average annual income per employee indicators.

4.2.1.4. Profitability

In all the profitability indicators analysed, there was a slight upward trend from 2012 to 2018 and a higher value of the sample, when compared with the average company, in most of the years. In addition, in the time interval from 2010 to 2019, apart from the Gross Margin and the ROE, which is calculated based on equity and therefore presents more irregular results, the sections presented values close to zero (between 0.30 and -0.30) in all ratios.

Across all indicators, there is a drop from 2019 to 2020, with the greatest impact on samples and moving from a positive value to a negative value in all indicators except the Gross Margin.

4.2.1.5. Risk

In both risk indicators from 2010 to 2019, apart from the average company NACE 55 for the years 2014 and 2015 in the DFL indicator, it's observed a relatively constant value close to zero.

From 2019 to 2020, while SM recorded a significant decline, in the DFL there are different variations, with the average company achieving lower values and the samples recording a slight increase.

4.2.2. Multivariate analysis

For NACE 55, it is observed that both in 2019 and 2020 there are two models that qualify this section as bankrupt, and as such this will be the classification assigned to this section. Regarding NACE 56, and using the same criteria, it will be classified as not bankrupt in 2019 and bankrupt in 2020.

About the sample, there is also an increase in the proportion of bankrupt companies from 2019 to 2020, aside from NACE 55 for the Lizarraga model, where can be seen a decrease in two bankrupt companies in all 70 evaluated.

Comparing the results obtained for each of the sections, there is a greater increase in the percentage of bankrupt companies from 2019 to 2020 in NACE 56 when compared to NACE 55.

4.2.3. Value Creation Analysis

Analysing the EVA, it is possible to see a constant variation between growth and reduction of this indicator, presenting in some years a positive value and consequently value creation and in other years a negative value, which represents the destruction of value. Comparing the years 2019 and 2020, there was a decrease in the samples and the sector average NACE 56, continuing the tendency that had already been registered since 2018, and an increase in the average company NACE 55.

The second indicator analyzed in the context of value creation is the VAB where growth is verified in both sections from 2012 to 2018.

For 2019 and 2020, there was a significant reduction in the last year of analysis, and in both the sample and the sectorial average there is a greater drop in NACE 56 when compared to NACE 55.

5. Conclusions

5.1. Response to the questions

Question 1

Analysing the evolution of liquidity indicators during the analysis period, it is possible to verify that overall, there is an upward trend, however, while the Current, Quick, and Cash ratios present satisfactory values, Treasury data indicate that both sectors are below the financial balance. From 2019 to 2020 there is, in general, the same trend of improvement.

Moving on to the indicators of capital structure, both obtained a positive evolution from 2012, however, from 2019 to 2020 there is a disparity between the Equity Ratio and the Debt Structure, where the former registers a decrease in the percentage of Assets that are financed by Equity and the second indicates an increase in the proportion of long-term Liabilities.

Regarding the indicators of efficiency, from 2010 to 2019 the Asset Turnover and the ELCD had a constant evolution while the average annual cost and income per employee showed a slight increase. Comparing 2019 with 2020, there is a change in the evolution of all indicators, with the ELCD experiencing an increase and the rest declining.

In the profitability indicators analysed, a slight improvement was recorded from 2012 to 2018, and from 2019 to 2020 there was a very significant drop in all indicators, from a positive to a negative value in all ratios, except the Gross Margin.

As for the risk indicators, while the SM recorded a slight increase from 2012 to 2018, the DFL obtained constant values close to 1. Looking at the evolution from 2019 to 2020, there is a discrepancy between the indicators, with SM registering a substantial reduction in both sectors and the DFL achieving a moderate rise for samples and a slight decrease in the sectorial averages.

Analysing the evolution of EVA®, there is an alternation between value creation and destruction of value over the years in both sectors, and in 2020 it maintained a downward trend, except for the average company in the Accommodation sector which obtained a slight increase.

Regarding the VAB, this indicator has already achieved a more stable evolution, with a slight reduction from 2010 to 2012 followed by a continuous increase until 2019 in both sectors. In 2020, however, there is a significant drop.

Question 2

Through the analysis of the three bankruptcy forecast models, it is verified that the average company in the Accommodation sector did not register any change from 2019 to 2020, obtaining in the two years the classification of bankrupt. About the sample of this sector, there are some differences between the results obtained, where the Lizarraga model shows a decrease of two bankrupt companies from 2019 to 2020 and the other models show a slight increase in the percentage of bankrupt companies in the same period.

For the Restaurant and Similar sector, in the sector average, there is a change from 2019 to 2020, moving from a general classification of not bankrupt to bankrupt. In the sample referring to this sector, there is the same trend, with an increase in the percentage of bankrupt companies in the three models used, with the main emphasis on the Lizarraga model that classifies 24 of the 40 companies as bankrupt in 2020, 14 more than in the previous year.

Thus, considering the results obtained through the bankruptcy forecast models, it is possible to

conclude that there was a drop in the assumption of continuity in the companies belonging to the sectors under study and that there is a greater increase in the Restaurant and Similar sector when compared to the Accommodation sector.

Question 3

Although the bankruptcy forecast models indicate that companies in the Restaurant and Similar sector had a greater impact on the pandemic, when the economic and financial indicators used in the context of this dissertation are analysed, some indicate that the Accommodation sector has endured a greater impact of the pandemic and others suggests that the conclusion to be withdrawn is the opposite. In addition, in most indicators, there is no significant disparity between the results achieved by each of the sectors.

Thus, despite the different operational exposure of both sectors to the pandemic, it is not possible to affirm that the impact of Covid-19 was higher for companies in one sector compared to companies in the other sector.

5.2. General conclusions

Through the analysis of traditional economic and financial indicators, it is possible to conclude that from 2012 to 2019 there is, in most indicators, a favorable evolution, suggesting that both sectors would be recovering from the financial crisis that was felt in 2011. From 2019 to 2020 there is a change in this evolution, with several indicators achieving a substantial decline.

Analysing the results obtained through the predictive models of bankruptcy, it´s observed the same trend that is obtained with economic and financial indicators, that is, an increase in the percentage of companies that are classified as bankrupt in 2020 when compared to 2019. Considering the rating that is assigned according to the classification used by Standard & Poors and the score obtained through the Altman model, it is possible to observe that both sectors obtained a worse rating in 2020 when compared to 2019, thus indicating a higher risk of default.

Therefore, given the results and analyses carried out in the context of this dissertation, we can conclude that the Covid-19 pandemic provoke a drop in the assumption of continuity and had a negative impact on the financial situation of companies belonging to the sector in analysis.

5.3. Future prospects

In future lines of investigation, it would be relevant to carry out an analysis that included years after 2020 to ascertain whether the downward trend observed in this dissertation has continued or if there is already a recovery in the Accommodation, Restaurants, and Similar sector in 2021.

The application of this study to other countries would also serve as a complement to the analysis performed, allowing a comparison between the results obtained and thus concluding whether the impact felt by companies in this sector in Portugal is higher or lower that the ones recorded in other countries.

Finally, to complement this study and to obtain more evidence on the conclusions drawn, it would be appropriate to perform an analysis using the various economic and financial indicators and predictive models of bankruptcy that were not addressed in this dissertation.

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