



UNIVERSIDADE CATÓLICA PORTUGUESA

# Impact of European Structural Funds used on competitiveness and financing of Portuguese Small-Medium Enterprises

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Católica Porto Business School  
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# Impact of European Structural Funds used on competitiveness and financing of Portuguese Small-Medium Enterprises

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by

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# Resumo

O objetivo deste artigo é analisar empiricamente o impacto dos Fundos Estruturais Europeus utilizados no financiamento e competitividade das pequenas e médias empresas portuguesas. Algum estudo empírico foi já efetuado relativamente ao impacto dos Fundos Estruturais Europeus em vários países europeus, especialmente em termos macroeconómicos, mas a análise centrada no impacto microeconómico nas pequenas e médias empresas tem sido aparentemente menosprezada. Este artigo procura preencher, particularmente para o caso de Portugal, focando-se nas pequenas e médias empresas elegíveis para Portugal 2020. Utilizando uma metodologia de dados em painel e considerando uma amostra não equilibrada de 228 empresas elegíveis para Portugal 2020 no período 2015-2019, os resultados indicam que as pequenas e médias empresas financiadas pelos Fundos Estruturais Europeus, neste caso o Portugal 2020, tendem a apresentar um desempenho superior em certos parâmetros e, conseqüentemente, estes fundos aparentam ser uma opção de financiamento que as empresas com projetos elegíveis deverão ativamente considerar. Assim, os resultados deste trabalho contribuem para esclarecer o impacto positivo dos Fundos Estruturais da União Europeia na competitividade das pequenas e médias empresas, o que é uma questão relevante não apenas para os gestores, mas para a própria sociedade em geral.

**Palavras-chave:** consultoria; estrutura de capital; fundos estruturais; dificuldade de financiamento das pequenas-médias empresas; pequenas-médias empresas; Portugal 2020





# Abstract

The objective of this paper is to empirically determine the impacts of European Structural Funds used on the competitiveness and financing of Portuguese Small-Medium Enterprises. Some empirical studies have already been carried out regarding the impact of European Structural Funds in several European countries, especially in macroeconomic terms, but the analysis focused on the microeconomic impact of Small and Medium-sized companies has been less studied. This paper fills that gap, particularly in the case of Portugal, focusing on eligible Small-Medium Enterprises for Portugal 2020. Using a panel data period methodology and considering an unbalanced sample of 228 eligible firms for Portugal 2020 for the period 2015-2019, the results indicate that Small-Medium Enterprises financed by European Structural Funds tend to present a better performance in certain parameters and, consequently, these funds seem reasonable financing option for companies eligible for Portugal 2020. This paper gives a contribution to clarify which are the impact of European Union Structural Funds on Small-Medium Enterprises competitiveness, which is an important issue not only for managers but for all the stakeholders.

**Keywords:** consultancy; capital structure; financing difficulties for Small-Medium enterprises; Small-Medium enterprises; structural funds; Portugal 2020





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# List of Abbreviations

<b>CEA</b>	Classification of Economic Activities
<b>CF</b>	Cohesion Fund
<b>CSF</b>	Community Support Framework
<b>EAFFO</b>	European Agriculture Guidance and Guarantee Fund
<b>ESF</b>	European Social Fund
<b>ERDF</b>	European Regional Development Fund
<b>EU</b>	European Union
<b>EIF</b>	European Investment Fund
<b>GDP</b>	Gross Domestic Product
<b>HR</b>	Human Resources
<b>IRC</b>	Corporate Income Tax
<b>IT</b>	Information Technology
<b>OP</b>	Operational Programs
<b>PA</b>	Partnership Agreement
<b>PDR</b>	Regional Development Plan
<b>PRR</b>	Recovery and Resilience Plan
<b>PNDES</b>	National Plan for Economic and Social Development
<b>ROA</b>	Return on Assets
<b>ROE</b>	Return on Equity
<b>R&amp;D</b>	Research and Development
<b>SME</b>	Small-Medium Enterprises



# Introduction

The present work constitutes the internship report, at FI-Group Portugal, carried out in the context of the master's in finance at the Portuguese Catholic University of Porto. The internship lasted six months in the Technical Department.

The paper aimed to describe organizational experienced and to carry out a reflective observation of the impact of the European Structural Funds on the financing of Portuguese Small and Medium enterprises.

The objective of the internship is the possibility of acquiring practical knowledge inherent to financial consultancy, execution of financial and valuation knowledge, essentially in raising funds (e.g., Portugal 2020), deepening the theoretical knowledge already acquired during the master's in finance.

In Portugal, more than 90% of Portuguese companies corresponded to Small-Medium Enterprises (INE, 2022), in which one of the main difficulties for them is to obtain financing and set effective management of their resources (R. Castellanos, 2001), influencing their financial structure.

The one of main alternative funding sources provided is the integration of criteria from the European Structural Funds to motivate their competitiveness and minimize the funding gap. A part of that policy is the financing of Small and Medium-sized enterprises from the structural funds for purposes of their impact on economic development (V. Sergej, 2016). In this way, companies apply for these funds to have access to new opportunities.

First, the report will seek to analyze the intern and external environment of the company, finding key factors and decisions that impact it and the FI-Group itself. Additionally, it will address an overview of the exercises performed during the internship in accordance with the established objectives.

An attempt will be made to understand the impact of these services provided by the FI-Group, the capture of support on the financing of small and medium-sized enterprises. To this end, the report will analyze the results of a sample with projects financed by European Structural Funds, more specifically Portugal 2020, between 2016 and 2018, with the results before and after the implementation of the project itself and with a benchmark.

Finally, this report concludes with the systematization of the main empirical evidence, as well as the limitations and difficulties encountered during this study.



# Chapter 1: The Internship in FI-Group

## 1. The FI-Group

The FI-Group is a multinational with more than 20 years in the market, present in more than 10 countries, it is a reference in innovation management and in raising funding for Research & Development (R&D) projects. Its business aims to help its customers, from small to large companies that are a reference in the most diverse areas of activity, to develop their innovative ideas by obtaining national and international tax incentives or subsidies.



**Figure 1: The presence of the FI-Group around the world**

The team counts on the dedication of more than 1200 professionals spread over 12 countries through 40 international offices (Figure 1). With the group's



headquarters in Spain, the FI-Group has grown continuously over the last year. Developing international activity first in France and then in Portugal. Through the experience gained in Europe, it reinforced its international presence by providing services in Belgium, United Kingdom, Canada, United States, Brazil, Chile, Italy, Colombia, and Japan. In Portugal, it has settled two offices in the cities of Lisbon and Porto, with more than 80 employees.

The FI-Group is committed to Research+Development+Innovation as the key to changing the present and improving the future of society, allowing to participate in research, development, and innovation of our country in all sectors.

The company stands out in the Portuguese market because it is part of the COTEC Innovation Network<sup>1</sup>, the main Portuguese business association for the promotion of business technological innovation and cooperation. It is also the only company in Portugal with authorization to publish the Frascati Manual<sup>2</sup> that brings together different methodologies to economically evaluate and promote R&D.

Additionally, the company is guided by its friendliness, professionalism, and honesty. The entire team is made up of people who constantly strive to improve professionally and personally, with enthusiasm and passion.

## 2. The FI-Group's structure

The FI-Group, founded by Xavier Cazabon and Frédéric Bouté, in 2000, in Spain, is present in several countries, as such has a more complex organizational structure.

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<sup>1</sup> The Small-Medium Enterprise Innovation Network COTEC's mission is to contribute to collaboration between innovative companies operating in different sectors of activity, through a set of different instruments made available by COTEC.

<sup>2</sup> The Frascati Manual is considered the bible of innovation, a document published by Organization for Economic Cooperation and Development.

## 2.1. The FI-Group's Portugal Structure

In Portugal, the company's image has changed over time, starting as F-Iniciativas. Currently, it is called FI-Group Portugal and with a new image (Figure 2).



Figure 2: The current image of FI-Group

In terms of FI-Group's Portugal structure, the firm has the following (Figure 3):

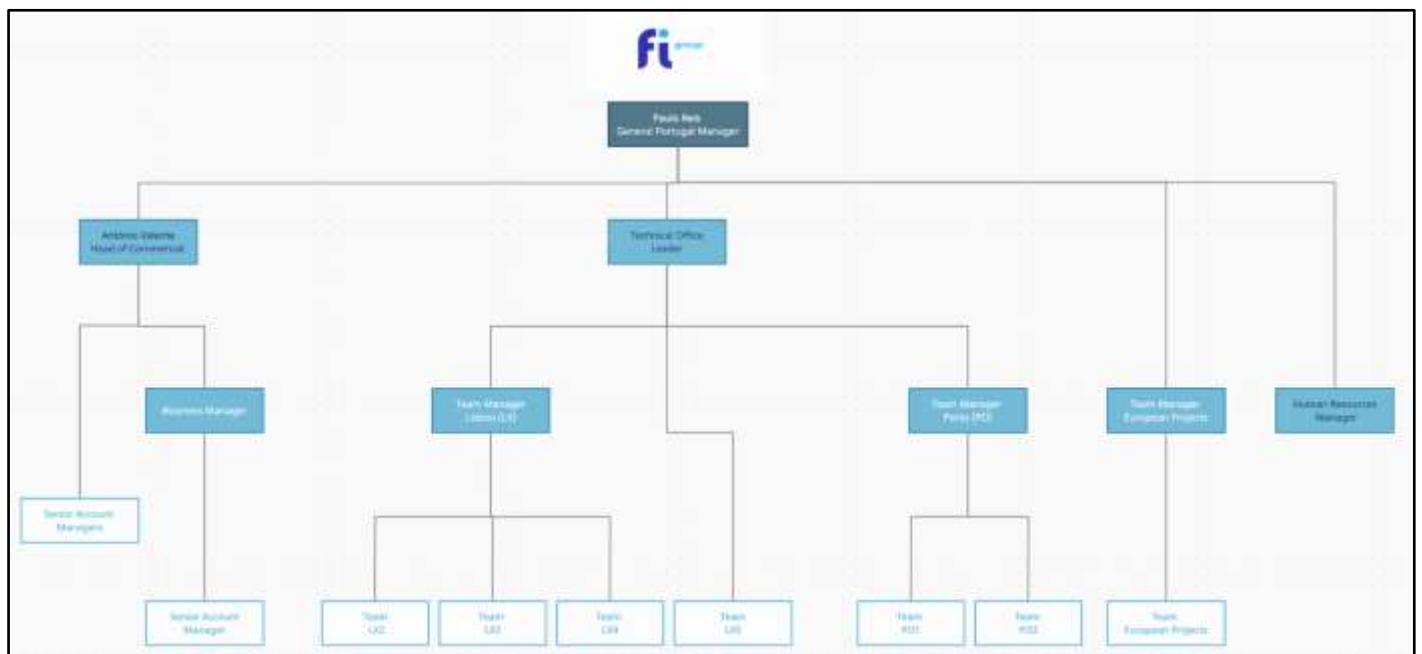


Figure 3: The FI-Group's Portugal Structure

The company has two offices in Portugal, one in the city of Lisbon and the other in Porto. Lisbon is considered the headquarters of Portugal, where the Financial, Administrative, IT, and HR departments that rule Lisbon and Porto, are present. And both offices have commercial and technical departments.

The Commercial Department is responsible for coordinating the company's services sales activities. From this point, the first contact with the client is established, the services to be provided, and the provision of the contract is foreseen.

The Technical Department is responsible for the FI-Group core business, the consulting service. This department is divided into teams and composed by two components: the technical and financial components. The technical side, made up by engineers mainly, seeks to streamline, articulate and, develop solutions and technical reports of projects by customers from the most varied areas (e.g., Information Technology (IT), electronics, chemistry). On the other hand, the other component carries out the monitoring and consultancy of the financial part of the project, since feasibility, justification, analysis, and expenses of the project. Therefore, the FI-Group provides a complete range of services to its customers. Currently, the company has seven teams, divided by areas and expertise, four teams in Lisbon (LX2, LX3, LX4, and LX5), two in Porto (PO1 and PO2), and yet another for European Projects (Figure 3).

The HR department is responsible for the FI-Group's human resources, going through internal evaluations, recruiting new employees, training, carrying out interactive activities, etc.

### 3. The Services of FI-Group in Portugal

The services provide by FI-Group essentially involve three dimensions: Business Intelligence, Tax Management, and Grants Management.

The Business Intelligence service consists of monitoring, advising, and helping in the management of intangible assets' internal development processes<sup>3</sup>. The FI-Group ranges from the recognition of innovation and uncertainty activities, listed in the Frascati manual, to the management of its expenses and tax benefits that may arise from it.

The FI-Group is also intended for Tax Management, essentially based on tax benefits, and seeks to assist in project eligibility, calculation of incentives, and report writing. The tax benefits that the company works with essential support for job creation<sup>4</sup>, deduction from the Corporate Income Tax (IRC) collection from retained earnings<sup>5</sup>, investment in assets allocated to exploration<sup>6</sup> and non-current assets (tangible and intangible)<sup>7</sup>, R&D expenses<sup>8</sup> and process of recognition of aptitude acquired through practice<sup>9</sup>.

Finally, the group of services offered by Grant Management involves the application, management, monitoring, and closing of projects. These projects are essentially aimed at the application of government and European funds to invest in companies if they are eligible (e.g., Recovery and Resilience Plan (PRR) and Portugal 2020).

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<sup>3</sup> The R&D expenses can be considered as a tax expense in the tax period in which they are incurred.

<sup>4</sup> The "*Criação Líquida de Emprego*" is a fiscal instrument supporting the job creation.

<sup>5</sup> The "*Dedução por Lucros Retidos e Reinvestidos*" is an incentive for SME that allows the deduction from the IRC collection of retained earnings that are reinvested.

<sup>6</sup> The "*Crédito Fiscal Extraordinário de Investimento*" is an incentive that allows a deduction from the IRC collection of 20% of charges for investing in assets allocated to exploration.

<sup>7</sup> The "*Regime Fiscal de Apoio ao Investimento*" is a tax benefit, which allows companies to deduct part of the investment made in non-current assets from the tax collected.

<sup>8</sup> The "*SIFIDE II*" aims to support R&D activities related to the creation or improvement of a product and, process, which substantial improvement.

<sup>9</sup> The recognition of "*Processo de Idoneidade*" consists of the recognition of R&D activities in certain areas of activity, allowing the entity to stand out from its competitors, including access to R&D support funds.

## 4. The FI-Group's External Environment

### 4.1. Characterization of CEA 70220<sup>10</sup>

The FI-Group is present in Classification of Economic Activities (CEA) 70220, called for other consulting activities for business and management. This CEA comprises consultancy, guidance and operational assistance to companies or bodies.

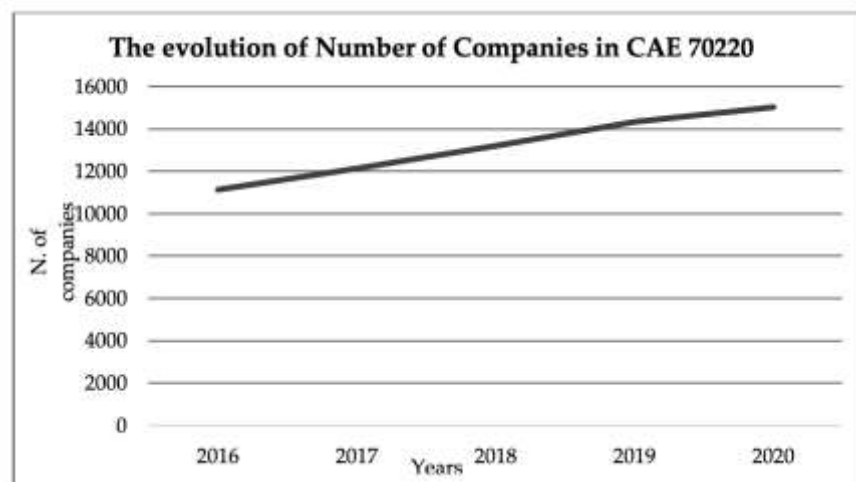


Figure 4: The evolution of number of companies in CEA 70220 between 2016 and 2020

The age and Sales by age from CEA 70220 companies		
	Age of CEA 70220 companies 2020	Sales by Age of CEA companies 2020
<5 years	52,73%	30,94%
6-10 years	20,03%	16,17%
11-20 years	19,00%	25,15%
>20 years	8,24%	27,74%

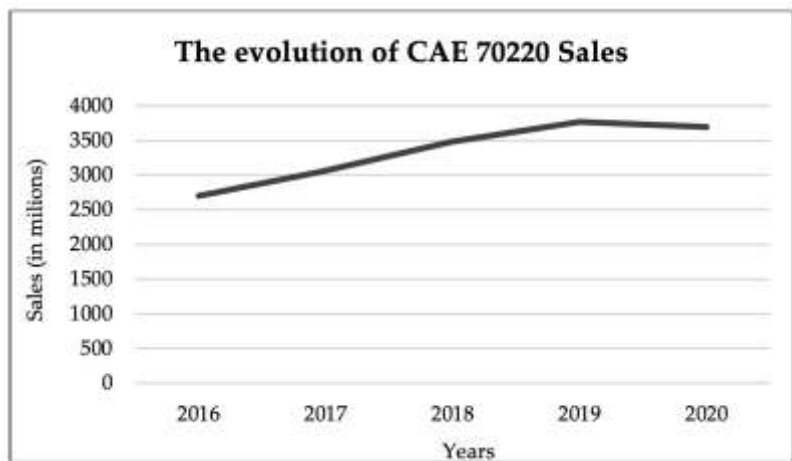
Table 1: The age and Sales by age of CEA 70220 companies in 2016 and 2020

<sup>10</sup> The data used in this section is sourced from the Bank of Portugal.

The size of CEA 702220 companies in 2020	
Micro-enterprises	96,33%
Small enterprises	2,93%
Medium enterprises	0,57%
Large enterprises	0,25%

**Table 2: The size of CEA 70220 companies in 2020**

The CEA 70220 is characterized by a sector in continuous growth, since 2016 (Figure 4), in which it is predominantly based on relatively recent micro-enterprises, in which they are increasingly gaining market share (Tables 1 and 2).



**Figure 5: The evolution of CEA 70220 sales between 2016 and 2020**

There is an increasing trend in sales, except 2020, but it is reasonable to consider the atypical year 2020 to analyze, due to the Covid-19 crisis (Figure 5).

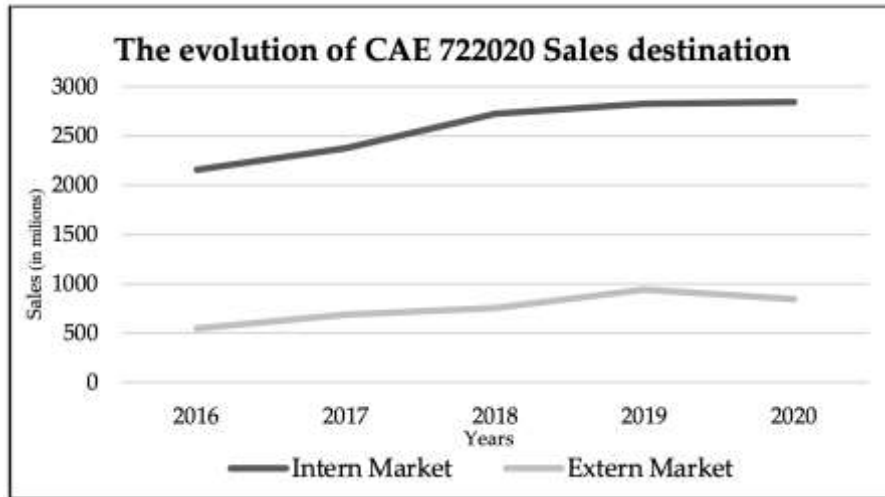


Figure 6: The evolution of CEA 70220 sales destination between 2016 and 2020

The domestic market has a very relevant weight for CEA companies, despite the values of the foreign market having a slight tendency to grow (Figure 6).

## 4.2. The SWOT Analysis

The following table (Table 3) briefly explains the opportunities and threats as well as the strengths and weaknesses that affect FI-Group Portugal.

STRENGTHS	WEAKNESS
<ul style="list-style-type: none"> <li>• Effectiveness of the projects presented (success rate around 100% for tax benefits and 60% for financial incentives).</li> <li>• Regarded as one of the best places to work and has won several awards<sup>11</sup>.</li> <li>• Extensive geographical reach with a presence in over 10 countries.</li> <li>• Strong organizational culture and environment.</li> <li>• Coworking space allows the stimulation of creativity.</li> <li>• Corporate social responsibility policies.</li> <li>• High productivity level.</li> <li>• Specialized, motivated, and participatory human resources.</li> </ul>	<ul style="list-style-type: none"> <li>• The consulting sector is very a saturated market, in which the Big 4 have a very relevant weight in the market share.</li> <li>• The activity of the FI-Group is very dependent on legal notices issued and public entities such as (e.g., ANI, Management Authority, IAPMEI).</li> <li>• Shifting trend in the number of workers (SABI, 2022).</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>• Increase of startups in the sector and their power in the market.</li> <li>• Benefits of increasingly accepted consulting services.</li> <li>• Introduction of the PRR<sup>12</sup> funds and Portugal 2030.</li> <li>• Introduction of the first platform in Portugal capable of manage R&amp;D projects in 2022<sup>13</sup>.</li> </ul>	<ul style="list-style-type: none"> <li>• Recession resulting from the ongoing Euro crisis can affect the business.</li> <li>• Fluctuating global economy &amp; financial recessions can affect operations.</li> <li>• Lack of credibility attributed to small companies in the sector.</li> <li>• Strength of the “Do it yourself” movement.</li> <li>• Very high bargaining power of customers.</li> </ul>

**Table 3: The FI-Group Portugal SWOT Analysis**

<sup>11</sup> The FI-Group was awarded the 14<sup>th</sup> company for best SME to work for in 2021, given by EXAME.

<sup>12</sup> The Recovery and Resilience Plan (PRR) is a program, with an implementation period until 2026, which aims to restore sustained economic growth, after the pandemic, reinforcing the convergence objective.

<sup>13</sup> The FI-Group launched, in 2022, R&D Platform Portugal. It is a pioneering tool in the market that results from the FI Group's commitment to innovation, associated with the tax incentive application, the real-time monitoring of the entire process and the digital generation that replaces the previous ones of physical incentives, normally to this system of tax documents.



### 4.3. The PESTEL Analysis

#### - Political Dimension

The consultancy sector, especially those specialized in incentives and fundraising, where the FI-Group operates, is very dependent on political forces, conditioned by European Union (EU) and Portuguese government policies.

There are five types of funds that operate in Portugal<sup>14</sup> and they are managed by EU countries through Partnership Agreements (PA)<sup>15</sup>. Therefore, if the pillars of the funds and the very form of the government's approach change, companies in the sector must constantly adapt to the “*Avisos*” and objectives issued (Portugal 2020).

The current situation is favorable for the application of the funds since the PRR program was introduced in 2021, a set of measures and reforms to ensure an exit from the pandemic crisis and guarantee a resilient future for Portugal. Additionally, at the end of 2022, the Portugal 2030 program will take place, where new funds, incentives, and measures can be applied within Portugal. Despite the political instability that took place in November 2021, when the state budget failed, it caused the application of the Portugal 2030 program to be postponed. However, currently, the State Agreement for the program has already been vetoed and Portugal is prepared to apply these incentives.

On the other hand, R&D incentives have been growing (e.g., SIFIDE), both on the demand side for this type of incentives and on the allocation side for the investments of these projects (ANI, 2021).

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<sup>14</sup> European Funds aim at balanced development between EU regions, investment in employment and human capital, rural and agricultural potential, fishing activities, and coastal areas.

<sup>15</sup> The PA defines the strategy and investment priorities, aiming to Europe 2020 strategy for interventions from the Structural and Investment Funds. Each country draws up an agreement, in collaboration with the European Commission, that sets out how the funds will be used during the current funding period.

- Economic Dimension

The Portuguese economy is affected and is still experiencing the impact of the Covid-19 crisis. Many consulting clients, and even the consulting companies themselves, had moments of suspension of activities, greatly impacting business activities (Bank of Portugal, 2022).

On the other hand, due to economic weakness and the increasing measures and demand for mechanisms to combat the impact. These incentive measures allow companies to seek financing for their projects, impacting the company micro-economically, in terms of the company's capital structure and to present the necessary investments to sustain and grow the companies. In this way, there is a growing demand for financing and raising capital (Government of Portugal, 2021).

From the consumer point of view in the sector, whether individuals or organizations, they are increasingly demanding, looking for differentiated products and services, with unique characteristics. Quality and efficiency are increasingly sought after at the expense of low prices, especially in specialized services (Sharma & Patterson, 1999).

- Social Dimension

Consultancies are increasing their position in the role of companies; their services are increasingly well regarded. Currently, it is considered an important part of modern organizations. It notes that research on management consultancy is an interdisciplinary effort and can help identify some crucial issues that have surrounded social science for the past half-decade (Kipping & Clark, 2012).

- Environment Dimension

Consumer demand has been increasingly demanding, in which the growing demand for eco-friendly companies stands out. And, as such, companies must keep up, thus providing a growing environmental awareness (Perron et al., 2006).

Regarding the activity of the companies, there are more incentives for projects implementation for companies going green (e.g., incentives for the decarbonization of industries).

- Technology Dimension

In the consultancy sector, there is a more demanding demand in terms of innovation and technology (IT) (e.g., digitalization, industry 3.0). These mechanisms bring down walls and the chain becomes a completely integrated ecosystem that is fully transparent to all the players involved (Schrauf and Berttram, 2017). However, this growth was forced and developed with the Covid-19 crisis, where many companies went into remote work, and to respond to the work, these mechanisms were also implemented in many companies.

Additionally, in Portugal, there is a growth of IT companies (INE, 2022), therefore the consultancy sector needs to innovate to captivate IT companies and to understand and provide the best solutions for those companies.

- Legal

The measures and incentives for the implementation and eligibility of projects are transmitted in terms of laws or decrees of law. In this way, the legal dimension has a direct impact on how these are drafted, and the measures taken for all legal incentives and regulations.

## 5. The activities performed and objectives of the professional internship

The curricular internship at the FI-Group took place at the PO1 technical team in Porto, from September 2021 to March 2022<sup>16</sup>. The described objective of the internship comprised activities related to support for consulting activities on tax benefits and financial incentives.

The internship areas were essentially divided into four areas: acquisition of knowledge and training, Portugal 2020 funds, SIFIDE tax benefits, and administrative functions.

At an early stage of the internship, training was carried out essentially at the FI-University, recordings of old and relevant training courses. This phase was essential to be able to prepare future tasks with the necessary background and knowledge. However, it should be noted that the training period took place during the entire 6 months of the internship, the FI-Group constantly invests in the knowledge of its employees.

Regarding the areas of Portugal 2020, the internship went through the different notices and project typologies, from qualification<sup>17</sup>, internalization<sup>18</sup>, TR&D<sup>19</sup>, and SI2E<sup>20</sup> projects. Within this area, the internship aimed at consulting branches; monitoring projects, preparing payment requests, organizing proof of expenses, filling in forms and expenses samples of the project; and in a final phase, the preparation of the end of the investment to the end of the project.

In the area of tax benefits, the only benefit that was highlighted during the internship was “*SIFIDE II*”. The internship consisted of the elaboration of mission opening tools for the following year's campaign, started at the end of 2021, from information about customers and financial information. Additionally, there were

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<sup>16</sup> Consult Appendix I – Internship Agreement.

<sup>17</sup> Qualification projects aim to strengthen the business capacity of SME through organizational innovation, applying new organizational methods and processes and increasing flexibility.

<sup>18</sup> Internationalization Projects is presented as a means of strengthening the competitiveness and exports of Portuguese companies, identifying business opportunities in international markets through a structured plan.

<sup>19</sup> The research and technological development (TR&D) projects aim to strengthen their competitiveness and international insertion by carrying out industrial research and experimental development activities.

<sup>20</sup> The SI2E - Entrepreneurship and Employment Incentive System was launched with the main objective of promoting SME entrepreneurship and job creation.

also consultation tasks for National Information Agency areas to analyze final decisions for 2020 and submission of applications to SIFIDE 2020.

Finally, there was also an administrative dimension, which consisted of organizing and sending physical and digital dossiers to the customers, filling in the companies' histories in the FI-Group's R&D Platform and collecting documents.

Regarding the organization of the team, there were weekly meetings to outline what had to be done and the objectives of each employee for that week; and a monthly meeting with the Oporto Manager to see the status and evolution of the projects during the previous month.

# Chapter 2: Literature Review

## 1. The European Structural Funds allocated to Portugal

The European Structural and Investment Funds are the main instrument of the EU to promote convergence, economic growth and reduce imbalances between members.

The European Operational Programs (OP) support Portugal throughout tools whose ultimate objective is to promote the country's economic, social, and territorial development, with a focus on creating added value, whether through the creation of tradable and non-rationalizable goods and services, job creation, promotion of developing sustainable, among other factors. These goals are designed and aligned between the priorities defined in the Europe 2020 Strategy<sup>21</sup> and Council recommendations to Portugal (European Commission, 2021).

### 1.1. The Historical European Structural Funds Allocated to Portugal

Over the last 20 years, the structural and cohesion funds have contributed as a privileged factor to the country's evolution, whose importance is measured by

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<sup>21</sup> The Europe 2020 Strategy priorities are Smart, Sustainable, and Inclusive Growth.

the direct and indirect impacts, which they had and will continue to have, on the development of the economy and the modernization of society (AD&C, 2021).

### 1.1.1. The Previous Regulation and Former Fund 1986-1988

The European Commission transferred to Portugal approximately 237 billion escudos, oriented for public infrastructure and studies projects<sup>22</sup>, training and employment<sup>23</sup>, and agricultural and fisheries area<sup>24</sup>.

### 1.1.2. The Community Support Frameworks (CSF)

The CSF was an instrument that regulated the application of community funds in each country, approved by the European Commission, in common agreement with a Member State. It describes the strategy and priorities for multiannual action of the European Structural Funds and the Member State, specific objectives, the financial participation of the Funds and the remaining financial resources to be mobilized. The instrument was divided into priority axes and implemented through various OPs (Cardoso & Machado, 2017).

Based on the general objective of increasing productivity, as a necessary condition for the recovery of Portugal's structural economic and social backwardness, three priority areas of intervention were defined for the Portuguese CSF: the enhancement of human potential, support for productive activity, and the structuring of the territory. The OPs of these priority areas were divided into four axes: Raising the level of qualification of the Portuguese, promoting employment and social cohesion; Changing the productive profile

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<sup>22</sup> The European Regional Development Fund (ERDF) provides funding to reduce economic, social, and territorial disparities. The Fund supports investments through dedicated national or regional programs oriented toward public infrastructure and studies projects.

<sup>23</sup> The European Social Fund (ESF) aims supporting the labor market, and ensuring fairer living standards for all EU citizens. It is doing this by investing in Europe's human capital – its workers, its young people, disadvantaged groups and all those seeking a job. Portugal is deploying ESF funding to improve the skills of its workforce and create more job opportunities for all citizens

<sup>24</sup> The European Agricultural Guidance and Guarantee Fund (EAGGF) was a fund within the overall European Union budget for the financing of the Common Agricultural Policy (CAP).

towards future activities; Affirming the value of the territory and the country's geo-economic position; Promoting the sustainable development of regions and national cohesion.

The first CSF-I took effect between 1989-1993, with an investment amount of 3.441 billion escudos. Professional training was by far the area with the higher endowment, followed by industry and services, transport and agriculture, and fisheries (AD&C, 2021). During the period of CSF-I, there was a gain of 10.5 percentage points in terms of convergence of GDP per capita<sup>25</sup> about the community average.

The CSF-II (1994-1999) main objectives were to draw closer to the EU and reduce internal regional asymmetries (AD&C, 2021). Therefore, in 1994, the Cohesion Fund (CF) was created which, was applicable to countries that had a GDP per capita less than 90% of the community average and who, as part of the Economic and Monetary Union, had to meet the criteria for membership (Portugal, Spain, Greece, and Ireland). The CF was an application and management fund at a national level and was aimed at environmental and transport infrastructures (CCDRC, 2021).

The CSF-III (2000-2006) enshrined a set of reforms to respond to the new challenges that the European Union would face in subsequent years, due to the accession of new countries. These reforms considered the integration of environmental aspects into sectoral policies, framing relevant investments for minimizing the environmental impact resulting from the different sectors of activity in the respective OP.

However, between 2007 and 2013, the CSF was replaced, in generating the application of the Structural Funds, by the document called the National Strategic Reference Framework. It constitutes the framework for the application of the community policy of economic and social cohesion in Portugal for the

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<sup>25</sup> In terms of convergence of GDP per capita in purchasing power parity.



period 2007-2013. This had a reduction in the number of intervening structural funds (ERDF, ESF, and CF) and there was also a reduction in priority objectives: convergence, employment, and regional competitiveness, and European territorial cooperation, compared to the previous community frameworks. It assumes as a great strategic purpose the qualification, valuing knowledge, science, technology, and innovation, as well as the promotion of high and sustained levels of economic and socio-cultural development and territorial qualification, within a framework of valuing equal opportunities and increasing the efficiency and quality of public institutions.

## 1.2. The Portugal 2020

The Portugal 2020 is the main European community support framework for Portugal (Figure 7). It corresponds to the PA adopted between Portugal and the European Commission, which establishes the programming principles and priorities for the economic, social, and territorial development policy in Portugal between 2014 and 2020 (Portugal 2020, 2021). The main concerns regarding Portugal 2020 are increasing the goods and services tradable productions, economy internalization, investing in education<sup>26</sup>, reducing the population at risk poverty, promoting the territorial cohesion and competitiveness, contributing to modernization and institutional capacity of the Public Administration<sup>27</sup> (FI-Group Portugal, 2020).

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<sup>26</sup> The education investment includes advanced training, measures, and initiatives aimed at employability.

<sup>27</sup> The support for the State reform program, ensuring that the funds can contribute to the rationalization, modernization, and institutional capacity of the Public Administration and to the reorganization of models for the provision of public goods and services.



Figure 7: The Portugal 2020 Image

Portugal is expected to receive 25 billion euros by 2020, for all the funds, which will be allocated within the scope of each of the sixteen OPs (Portugal 2020, 2021).



Figure 8: The Portugal 2020 Thematic Domain and goals  
Source: Portugal 2020, 2021

The application of EU funds for Portugal 2020 is carried out around four major thematic areas (coinciding with the OPs) and two transversal dimensions (public administration reform and territorialization of policies), contributing to the goals of the Europe 2020 Strategy: Competitiveness and internationalization

of the Portuguese economy<sup>28</sup>; Sustainability and efficiency in the use of resources<sup>29</sup>; Social Inclusion and employment; Human Capital Resources<sup>30</sup> (Figure 8).

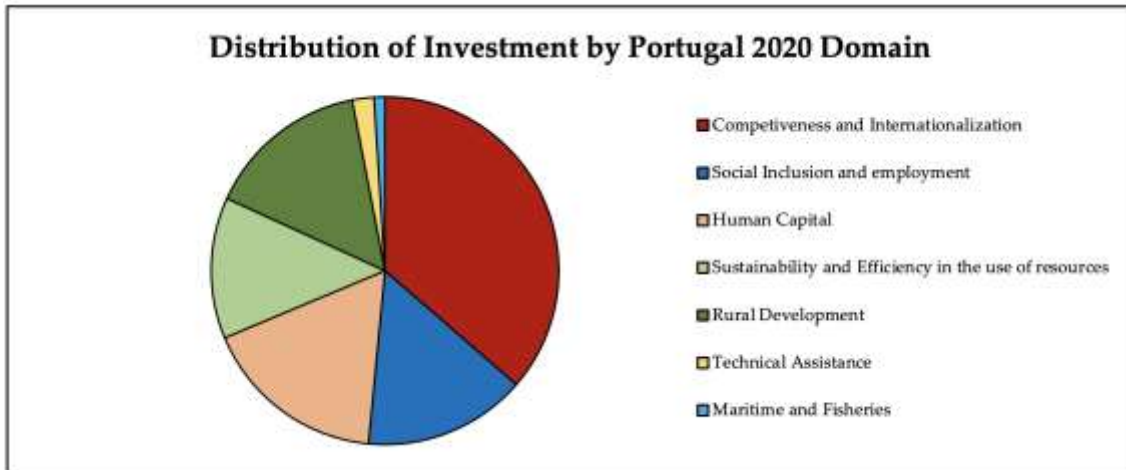


Figure 9: Distribution of investment by Portugal 2020 domain  
Source: AD&C, Portugal 2020, 2021

Competitiveness and Internalization	
Sub-area of investment	Sub-topic dotation Percentage
Small-Medium Enterprises	53%
Research and Development	31%
Transports	7%
Employment	3%
Public Administration	3%
Systems of Information and Technology	2%
Entrepreneurship	1%

Table 4: Dotation Percentage inside Competitive and Internalization investment area  
Source: Portugal 2020, 2021

<sup>28</sup> The “Competitiveness and internationalization” aims to improve the competitiveness of enterprises and their internationalization, creating jobs and generating growth, launching calls using public support incentives to improve the Portuguese economy and global situation.

<sup>29</sup> Sustainability and efficiency in the use of resources aims to support the transition to a low carbon economy, as well as promote adaptation to climate change and protect the environment.

<sup>30</sup> Human capital resources domain aims to support education, strengthen the qualifications of young people, and promote higher education and advanced training.

The thematic area of competitiveness and internationalization occupies the most relevant place with 32% of the funds (Figure 9). The largest amount of funds, this area aims to create wealth for the companies, improving the competitiveness of companies and their internationalization, as well as research, technological development, and innovation (European Commission, 2021). Within this thematic area, 53% of its funds are allocated to SME (Table 4).

This community support aims into two approaches to funding (Table 5):

Financial Instrument	
<p>The Loan Guarantee Facility</p>	<p>A debt instrument suggested by the European Investment Fund (EIF) which consists in offering free guarantees to financial institutions (guarantee funds, banks) which offer a range of financial products for SME. The risk is shared, resulting in an expansion in the range of products and services for the SME sector. For example, a bank will have the option of offering a product at a lower price and with a longer repayment period and less strict requirements regarding the collateral and private financial contribution;</p> <p>Counter-guarantees are also offered as part of this instrument. These depend on the EIF granting guarantees to guarantee funds, which, in turn, grant their own guarantees to those financial institutions which offer products to SME.</p>
<p>The Equity Facility for Growth</p>	<p>The EIF offers equity financing to venture capital funds or funds which proposes intermediate financing to developing SME. This mainly concerns elevated risk funds and provides co-investment instruments for business angels. It focuses on aiding research projects and investment activity.</p>

Table 5: Financial Instruments used to fund Portugal 2020 projects

## 1.2. The Portugal 2030

The Portugal 2030 is the next community support framework to be implemented after Portugal 2020. It materializes the PA to be established between Portugal and the European Commission, setting the main strategic objectives for the application, between 2021 and 2027, of the global amount of €24.182 million.

Its programs revolve around five strategic objectives of the European Union: a smarter, greener, more connected, more social, and closer to its citizens. The program is implemented through 12 programs: four with thematic scope

corresponding to demography, qualifications, and inclusion; Innovation and digital transition; Climate Action and Sustainability and Sea; five Regionals matching to NUTS II on the Mainland, two from the Autonomous Regions and one for Technical Assistance. To these are added the European Territorial Cooperation Programs (Portugal 2030, 2021) (Figure 10).



Figure 10: The Portugal 2030's current image

## 2. The Portuguese Enterprise Framework

### 2.1. The Portuguese Enterprise Demography

In recent years, the demography of Portuguese companies has remained stable, but the number of active companies has been growing continuously, in which SME play a relevant role in the Portuguese economy (Banco de Portugal, 2021).

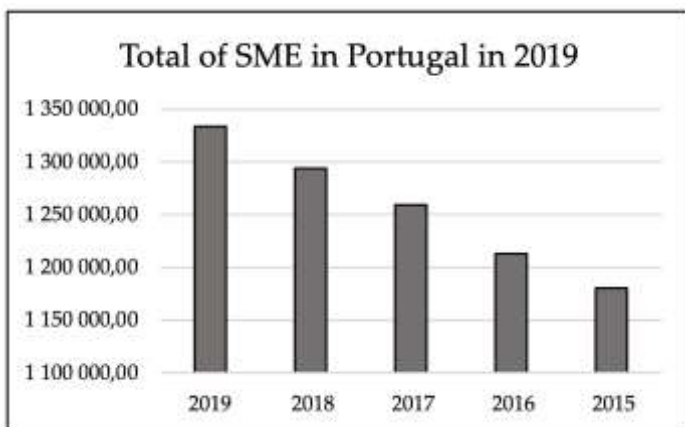


Figure 11: Total of Small-Medium Enterprises in Portugal in 2019

Source: INE, Pordata, 2021

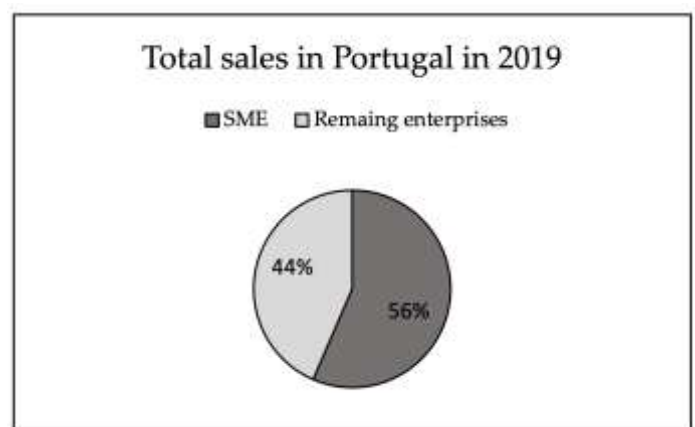


Figure 12: Total Sales in Portugal in 2019

Source: Pordata, 2021

In 2019, there were 1.318 million non-financial companies in Portugal, this number had increased around 20%, since 2013 (Pordata, 2021). This increase was justified mainly by the increasing number of micro-enterprises (Figure 12). The statistical analysis shows that both the number and role of SME in Portugal are growing, increasing the importance of minimizing the inherent issue of funding (Figure 11). The average size of companies created decreased between 2013 and 2017 (Banco de Portugal, 2021).

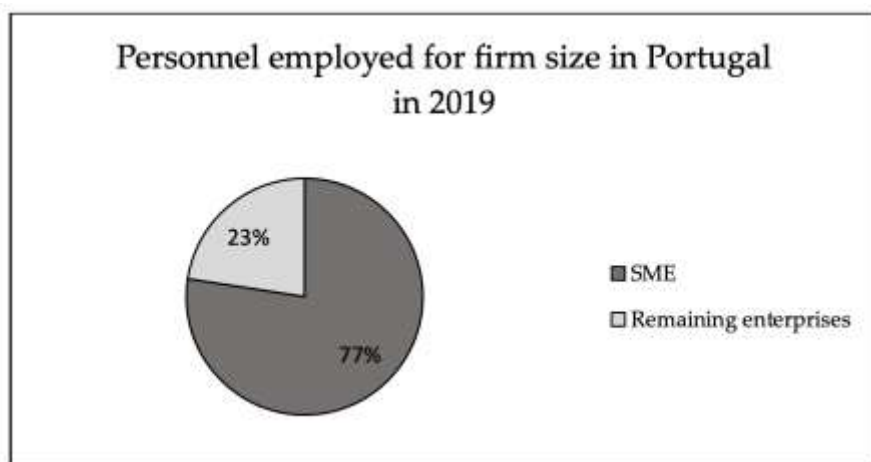


Figure 13: Personnel employed for firm size in Portugal in 2019  
Source: Pordata, 2021

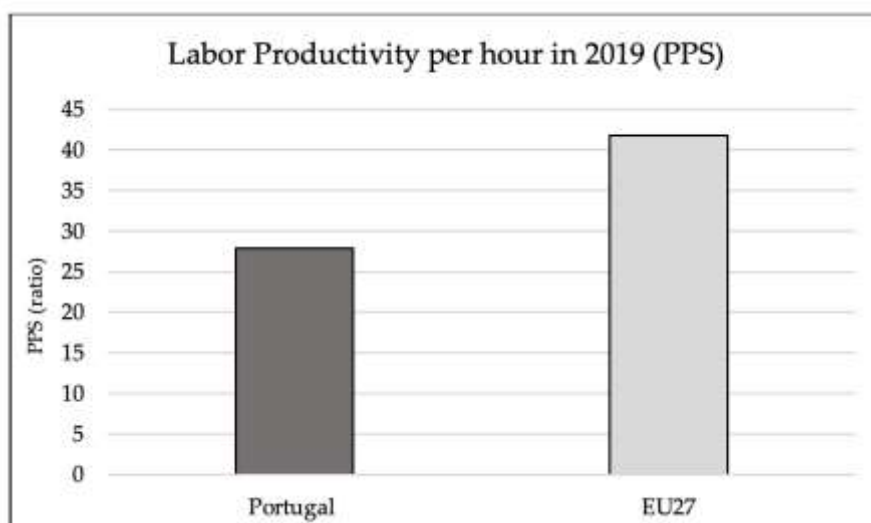


Figure 14: Labor Productivity per hour in 2019 (PPS)  
Source: Pordata, 2021

In Portugal, 99,90% of total Portuguese enterprises were considered Small-Medium Enterprises (SME) (Pordata, 2021), which represents around 77% of total employment in Portugal (Figure 13). Its role in the economy represented more than 50% of Portuguese total sales in 2019 (Figure 11), increasing its role in the economy. However, Portugal still had lower productivity compared to European Union in 2019, around a lower 33% of labor productivity per hour (Figure 14).

## 2.2. The Main Problems of Portuguese Companies

Portugal faced several important external and internal shocks in recent decades, thus the adoption of the euro, the accession of China to the World Trade Organization, the EU enlargement to Eastern countries, and, more recently, the financial and sovereign debt crisis highlighted the weaknesses of the Portuguese economy and questioned the ability of the country to grow. In this sense, the number of companies established in Portugal are continuously obligated to role this dynamism, adapting themselves through the adversities (Gabinete de Planeamento e Planeamento, 2021).

Due to this high dynamism, Portugal is continuously increasing its role in innovation around the world. According to the Global Innovation Index, Portugal is in a status of “in line with the level of development”, in 31st ranking place. This index highlights the high skill Portuguese human capital, good infrastructures, entrepreneur ideas, technology knowledge<sup>31</sup>, however, deplores the market sophistication, due to the lack of capital that companies have available to invest in its business, resulting in structural bases on the Portuguese economy (WIPO, 2021).

The Portuguese market censures firms by rationing them the credit available and conditions, affecting their corporate finance. During 2012 and 2015, 32% of

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<sup>31</sup> Portugal is on 25<sup>th</sup> ranking place in Human capital and Research criterion, 26<sup>th</sup> place in Infrastructure and Creative output, 3<sup>rd</sup> place in technology knowledge (WIPO, 2021).

Portuguese SME were affected by credit restrictions and did not get a loan even though their credit latent demand<sup>32</sup> was positive. Smaller firms are the most affected, but the estimates for the remaining dimension categories indicate that those were also considerably affected (Farinha & Félix, 2015). This insufficient access to external financing means that these types of companies are finding themselves through self-funding with limited resources (Lewandowska et al., 2015). One of the main problems for SME is obtaining financing and to set effective management of their resources (R. Castellanos, 2001), influencing their financial structure. The SME lack of capital for its investments and to extend business is a significant barrier to its improvement and development.

Therefore, the Portuguese economy faces a severe problem, once more than 99% of Portuguese non-financial firms are SME, which have a lack of capital available to fund themselves and set efficient resources to operate.

### 3. The implication of Lack of Capital on SME

The availability of finance has been highlighted as a major factor in the development, growth, and success of SME (Freel et al., 2012; Ou & Haynes, 2006). Inadequate access to capital to finance working capital and fixed assets, both in quantity and quality, is a huge contributor to a business's lack of success and ultimate failure. Lack of capital can result in not having enough to cover overhead expenses, funding expansion opportunities, or launching a new product to market (Ackah & Vuvor, 2010; Chittenden et al., 1996).

The effectiveness of financial management is reflected in the results of corporate financial activities as an objective measure of the effectiveness of asset

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<sup>32</sup> The credit latent demand is the demand for credit that the user cannot satisfy because do not enough condition to access.



use and the company's policies that generate maximum profits (Vu Thi & Phung, 2021).

### 3.1. The Capital Structure of SME

The Financial structure has proved to be a perennial puzzle in finance (Myers, 1984).

In the early days of the capital structure, it was argued that the resource of debt should be used because it was the cheapest resource, reducing the cost of capital (Modigliani & Miller, 1963).

The Trade-Off and Pecking Order Theories have often been placed in opposition, seeking to identify which of them offers the best explanation regarding capital structure decisions. The difficulty in accessing debt, because of asymmetric information problems is considered relevant in SME.

Besides these theories mentioned, there are other theories, such as Timing theory<sup>33</sup> but whose applicability to SME and the work in question are tenuous.

#### 3.1.1. The Trade-off Theory

The Trade-Off Theory claims that firms have an incentive to turn to debt as the generation of annual profits allows benefiting from the debt tax shields, a positive relationship is expected between the effective tax rate and debt (Fama & French, 2002; Masulis, 1980). On other hand, the theory states that as bankruptcy and agency costs are greater for firms with high expectations of growth opportunities, given that greater investment opportunities increase the possibility of agency problems, firms can be reluctant to use high amounts of debt so as not to increase their likelihood of bankruptcy, because the former have a great incentive to underinvest (Myers, 1977).

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<sup>33</sup> The Timing theory captures the capital structure that is the cumulative outcome of past attempts to time the equity markets.

Therefore, SME are subject to higher business risk, and a greater probability of bankruptcy, increasing their costs of credit, tending to reduce their level of debt (Serrasqueiro & Caetano, 2015).

### 3.1.2. The Pecking Order Theory

According to the Pecking Order Theory, firms may be financially constrained due to the information asymmetry<sup>34</sup>, and so firms adopt a hierarchy in selecting sources of finance. In the first place, firms use retained profits; if it is necessary to turn to external finance, also use debt with little or no risk, which usually corresponds to short-term debt; in last resource, firms will select external equity.

The more profitable is the firm, the greater is its capacity to accumulate retained profits, and so there is less needed to turn to external finance, meaning that negative relationship between profitability and debt, in accordance with the Pecking Order approach (Sogorb-Mira, 2005; Sogorb-Mira & Lopez-Gracia, 2005). However, companies with high growth opportunities must undertake major investment projects, which generate greater needs for finance. When internal finance is exhausted, firms prefer debt rather than external equity for funding growth opportunities, which are associated with a greater risk than do investment in assets in place (Shyam-Sunder & C. Myers, 1999).

On one hand, Pecking Order Theory predicts a negative relationship between profitability and the need for debt (Sogorb-Mira, 2005). On the other hand, this theory predicts a positive relationship between size and access to debt (Michaelas et al., 1999; MYERS, 1984), making it difficult for firms with lower profitability, which have a greater need for debt. Therefore, SME have lower access to debt due to lower level of transparency, but they need more debt to survive.

## 3.2. The Funding Gap

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<sup>34</sup> The information asymmetry between managers/owners and investors.

### 3.2.1. The Lack of Debt

Empirically, many small firms do not use any debt (Chittenden et al., 1996). SME are generally considered to be more sensitive to changes in financial conditions. External funds tend to be relatively more expensive to SME due to information asymmetric<sup>35</sup>, once providers of finance have less information about their creditworthiness (Kadapakkam et al., 1998; Myers, 1977). Moreover, the limited financial track records, also exists the issue of lack of adequate collateral, thus banks often decline credits to SME as they are not able to evaluate their creditworthiness or to assess risk of credits for such firms to be too high (Berger & Udell, 1990).

Thus, small firms, compared to large ones, tended to be more self-financing, had lower liquidity and leverage, and were seen as starting out using only owners' resources and retained profits (Bate, 1971; Wu et al., 2008), once that cash flows may be an important and sometimes unique source of funds for investment. This difference can create a financing gap for small firms in the economy, a situation where the firm can use a short-term resource (i.e., retained profits, short-term loans) but it is not big enough to be a long-term resource (Frost, 1954), affecting the firms' performance.

### 3.2.2. The Lack of Equity Capital

Europe's SME are heavily reliant on bank loans with limited access to other types of finance. Yet equity finance is often more suitable for startups and growth companies and is available from diverse sources, such as family and friends, business angels, crowdfunders, venture capitalists, and public markets (Ric, 2021). These investors may be wealthy individuals, private pension funds, investment companies, and others.

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<sup>35</sup> The SME are more vulnerable to asymmetric information problems and hence more likely to face a higher external finance premium (Fazzari et al., 1988).

The fostering of equity financing could overcome some funding constraints stemming from overreliance on banking. This is particularly relevant for young and small companies, given that these firms tend to be more difficult to value, and they have greater difficulty accessing capital markets than larger firms. A higher proportion of equity funding could help reduce companies' dependence on debt, making it imperative to find ways to deleverage and improve resilience. Additionally, it also attracts private investment, by encouraging the participation of retail and institutional investors (Allotti et al., 2021).

However, the strategy followed by the EU thus far has been less than effective. Compared to US start-ups with no financial history and companies looking to expand with negative forecasted cash flows, these have access to a wider and more diverse pool of equity investors who may finance their initial or expansion projects compared with just 9% in Europe. This phenomenon happens due to the higher US culture of the risk and the regulation approach (Ric, 2021).

Equity issuances remain of marginal importance for SME compared with other sources of funding, however, the EU SME have much less incentives to raise equity capital, due to the higher costs and the complexity of capital markets regulations are among the main reasons why SME are hesitant to seeking a resource to capital markets (Allotti et al., 2021).

This difference can intensify the financing gap between the small firms and the larges one, in the economy. The situation increases the problem of the lack of capital to invest, in once the biggest enterprises can capture investors to raise their equity capital, easily.

### 3.3. The Implication on firms' Performance

Firms depend on a variety of sources of financing, both internal and external for performance (Terungwa, 2012). Firm performance is constrained by internal factors (e.g., resources and strategic choices) and external factors (e.g., the

carrying capacity of the environment or competition) (Eniola & Entebang, 2015). One of the most common reasons for a firm failure is not having available an efficient source of capital, which can result in firm operating issues (Chittenden et al., 1996).

The lack of capital can negatively impact the business operations, not being able to have working capital efficiently due the lack of resources, affecting the firm's performance. This inefficient financial management and bad performance can discourage investors, which could be considered another source of capital. The scape of investors can lead to an opportunity cost of being resources available (Maher & Andersson, 2005). Therefore, it's a difficult cycle to break.

On the other hand, internal financial conditions are important determinants of firms' investments (Fazzari & Petersen, 1993; Lewellen & Lewellen, 2016). The lack of resources can make it difficult for the firm to grow, leading to the impossibility of investing to extrapolate and gain other markets, products, innovations, and differentiation (Chittenden et al., 1996). These factors are crucial to the existence of a company because they can be considered a competitive advantage in the business world, dictating if the firm is capable of surviving or not (Alvarez & Busenitz, 2001).

Empirically, there is a negative correlation between the lack of access to finance resources and a firm's decision to invest. This indicates that the firms have more financial constraints, have less incentive to invest in self-generation (Abdisa & Hawitibo, 2021). Consequently, some authors debate the positive relationship between investment and profitability (Pacheco, 2017), for instance, if the lack of capital negatively affects the investment, it will affect the firm's profitability.

Therefore, decisions on financial resources have a major impact on the operation of each company in every aspect of its business, so the search for the most convenient sources of financing for SME is an important part of their financial policy.

## 4. The influence of EU structural funds on SME in Portugal

### 4.1. The EU structural funds on SME

Financial instruments including loan guarantee programs<sup>36</sup> (p.e., Portugal 2020) have been successfully implemented in numerous countries (Boschi et al., 2014; Honohan, 2010). A decision about the choice of sources of finance belongs to crucial decisions. Various criteria that can be taken into consideration include a strategy for the development, the level of resource demand, the cost and the general conditions of obtaining capital, the level of indebtedness, local financial infrastructure, and the system of SME support and assistance able to promote entrepreneurship, increasing SME competitiveness, providing improved access to EU markets and increasing SME access to financing.

According to regional disparities theories, supporting SME, in an economy, could be considered one of the most effective pro-development factors. In this perspective, it is necessary to support business development in the regions, thus affecting the competitive position of SME, and increasing employment, the tax base of the regions, and regional development (Beck et al., 2005; Boldrin & Canova, 2001). This approach can be considered a basic platform for increasing production capacity on the one hand and contributing to addressing the problems of poverty and unemployment on the other (Mohammed Elhassan, 2019; Vandenberg, 2006).

The SME create and sustain jobs necessary for most of the population to work and earn the income needed to purchase goods and services (Vandenberg, 2006). Therefore, the promotion of entrepreneurship, research, innovation, vocational

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<sup>36</sup> A Loan Guarantee Program enables small businesses to obtain term loans or lines of credit to help them grow their businesses, providing a lender with the necessary security, in the form of a partial guarantee, for the lender to approve a loan or line of credit.

training, creation and development of SME have become the most important areas of public intervention in regional development (Klosters, 2014). In practice, this means that activities such as stimulating entrepreneurship, supporting the development of SME and the creation of a favorable investment climate should, at least theoretically, strengthen the growth of the region's competitiveness (Lewandowska et al., 2015). It includes wider access to finance for SME in the form of loans (Enright & Ffowes-Williams, 2000), mainly by the European Investment Bank and EIF. These activities are always aimed at stimulating the economic activity of the SME sector, thus contributing to employment growth, increasing its competitiveness, and resulting in the development of individual regions (European Commission, 2021).

One of the EU structural funds goals is to motivate SME competitiveness and minimize the funding gap to overcome this same problem. The policy is financing of SME from the Structural Funds for the purposes of their impact on the economic development of underdeveloped regions and to increase their competitiveness (V. Sergej, 2016). This assistance from the EU structural funds seems to corroborate the EU Cohesion Policy thesis, since, in general, there seems to be a positive link between the efficiency of the implementation of these funds and the more favorable socioeconomic conditions of the countries where the implementation of the programs is taking place, specifying the collection of funds for SME (Gouveia et al., 2021).

## 4.2. The influence of Portugal 2020 funds on Portuguese SME

The SME need assistance in financing their activity because they are more affected by an economic change in their activity and are of key importance in enhancing the entire economy of the EU (Gwizdała, 2018). Usually, internal cash flow is insufficient to finance their decisions (Mendes et al., 2014).

In Portugal, more than 5.6 billion euros, 19% of Portugal 2020 funds, were allocated to SME competitiveness and internationalization (Portugal 2020). The statistical analysis shows that both the number and role of SME in Portuguese economy are growing (Figures 12, 13, and 14), increasing the importance of minimizing inherent issue of funding.

Additionally, low productivity is an issue for Portuguese firms in all size classes. Portugal's productivity was less than 30% of the EU average (Figure 15). This phenomenon is partly explained by the fact that Portuguese companies tend to be run with relatively little capital. Their asset base is usually relatively small and their investment in expanding and modernizing their asset base is typically limited (European Commission, 2020).

The structural funds are considered an external source of resources able to finance and support Portuguese SME to minimize their inherent issues. The SME endowment is allocated to finance those firms to support their business, acquire new assets, innovate itself to achieve the best position in the market, or extrapolating to other markets.



# Chapter 3: Methodology

## 1. Research Question

This paper proposes to analyze the impact of the EU Structural Funds on Portuguese SME. The goal is to focus on the Financial Statement Analysis of the Portugal 2020 eligible firms to evaluate whether EU Structural funds have an impact on the performance of companies.

Financial statement analysis is an important and integral part of business analysis (Babalola & Abiola, 2013), through this approach, it is possible to measure relevant ratios related to firms' performance to capture some of the firms' dynamics.

Through this approach, certain variables will be evaluated to understand the implementation of this external capital on the performance of certain economic and financial dimensions of the firm.

First, the paper will assess the hypothesis whether of structural funds have a significant impact on the company's sales and growth. The sales account is the core business of the firm, and it is directly related to the firm's profit. The focus is to analyze whether the EU structural funds financing will increase the company's sales, assets to improve company's performance and the number of jobs created.

Another hypothesis that will be analyzed will be whether the EU Structural Funds have an impact on economic profitability. Under this hypothesis, the return on assets (ROA) of the selected companies will be measured, analyzing if the funds would influence their assets to generate profit and consequently the company's performance.

Next, the paper will check whether the EU Structural Funds have an impact on global profitability. For this, the return on equity (ROE) of the companies will be measured to assess whether they are efficient in using capital and generating profit for shareholders.

The fourth hypothesis aims to investigate whether the EU Structural Funds have an impact on the level of indebtedness and liquidity in the company. To accomplish this, we measure the weight of the company's borrowing and traditional liquidity ratios to scrutinize the influence of the implementation of projects financed by European funds.

## 2. Data

The objective is to analyze a sample<sup>37</sup> of Portuguese SME which are funded with EU Structural Funds, more specifically Portugal 2020. The list of companies and their data were selected under the principle of Portugal 2020 transparency fund. Throughout this selection, the remaining data was obtained from SABI, a financial database powered by Bureau van Dijk.

In preparing the data, firstly it was considered the criteria for companies that were eligible for SME projects, under the sub-area of investment of the Small-Medium Enterprises. Secondly, to obtain a robust sample, trying to minimize external impacts, it was considered eligible firms with a project starting in 2016

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<sup>37</sup> Consult the Appendix II - Decomposition of the Dissertation Sample.

and ending in 2018. These projects were considered until 2018 to avoid the bias from the Covid-19 crisis. Companies whose Sales were equal to 0 before and in 2015 were excluded.

Therefore, the data used in this study consists of an unbalanced panel data of 3.420 observations, corresponding to 228 firms, observed between 2015 to 2019. Although the eligible projects are from 2016 to 2018, the observations have a period from the year before, 2015, and the year after the project, 2019, to try to measure the implications that the projects financed by the structural funds have on the company.

### 3. Methodology

The methodology used in this paper will be based on the comparison of the panel data.

In the first instance, the comparison of individual companies before the project and after the project stage will be used, to evaluate the evolution of the indicators with the implementation of the structural funds in the project.

Then, in an aggregated value of the sample, the acquired results will be compared with the benchmark values.

#### 3.1. Benchmark

The benchmark used is a group of companies from CEAs 25<sup>38</sup>, 28<sup>39</sup>, 46<sup>40</sup>, and 62<sup>41</sup>, which are the most comprehensive CEAs in sample<sup>42</sup>. To be a reliable

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<sup>38</sup> Manufacture of metal products, except machinery and equipment.

<sup>39</sup> Manufacture of machinery and equipment.

<sup>40</sup> Wholesale (includes agents), except for motor vehicles and motorcycles.

<sup>41</sup> IT Consultancy and related activities.

<sup>42</sup> Consult the Appendix III - Decomposition of the Dissertation Sample used divided by CEA.

benchmark, it is composed of companies with access to structural funds and without structural to not be a biased benchmark<sup>43</sup>.

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<sup>43</sup> Consult the Appendix IV - Benchmark used in Dissertation.

## Chapter 4: Results

The following results rely on the data and methodology referred in the previous chapter. It is important to note that during the analysis of the data could exist external determinants that affect the value. Additionally, as mentioned previously, the SME are more exposed to external environment dependence, thus shocks affect them with a higher amplitude.

<b>Analysis of the ratio between project funds received and total project expenses</b>	
Mean	48%
Median	45%
Standard Deviation	9
Maximum	75%
Minimum	40%
*The statistics presented are computed across 228 firms from 2015 to 2019.	

**Table 6: Ratio between Project Funds Received and Total Project Expenses from Dissertation Sample**

The data was gathered by the funding of Portugal 2020 funding projects. Companies applied for EU Structural Funds (Portugal 2020) projects to be financed. However, this financially is not 100%, it depends on the projects and the open tenders. On average, the EU Structural Funds are 48% of overall project expenses, where the maximum percentage is 75% and the minimum is 40% of the Dissertation data (Table 6).

In terms of company evolution analysis, the number of Sales and Assets before and after the Structural Funds applied to the company project were compared, computing new variables: Sales and Assets Growth Rate.

<b>Analysis of the Sales Growth Rate</b>		
	<b>Dissertation Sample*</b>	<b>Benchmark</b>
Mean	306%	63%
Median	35%	31%
Standard Deviation	29,16%	2,61%
N. of companies that increased	192	-
Percentile 10%	-11%	-45%
Percentile 90%	189%	-130%
*The statistics presented are computed across 228 firms from 2015 to 2019.		

Table 7: The Sales Growth Rate from Dissertation sample and Benchmark performance

<b>Analysis of the Asset Growth Rate</b>		
	<b>Dissertation Sample*</b>	<b>Benchmark</b>
Mean	123%	101%
Median	40%	31%
Standard Deviation	2,61%	2,15%
N. of companies that increased	184	-
Percentile 10%	-10%	-15%
Percentile 90%	305%	-218%
*The statistics presented are computed across 228 firms from 2015 to 2019.		

Table 8: The Assets Growth Rate from Dissertation sample and Benchmark performance

According to the results, the mean firm of the dissertation sample had increased, on average, its sales and assets by 306% and 123% respectively, with the implementation of the project by using the structural funds. According to the sample data, 84% of the firms had increased its sales and 123% its assets. These firms had a better performance compared to the benchmark, the mean benchmark had increased by 63% its sales and 101% its assets, on average, during

the same period. It seems reasonable that the firms that had available structural funds were able to implement them to increase their company's performance, in terms of sales and assets (Tables 7 and 8).

<b>Analysis of Jobs Growth Rate Analysis</b>		
	<b>Dissertation Sample*</b>	<b>Benchmark</b>
Mean	68%	71%
Median	22%	40%
Standard Deviation	2,16%	0,86%
N. of companies that increased	178	-
Percentile 10%	-3%	2%
Percentile 90%	142%	200%
*The statistics presented are computed across 228 firms from 2015 to 2019.		

**Table 9: The Analysis of Jobs Growth Rate from Dissertation sample and Benchmark performance**

According to the Jobs Growth Rate Analysis, it can be concluded that the mean firm creates more than 68% jobs, on average, after the implementation of the project. Across all the 228 firms, 178 firms had created new jobs compared to the after-implementation project stage. Despite the results, these are lower than the benchmark considered (Table 9).

<b>Analysis of Economic Profitability<sup>44</sup></b>				
	<b>Dissertation Sample*</b>		<b>Benchmark</b>	
	Economic Profitability 2019	Economic Profitability Growth Rate	Economic Profitability 2019	Economic Profitability Growth Rate
Mean	5,84%	260%	6,05%	147%
Median	3,89%	3%	3,92%	14%
Standard Deviation	8,66%	15,78%	7,35%	4,08%
N. of companies that increased	-	119	-	-
Percentile 10%	-0,326%	-99%	0,44%	-86%
Percentile 90%	15,852%	452%	17,8%	615%

\*The statistics presented are computed across 228 firms from 2015 to 2019.

**Table 10: The Economic Profitability Growth Rate from Dissertation Sample and Benchmark Performance**

<b>Analysis of Global Profitability<sup>45</sup></b>				
	<b>Dissertation Sample*</b>		<b>Benchmark</b>	
	Global Profitability 2019	Global Profitability Growth Rate	Global Profitability 2019	Global Profitability Growth Rate
Mean	11,43%	761%	21,21%	150%
Median	10,39%	-1%	11,97%	20%
Standard Deviation	69,33%	93,45%	24,16%	3,31%
N. of companies that increased	-	114	-	-
Percentile 10%	0,33%	-95%	1,70%	-86%
Percentile 90%	35,31%	417%	59,42%	552%

\*The statistics presented are computed across 228 firms from 2015 to 2019.

**Table 11: The Financial Profitability Growth Rate from Dissertation Sample and Benchmark Performance**

Analyzing the economic and global profitability, the results suggest a higher fluctuation. The median firm had 3,89% and 10,39%, on average, of economic and

<sup>44</sup> The Economic profitability is portrayed through ROA indicator, a financial ratio that indicates how efficiently a company uses its assets to generate profit.

<sup>45</sup> The Global Profitability is measured using the ROE indicator, which consider the return on net assets and how efficient the company is in generating profits.



global profitability in 2019, evolving by 3% and -1%, on average, from 2015 to 2019 (Tables 10 and 11). Despite the negative evolution of global profitability, its values are still positive. In 2019, the median company for every euro of assets, on average, the company achieves a return of 10,39 cents, however the benchmark exceeds the sample median values (Table 11).

In terms of the mean firm of the sample, the companies in the sample show a greater tendency for higher ROA and ROE growth rates when compared to the benchmark. Additionally, it can be concluded that 119 and 114 firms had increased the efficiency of their assets and net assets, respectively, to generate profit with the implementation of the project financed by the structural funds (Tables 10 and 11).

<b>Analysis of the Debt Weight</b>		
	<b>Dissertation Sample*</b>	<b>Benchmark</b>
Mean	4%	2%
Median	-4%	8%
Standard Deviation	2,20%	0,32%
N. of companies that increased	171	-
Percentile 10%	-5%	-39%
Percentile 90%	141%	33%
*The statistics presented are computed across 228 firms from 2015 to 2019.		

Table 12: The Debt Weight Growth Rate from Dissertation sample and Benchmark performance

	<b>Liquidity Status</b>					
	<b>Dissertation Sample*</b>			<b>Benchmark</b>		
	Optimal	Excess Liquidity	Liquidity Need	Optimal	Excess Liquidity	Liquidity Need
N. of companies	82	146	0	-	-	-
Rate	36%	64%	0%	33%	67%	0%

Table 13: Liquidity Status from Dissertation Sample

Analyzing the company's indebtedness level, it is shown that the mean firm of the sample had increased by 4% its debt weight, on average, between 2015 and 2019, higher than the benchmark results for the same period (Table 12). This may be reasonable with the project funding that is not fully covered by EU Structural Funds. Nonetheless, across the 223 firms in the data, 82 had an Optimal Status of<sup>46</sup> and 146 had Excess of Liquidity (Table 13). Despite the higher debt weight growth rate compared to the benchmark, these results seem reasonable that companies had still sustained their liquidity.

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<sup>46</sup> The Liquidity ratio was considered: "Optimal" when the ratio is between the narrow of 0 and 1; "Excess Liquidity" the ratio is equal or above 1; otherwise, is considered a "Need Liquidity" status.

# Chapter 5: Discussion

Following the results provided above, the following discussion can be achieved:

- 1) The ratio between total eligible spending<sup>47</sup> and total eligible costs<sup>48</sup> allows to measure the financial execution of the structural funds received. Admittedly, the higher its value, the higher the capacity for financial execution, thus this indicator should be maximized. The percentage of this variable is in the range of 40% and 75% (Table 6). To maximize this ratio, the expenses presented by the beneficiary must be considered eligible by the public entities; as well as, on the company side, the agreed and eligible projects in the application process should be almost entirely or entirely implemented. Therefore, both the government and the companies themselves can influence this ratio.
- 2) The sample shows a significant increase in the size of the companies. In terms of sales and asset growth rate, the companies in the sample have a positive growth rate and are higher than the benchmark. However, the impact on jobs is ambiguous, the sample shows a growth trend as well, but this growth is lower than the benchmark rate (Tables 7, 8, and 9). These results may be due to the high number of IT companies in the benchmark, as it is a representative CEA in the sample, and during the analysis period,

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<sup>47</sup> The eligible costs are the approved and financed costs of the project at the time of application or after the application.

<sup>48</sup> The total project costs are the expenses that the company had in the execution of the project, whether they are eligible or not.

there has been a marked evolution in the size of companies in this sector, which seems reasonable to influence the comparison.

- 3) The sample shows a significant increase in sales and asset value. Admittedly, it seems reasonable that these variables show a similar trend, since the value of sales will largely influence the asset value itself, namely in terms of the value of current assets (Tables 7 and 8).
- 4) Regarding the analysis of the financial and global profitability of the sample, it can be observed that the absolute mean and median values of ROA and ROE, in the years after the project, are lower than the values of the benchmark, thus showing worse results (Tables 10 and 11). However, the mean growth rate of the financial and global profitability of the sample is higher than benchmark, so it seems reasonable to consider that the EU Structural Funds are a support for greater growth of these variables of Portuguese SME.
- 5) The company's indebtedness component shows that the value of the mean firm of the sample is higher than the results for the same period of benchmark. The results seem reasonable to consider because the project funding is not fully covered by EU Structural funds and the companies need to inject capital to sustain their projects (Table 12).
- 6) Despite the higher debt weight growth rate compared to the benchmark, across the 228 firms of the data, 82 had an Optimal Status and 146 had Excess of Liquidity (Table 13). These results seem reasonable that companies had sustained their liquidity during the project implementation.
- 7) Throughout the sample, it is possible to notice that the smaller companies have a higher rate of growth of the variables. Once the company's leverage is considered higher, thus a positive impact results in a greater impact on the company.

- 8) Additionally, SME are more exposed to the environment, decisions and factors that influence them (e.g., sectors, competitors), which is why they are reflected in large oscillations and a large amplitude between percentiles.

# Conclusion

The investigation of the master's Final Assignment occurred for master's degree in Finance at the Católica Porto Business School, which aimed to examine the internship activity at FI-Group Portugal, between September 2021 and March 2022.

The FI-Group is a multinational and a reference in innovation management and R&D projects. The main services essentially involve three dimensions: technical advice consultancy, tax benefits, and financial incentives.

The company is in CEA 70220 which has a growth trend. It could be an opportunity for evolution for the FI-Group to grow along with the exposed trend. On the other hand, the company is also very exposed to political, economic, and legal factors. Internally, the FI-Group highlights the growing concern with its employees and its R&D Platform. These factors make FI-Group a company that seeks to innovate and place itself in a strategic position in the market. The internship took place essentially in financial incentive services, more specifically Portugal 2020. Therefore, this paper analyzed the impact of the EU Structural Funds on the financing of Portuguese SME.

In Portugal, more than 90% of Portuguese companies are SME, in which one of the main difficulties for them is to obtain financing and set effective management of their resources, influencing their financial structure.

One of the main funding alternatives sources is European Structural Funds to motivate their competitiveness and minimize the funding gap. The Portugal 2020 is the main European community support framework for Portugal. The competitive and internalization projects, specifically for SME, occupy one of the largest endowments of the implementation of Portugal 2020 funds in their entirety.

Portuguese economy faces a severe problem due to the lack of capital available to more than 90% of its companies, issuing funding and setting efficient resources to operate. In this way, this paper investigated the impact of these types of funds implemented in Portugal, Portugal 2020, on the financing structure of Portuguese SME, investigating their performance.

The availability of finance has been highlighted as a major factor in the development, and success of companies. The effectiveness of financial management is reflected in the results of corporate financial activities as an objective measure of the effectiveness of asset use and the company's policies that generate maximum profits. In case the firm is not able to collect enough capital to finance its business through debt or equity, this lack can create a financing gap for small firms in the economy, affecting their performance.

The structural funds are considered an external source of resources able to finance and support SME to minimize their inherent issues. The SME dotation is allocated to finance those firms to support and develop their business.

To assess their impact on Portuguese SME, data from eligible companies during 2015 and 2018 were used, and their performance was compared to the benchmark and before and after the project implementation.

The size of the sample companies grew considerably in relation to the remaining companies, with emphasis on the growth in sales and assets. The funding of the funds seemed reasonable considering that it had an impact on the company's profits and assets. In terms of the economic and global profitability of the companies in the sample, the absolute values of the sample are lower than the average values of the benchmark, but the mean growth rate of these profitability is considerably higher. Thus, it seems reasonable to consider that structural funds can be a support growth for SME to access efficiency in using assets and capital, respectively, to generate profit. The comparison also can be influenced by the limitation of the reference company in the benchmark, due to the high presence of Information Technology (IT) representatives. Finally, after

the implementation of the project co-financed by the Structural Funds, there was an increase in the weight of debt of the sample companies, although they still had apparent liquidity to sustain their business.

To conclude, the companies in the sample showed a better average performance after project implementation and, in general, a better performance compared to the benchmark. It seems reasonable to say that the structural funds present themselves as an engine of growth and an alternative for financing Portuguese SME.



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# Appendix

## Appendix I – Internship Agreement

The Internship Agreement signed by the intern, Inês Dias, the entity itself, FI-Group, and Católica Porto Business School was attached to this paper.

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### ACORDO DE ESTÁGIO

PK

Entre,

Centro Regional do Porto da Universidade Católica Portuguesa, através da Faculdade de Economia e Gestão/Católica Porto Business School, abaixo designada por FEG/CPBS, com domicílio na Rua Diogo Botelho nº 1327, 4169-005 Porto, contribuinte 501082522, representada neste ato por Gonçalo Manuel Albuquerque Pereira Oliveira de Faria, diretor do 2º Ciclo.

e

FIniciativas Consultoria e Gestão, Lda., com sede em Av. da Boavista, 1788, representada neste ato por Paulo Reis, abaixo designada por Entidade;

e

Inês Elisabete Barbosa Tavares Dias, com CC/Passaporte 14317785, abaixo designado como Estagiário

É celebrado, de mútuo acordo, o presente Acordo de Estágio, nos termos que se seguem:

I

#### Objectivo

O presente Acordo tem por objectivo permitir ao Estagiário o contacto direto com o meio profissional relacionado com a sua formação, inserindo-se no plano de estudos do estagiário.

II

#### Duração e local do estágio

O estágio terá a duração de seis meses, a ter início em 07/09/2021 e fim em 04/03/2022, decorrendo nas instalações da Entidade.

III

#### Plano de estágio

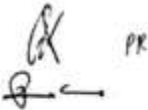
O estágio decorrerá de acordo com um plano de estágio previamente definido, que fará parte integrante deste acordo.

IV

#### Obrigações da Escola/Faculdade

1. Informar o Estagiário e a Entidade sobre as condições de realização do estágio.
2. Comunicar à Entidade a verificação de qualquer circunstância que justifique a conclusão do estágio antes do seu termo.



 PR

V

**Obrigações da Entidade**

1. Orientar e proporcionar as condições necessárias à realização do estágio.
2. Informar a FEG/CPBS de problemas surgidos no decorrer do estágio e de qualquer alteração em relação ao que se encontra estabelecido no presente protocolo.
3. Obter consentimento da FEG/CPBS a qualquer alteração ao tema de Trabalho Final de Mestrado previamente aprovado.
4. Fazer avaliação qualitativa do estágio, segundo grelha específica e própria da FEG/CPBS, no prazo estipulado pela mesma.

VI

**Obrigações do Estagiário**

1. Respeitar as regras inerentes de funcionamento, higiene e segurança, em vigor na Entidade
2. Empregar o seu melhor esforço e dedicação na realização das tarefas de estágio que lhe forem atribuídas, comparecendo na Entidade com a frequência que lhe for solicitada.
3. Guardar sigilo profissional, durante e após a conclusão do estágio, relativamente a todos os trabalhos e tarefas de estágio efectuadas, bem como a qualquer outra informação de que tenha conhecimento ou acesso em virtude da sua permanência na Entidade, não podendo revelar ou utilizar para si ou para outra pessoa, singular ou colectiva, quaisquer dados ou informações relativas a negócios, produtos, projectos, clientes, estratégias e procedimentos.
4. O estagiário, durante a sua permanência na entidade, permanece a todos os títulos com o seu estatuto de estudante. Continua dependente do regime interno da Instituição, nomeadamente no que se refere à assiduidade às aulas (caso o estágio se sobreponha às mesmas).
5. O estagiário compromete-se a não sugerir qualquer alteração em relação ao que se encontra estabelecido no presente protocolo de estágio, bem como relativamente ao tema de Trabalho Final de Mestrado atribuído, sem consentimento prévio da FEG/CPBS, sob prejuízo de não ser considerada realizada esta componente do mestrado.

VII

**Bolsa de Estágio e Seguro**

1. O estágio não é obrigatoriamente remunerado, nem constitui qualquer encargo direto para a Entidade.
2. A Entidade irá conceder ao Estagiário uma bolsa de estágio composta por subsídio alimentação e auxílio em deslocações casa-trabalho-casa, a título de mera liberalidade e como forma de comparticipação pelas despesas efectuadas por este durante o estágio.
3. O estagiário estará coberto pelo seguro escolar, desde que se mantenha como estudante.

VIII

**Comunicações**

Qualquer comunicação entre as partes será feita para os seguintes endereços:

Faculdade de Economia e Gestão/Católica Porto Business School

Career and Development Office  
Morada: a mesma da Faculdade  
Telefone: 22 619 6223  
Email: [careeroffice@porto.ucp.pt](mailto:careeroffice@porto.ucp.pt)

F-Iniciativas Consultoria e Gestão, Lda. | FI Group Portugal  
Departamento de Recursos Humanos  
Morada: Rua da Alfândega, 106, 1º esquerdo  
Telefone: 213536037 / 910 965 274  
Email: [rh-portugal@fi-group.com](mailto:rh-portugal@fi-group.com)

IX

Relações entre as partes

O presente Acordo não gera nem titula relações de trabalho subordinado entre a Entidade e o Estagiário, nem sequer expectativas de eventual contratação futura do mesmo pela Entidade.

Porto, 15 de julho de 2021.

Pela FACULDADE DE ECONOMIA E GESTÃO/CATOLICA PORTO BUSINESS SCHOOL

  
\_\_\_\_\_

Pela ENTIDADE

*Paulo Reis*  
\_\_\_\_\_

O ESTAGIÁRIO

*Inês Elisabete Barbosa Tavares Dias*  
\_\_\_\_\_

# Appendix III - Decomposition of the Dissertation Sample.

During the elaboration of the MFA, a sample of eligible companies was used for the study of the theme, was following:

	Company's name	GIA			GIA
1			65	EDULAB - LABORATÓRIO DE EDULCORANTES LDA	10893
2	DOLPHIN BAY, LDA	93294	66	ENKROTT, GESTÃO E TRATAMENTO DE AGUAS S.A.	46690
3	SURFERRA, LDA	63120	67	YOUR FINANCE - CONSULTORIA DE GESTÃO, CONTABILIDADE E FISCALIDADE, LDA	69200
4	WE FUND - CONSULTORIA EMPRESARIAL, LDA	82300	68	MAQUIGOMES - COMÉRCIO E REPARAÇÃO DE MÁQUINAS INDUSTRIAIS UNIPessoal	28930
5	EMVIAGEM, S.A.	79110	69	MIGUEL SARAIVA & ASSOCIADOS - ARQUITECTURA E URBANISMO S.A.	71110
6	EPSC, S.A.	10830	70	ACD PRINT, S.A.	18120
7	ALU-M - ALUMÍNIOS E PVC LDA	25120	71	BLINDESIGN, LDA	70220
8	AQUAGRI IIM - INTERNATIONAL IRRIGATION MANAGEMENT, LDA	70220	72	INOVFLOW, BUSINESS SOLUTIONS S.A.	62020
9	TOPGRID ENERGY SOLUTIONS, UNIPessoal LDA	71120	73	METALOMECÂNICA 3 TRIÂNGULOS LDA	25110
10	ASFERTGLOBAL, LDA	20594	74	INNOWAVE TECHNOLOGIES, S.A.	62020
11	MOUCHÃO E CAVACA DOURADA, S.A.	11021	75	INCOTRANS - TRANSITÁRIOS LDA	52291
12	MAIN SERVICE, LDA	47410	76	PROMECEL-INDÚSTRIA DE COMPONENTES MECÂNICOS E ELÉCTRICOS LDA	25620
13	GRANACER - ADMINISTRAÇÃO DE BENS S.A.	11021	77	DOUROECI - ENGENHARIA, CONSULTORIA E INOVAÇÃO, LDA	71120
14	PADARIA ARGUELLES - INDÚSTRIA DE PANIFICAÇÃO E PASTELARIA REGIONAL LDA	10711	78	MOLDETIPO II - ENGINEERING MOULDS AND PROTOTYPES (PORTUGAL), LDA	25734
15	RITA ISABEL FERNANDES, UNIPessoal LDA	72190	79	CPU ARCHITECTS INTERNATIONAL, LDA	71110
16	ANTONIO MOCHO, LIMITADA	8111	80	MINDOL II - COLCHÕES E ACESSÓRIOS S.A.	31030
17	TECNOTRONICA, INDUSTRIAS E COMERCIO DE COMPONENTES, S.A.	25501	81	RARI - CONSTRUÇÕES METÁLICAS, ENGENHARIA, PROJECTOS E SOLUÇÕES INDUST	25110
18	SAMITO & GUERRIRO LDA	55119	82	GEONEXT - PRODUTOS ELÉCTRICOS, S.A.	46430
19	CUNHA DIAS (HOTEL), LDA	55111	83	CORT-GIN-INDÚSTRIA DE CORTES E SAPATOS DE GINASTICA S.A.	15201
20	RESTELO AZUL - EXPLORAÇÃO TURÍSTICA S.A.	55201	84	VASICOL, OLARIA DE BARRO VERMELHO LDA	23411
21	MARMORES ROSAL LDA	8111	85	PLM PLURAL, S.A.	74100
22	SUMMERSURPRISE, UNIPessoal LDA	55202	86	RICARDO & BARBOSA LDA	25732
23	SOCIVAL-COMERCIO E INDUSTRIA ALIMENTAR, LDA	10712	87	FUTURETE-INDÚSTRIA DE MÁQUINAS DE CAFÉ LDA	28930
24	CASA RELVAS, LDA	11021	88	PELLETS POWER, LDA	16101
25	QUINTA DO SOSSEGO - SOCIEDADE AGRÍCOLA LDA	55202	89	DAVID NETO - TRANSPORTS, S.A.	49410
26	MONTE DOS CORDEIROS - TURISMO E DESENVOLVIMENTO RURAL, LDA	55202	90	CLIPER CERÂMICA, S.A.	23312
27	VAC MINERAIS, S.A.	8113	91	MOURA, SILVA & FILHOS S.A.	20510
28	PEDRA SECULAR, LDA	23703	92	JMS - INDÚSTRIA DE MOBILIÁRIO HOSPITALAR, S.A.	32502
29	MANUEL PEDRO DE SOUSA & FILHOS LDA	42990	93	ESPAÇOPLÁS - INDÚSTRIA E COMERCIALIZAÇÃO DE PLÁSTICOS, S.A.	22220
30	STARCORK - REVESTIMENTOS DE CORTIÇA LDA	16295	94	P & R - TÊXTEIS S.A.	14190
31	MANUEL MATA - FABRICO E MONTAGENS ALUMINIOS, UNIPessoal LDA	25120	95	QUAY - TRADING INTERNACIONAL, S.A.	14131
32	NEOPARTS - EQUIPAMENTOS, S.A.	46690	96	ITGEST - SOFTWARE E SISTEMAS INFORMÁTICOS, LDA	62020
33	A.J.COSTA (IRMÃOS) LDA	32502	97	POLISPORT PLASTICOS S.A.	30920
34	NZYTECH, LDA	72110	98	GRUPEL, GRUPOS ELECTROGÉNEOS, S.A.	27110
35	HIGH SKILLS - FORMAÇÃO E CONSULTORIA, LDA	85591	99	GL INTERNATIONAL FOOD, S.A.	10850
36	HAKKENIT, S.A.	62020	100	ANIBAL CARNIRO BARBOSA LDA	31091
37	TRUE-KARE, SERVIÇOS E EQUIPAMENTOS, LDA	72200	101	COSMOPAK - INDÚSTRIA DE COSMÉTICOS E EMBALAGENS S.A.	20420
38	TRUEWIND, SISTEMAS DE INFORMAÇÃO, S.A.	62020	102	INFOS-INFORMÁTICA E SERVIÇOS S.A.	62010
39	APSKATERAMPS, UNIPessoal LDA	62300	103	MATHIAS II - EXPORT, UNIPessoal LDA	46332
40	OGENE - INOVAÇÃO, OTIMIZAÇÃO E GESTÃO DE NEGÓCIOS, LDA	70220	104	ROCIM - AGROINDÚSTRIA, LDA	11021
41	PDM E FC-PROJECTO DESENVOLVIMENTO MANUTENÇÃO FORMAÇÃO E CONSULT	62020	105	TUPAI-FÁBRICA DE ACESSÓRIOS INDUSTRIAIS S.A.	25720
42	CRONOËRA, LDA	47722	106	IRMÃOS RODRIGUES - CONFECÇÕES S.A.	14131
43	VOICENTERACTION - TECNOLOGIAS DE PROCESSAMENTO DA FALA S.A.	62010	107	BEC - BRAGA, EQUIPAMENTOS DE CONSTRUÇÃO LDA	41200
44	ARAS KIO TRADING & CONSULTING, S.A.	46341	108	FUNDAÇÃO DO ALTO DA LIXA S.A.	24520
45	TECHNOEDIF - ENGENHARIA, S.A.	71120	109	FAMETAL-FÁBRICA PORTUGUESA DE ESTRUTURAS METALICAS S.A.	25110
46	MARMORES GALRÃO-EDUARDO GALRÃO JORGE & FILHOS S.A.	23701	110	J. MOREIRA DA SILVA & FILHOS S.A.	31091
47	WTEC - EQUIPAMENTOS INDUSTRIAIS, LABORATORIAIS E HOSPITALARES, LDA	47784	111	CARLOS ALBERTO & FILHOS, S.A.	25720
48	SÃO BENTO RACKETSPIRO - EXPLORAÇÃO DE CAMPOS DE PADEL E EQUIPAMENTO	93110	112	EPOLI-ESPUMAS DE POLIETILENO S.A.	22210
49	INFOTOX, LDA	74900	113	JOSÉ LUÍS & COMPANHIA LDA	25992
50	ZARPH, S.A.	72190	114	TÊXTIL ANTÓNIO FALCÃO, S.A.	14310
51	DISTANCE LEARNING CONSULTING - CONSULTORIA PEDAGÓGICA, LDA	7022	115	GRESART - CERÂMICA INDUSTRIAL S.A.	23312
52	INJEÇÃO E SERIGRAFIA DE PLÁSTICOS TÉCNICOS LDA	22292	116	GLOBAL WINES, S.A.	11021
53	SOKEE - TECNOLOGIAS DE INFORMAÇÃO, LDA	62090	117	MANUEL MARQUES, HERDEIROS S.A.	25710
54	ZUMBI, S.A.	47910	118	CLIMAR - INDÚSTRIA DE ILUMINAÇÃO S.A.	27400
55	AQUALOGUS - ENGENHARIA E AMBIENTE, LDA	71120	119	MADEICENTRO-ESTANCIA E SERRAÇÃO DE MADEIRAS EXOTICAS LDA	16220
56	ANOS D'AVENTURA, LDA	47750	120	SMARTWATT - ENERGY SERVICES, S.A.	71120
57	LABORATÓRIO EDOL - PRODUTOS FARMACÉUTICOS S.A.	21201	121	RTM - DAIRY TRUST, LDA	46331
58	EPORIFRUTAS, S.A.	46311	122	ARFAI CERAMICS LDA	23413
59	GEOGLOBAL, SISTEMAS DE INFORMAÇÃO GEOGRÁFICA LDA	74900	123	ADCLICK, S.A.	63110
60	PENTAGONAL LDA	46630	124	SCPT TAILORING, LDA	14132
61	HOTEL STª MARTA, S.A.	55111	125	KMS - MATERIAIS TÉCNICOS, LDA	28293
62	ZILIAN IBERICA, LDA	47721	126	GUALMI - EMPRESA DE MÓVEIS METÁLICOS, S.A.	31010
63	NEODASFALTO - COMÉRCIO E INDUSTRIA DE AGLOMERADOS ASFÁLTICOS LDA	23991	127	GALMAX - COMÉRCIO E SERVIÇOS LDA	28300
64	CARLOS CARVALHO ARTE CONTEMPORÂNEA, LDA	47784	128	ROCHA & RAFAEL INTERIORES, S.A.	31091
65	EDULAB - LABORATÓRIO DE EDULCORANTES LDA	10893	129	FRUTAS PATRÍCIA PILAR, S.A.	46311

129	FRUTAS PATRICIA PILAR, S.A.	46311	191	RIBALDE - FÁBRICA DE EQUIPAMENTOS DE MOVIMENTAÇÃO DE TERRAS E CARGAS	28222
130	NORTECNICA - REPRESENTAÇÕES E TÉCNICA S.A.	46430	192	GEDCAM - MAQUINACÃO E MOLDES LDA	25734
131	BAPTISTA & IRMÃO S.A.	46720	193	M. SOARES GONCALVES LDA	29320
132	TRIMALHAS - KNIT INSPIRATION, S.A.	13910	194	RODRIGUES & FONSECA, LIMITADA	15201
133	CRANK - ACESSÓRIOS DE CICLISMO E AUTOMÓVEIS LDA	29320	195	CEI - COMPANHIA DE EQUIPAMENTOS INDUSTRIAIS LDA	28992
134	DIETMED - PRODUTOS DIETÉTICOS E MEDICINAIS, S.A.	46382	196	NEUCE - INDÚSTRIA DE TINTAS, S.A.	20301
135	METALÚRGICA RECOR S.A.	25991	197	FRIGOCON - INDÚSTRIA DE FRIO E CONGELAÇÃO S.A.	28250
136	HELIOTEXTIL, ETIQUETAS E PASSAMANARIAS S.A.	13961	198	INI - INDÚSTRIA DE INOXIDÁVEIS S.A.	25290
137	CONFECÇÕES LANÇA, LDA	14131	199	QUANTAL, S.A.	25992
138	ISOLAGO - INDÚSTRIA DE PLÁSTICOS, S.A.	20160	200	PINTO FABRICA - FÁBRICA DE MÁQUINAS INDUSTRIAIS, S.A.	28992
139	GLOBALKILN - REFRACTORY COMPANY, S.A.	43290	201	COUTO & BRANDÃO-PRODUTOS ALIMENTARES LDA	10130
140	ELASTRON PORTUGAL, S.A.	46761	202	MICROPLÁSTICOS S.A.	22292
141	AVELEDA, S.A.	11021	203	A. L. - FÁBRICA DE MATERIAL ELÉCTRICO S.A.	27330
142	IRMARFER S.A.	77390	204	BANEMA, S.A.	46731
143	I. F. T. - COMÉRCIO INTERNACIONAL ALIMENTAR, S.A.	46382	205	TECNIFREZA - INDÚSTRIA DE MOLDES S.A.	25734
144	IA TÊXTIL DE SERZEDELO S.A.	13201	206	MD MOLDES - MANUEL DOMINGUES, UNIPESSOAL LDA	71120
145	COSTA CORRÊJA & CA LDA	14131	207	LUÍS LEAL & FILHOS S.A.	10130
146	TECOFIX - TÉCNICA DE EQUIPAMENTO E FIXAÇÃO S.A.	46740	208	MIL POSSIBILIDADES, LDA	20420
147	HAKEN WELT, LDA	31093	209	HIPER DOLCI - PASTELARIA E CONFEITARIA, S.A.	10712
148	FENABEL, S.A.	30191	210	VIZELPAS FLEXIBLE FILMS, S.A.	22292
149	INTERMOLDE-MOLDES VIDREIROS INTERNACIONAIS LDA	25734	211	UARTRÓNICA ELECTRÓNICA, LDA	26120
150	SATINSKIN TÊXTEIS S.A.	13302	212	DMM - DESENVOLVIMENTO, MAQUINAGEM E MONTAGEM LDA	29320
151	FORTISSUE - PRODUÇÃO DE PAPEL, S.A.	17120	213	J.& J. TEIXEIRA S.A.	16230
152	CIOR-SOCIEDADE DE SUCATAS DO NORTE LDA	26250	214	SILENCOR - INDÚSTRIAS METÁLICAS LDA	29320
153	EPALFER - SERRALHARIA DE MOLDES, CUNHOS E CORTANTES LDA	25734	215	SÁ COUTO & MONTEIRO S.A.	25992
154	J.MARTINS & DIAS LDA	16213	216	MOVECHO, S.A.	31010
155	INFORMOLDES, LDA	28960	217	PRIREV - SURFACE TECHNOLOGY, S.A.	25610
156	VORTAL - COMÉRCIO ELECTRÓNICO, CONSULTADORA E MULTIMÉDIA, S.A.	62090	218	BRUNO - TIR TRANSPORTES, LDA	49410
157	METALPEDRO - INDÚSTRIAS METALÚRGICAS LDA	25110	219	GOANVI BOTTLING, LDA	46341
158	VIDRARIA MORTÁGUA - VIDROS E ESPelhos, S.A.	28120	220	NEUTROPLAST - INDÚSTRIA DE EMBALAGENS PLÁSTICAS S.A.	22220
159	SCHMIDT LIGHT METAL, FUNDIÇÃO INJECTADA LDA	29320	221	ESTAMPARIA JOCOLOR LIMITADA	13302
160	MAXIPLÁS -PLÁSTICOS & ENGENHARIA LDA	22292	222	FUCOLI-SOMEPAL - FUNDIÇÃO DE FERRO S.A.	24510
161	HCARESOL - INDÚSTRIA DE EQUIPAMENTOS DE SAÚDE, LDA	32502	223	JADIFEX-MALHAS E CONFECÇÕES LDA	14390
162	ALACO - REVESTIMENTOS METÁLICOS S.A.	25110	224	MADECA-MADEIRAS DE CAXARIAS S.A.	16240
163	RILER-INDÚSTRIA TÊXTIL,S.A.	13303	225	A.T.B.-ACABAMENTOS TÊXTEIS DE BARCELOS LDA	13301
164	PALBIT, S.A.	25733	226	E. R. I. - ENGENHARIA, S.A.	43221
165	DOURECA PRODUTOS PLÁSTICOS LDA	22292	227	IMPOCOLOR-PRODUTOS QUÍMICOS, S.A.	46750
166	PORTRISA - INDÚSTRIA DE PORTAS, S.A.	25120	228	NIMCO PORTUGAL, LDA	32502
167	COTTONANSWER, S.A.	14140	229	SOCIEDADE QUINTA DO PORTAL S.A.	11021
168	VERMIS - CONFECÇÃO DE VESTUÁRIO, LIMITADA	14131	230		
169	IRMÃOS MONTEIRO S.A.	10130			
170	DESIGN E MORE, S.A.	46422			
171	LINGOTE ALUMÍNIO, S.A.	24420			
172	FEPSA - FILTROS PORTUGUESES S.A.	14190			
173	REFRIGERAÇÃO E ESTRUTURAS METÁLICAS D'ALAGOA, S.A.	28250			
174	FACOTIL - FÁBRICA DE COLAS E TINTAS, S.A.	20301			
175	BRITO & MIRANDA S.A.	13910			
176	CARLOS FREITAS & CA S.A.	15201			
177	WALKEMORE, S.A.	46422			
178	EFARLU - BOMBAS E VENTILADORES S.A.	28130			
179	FISOLA-FABRICA DE ISOLADORES ELÉCTRICOS LDA	27900			
180	AGREMARCO - CONSTRUÇÃO CIVIL, LDA	41200			
181	PIULBE-CONFECÇÕES,INDÚSTRIA E COMERCIO S.A.	13920			
182	FRAVIZEL - EQUIPAMENTOS METALMECÂNICOS, S.A.	28920			
183	I. S. L. - INDÚSTRIA DE SOLAS INJECTADAS LDA	22291			
184	FELINO - FUNDIÇÃO E CONSTRUÇÕES MECÂNICAS, S.A.	28930			
185	CARRI - FÁBRICA DE PLÁSTICOS E MOLDES S.A.	22292			
186	TRANSPORTES ANTUNES FIGUEIRAS, S.A.	49410			
187	SOCIEDADE ARTÍSTICA, MANUFACTURAS QUÍMICAS E METÁLICAS, LDA	25920			
188	HUGAL-INDÚSTRIA DE CALÇADO LDA	15201			
189	BTL-INDÚSTRIAS METALÚRGICAS S.A.	25290			
190	MARTIAPE - CALÇADO S.A.	15201			
191	RIBALDE - FÁBRICA DE EQUIPAMENTOS DE MOVIMENTAÇÃO DE TERRAS E CARGAS	28222			
192	GEDCAM - MAQUINACÃO E MOLDES LDA	25734			

## Appendix III - Characterization of the Dissertation Sample used divided by CEA

During the elaboration of the MFA, a sample of eligible companies was used for the study of the theme. The following characterization of these was:

CEA	Name of CEA	No. Of companies in the sample
7	Extraction and preparation of metallic ores	1
8	Other Extractives	3
10	Food industries	9
11	Beverage industry	7
12	Tobacco industry	0
13	Textile manufacturing	9
14	Garment industry	11
15	Leather and leather products industry	5
16	Wood and cork industries and articles thereof, except furniture; manufacture of basketwork and wickerwork	6
17	Manufacture of pulp, paper, cardboard and their articles	1
18	Printing and Playing Recorded Media	1
20	Manufacture of chemical products and synthetic or artificial fibers, other than pharmaceuticals	7
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	1
22	Manufacture of rubber and plastic articles	10
23	Manufacture of other non-metallic mineral products	8
24	Base metallurgical industries	3
25	Manufacture of metal products, except machinery and equipment	28
26	Manufacture of computer equipment, communications equipment and electronic and optical products	2
27	Manufacture of electrical equipment	4
28	Manufacture of machinery and equipment	14
29	Manufacture of motor vehicles, vehicles and semi-trailers components for motor vehicles	5
30	Manufacture of other transport equipment	2
31	Manufacture of furniture and mattresses	7
32	Other transforming people	4
41	Real estate development (development of building projects); building construction	2
42	Civil Engineering	1
43	Specialized Construction Activities	2
46	Wholesale (includes agents), except motor vehicles and motorcycles	19
47	Retail trade, except vehicles and motorcycle	7
49	Land transport and transport by oil or gas pipelines	3
52	Storage and auxiliary transport activities (includes handling)	1
55	Accommodation	7
62	Consultancy and computer programming and related activities	11
63	Information services activities	2
69	Legal and Accounting Activities	2
70	Headquarters and management consulting activities	2
71	Architectural, engineering and related technical activities; rehearsal and technical activities	8
72	Scientific Research and Development Activities	4
74	Other consulting, scientific, technical and similar activities	3
77	Rental Activitie	1
79	Travel agencies, tour operators, other booking services and related activities	1

- 82 Activity of administrative and support services provided to companies 1
- 85 Education 1
- 93 Sporting, entertainment and recreational activities 2

## Appendix IV – Benchmark used in Dissertation

During the Dissertation, the Benchmark considered was the following:

RFP / Tax	Nº de identificação / Descrição / Beneficiário / Valor	R\$ 2022 (em mil reais)		R\$ 2023 (em mil reais)		Ativo 2022	Ativo 2023	Sustentabilidade (Emissão de CO2)	Sustentabilidade (Transparência)	Sustentabilidade (Transparência 2023)	Sustentabilidade (Transparência 2024)	Presença de empresas em 2022	Presença de empresas em 2023	Presença de empresas em 2024	Peso de sustentabilidade em 2022	Peso de sustentabilidade em 2023	Peso de sustentabilidade em 2024	Taxa de crescimento de receita	Taxa de crescimento de lucro	Taxa de crescimento de produtividade	Taxa de crescimento de produtividade (Emissão)	Taxa de crescimento de produtividade (Transparência)	Índice líquido	Taxa de crescimento do preço de mercado	Taxa de crescimento do preço de mercado (Emissão)	Taxa de crescimento do preço de mercado (Transparência)	CAGR de empresas
		2022	2023	2022	2023																						
82	MAHSA, MATR. EMPRESAS E INVESTIMENTOS ALIADOS, EMPRESAS S.A.	1.011.120,00	2.771.000,00	609.200,00	2.730.020,00			4,2%	2%	10,7%	40,6%	11	21	17%	47%	47%	47%	1,8%	254%	307%	307%	117%	Ótimo	200%	30%	211%	
85	ATKINS BRASIL, EMPRESAS S.A.	200.000,00	601.170,00	207.240,00	600.000,00			6,3%	1,6%	18,3%	7,5%	2	4	10%	70%	1,2%	20%	120%	-42%	42%	Centros de serviços	200%	7%	610%			
93	MAHSA S. - CAPITAL INVESTIMENTOS	668.807,00	1.001.300,00	375.700,00	602.300,00			11,8%	9,6%	-7,2%	31,7%	3	6	60%	70%	2,3%	120%	76%	289%	140%	Serviços de suporte	47%	17%	601%			
82	SAMAS - CONSULTORIA E SERVIÇOS	4.411.100,00	7.344.000,00	4.529.000,00	7.864.000,00			0,6%	0,6%	2,0%	26,4%	0	11	10%	110%	110%	0,8%	60%	37%	381%	110%	Ótimo	250%	57%	280%		
82	ALIAS - CONSULTORIA E SERVIÇOS DE SISTEMAS E TI, S.A.	41.311.100,00	29.879.000,00	29.962.000,00	29.998.000,00			2,2%	2,8%	9,6%	5,7%	31	31	30%	40%	37%	37%	0,5%	40%	37%	4%	42%	Ótimo	0%	69%	300%	
82	CEISA - INDUSTRIA DE MADEIRA S.A.	1.130.000,00	0.555.000,00	0.860.200,00	31.671.000,00			1,0%	6,7%	7,9%	1,1%	36	36	36%	60%	1,6%	2,4%	20%	21%	41%	29%	Serviços de suporte	6%	30%	217%		
82	MARSA S.A.	1.827.000,00	0.811.000,00	0.950.000,00	0.871.000,00			1,0%	0,8%	0,1%	50,4%	34	34	30%	60%	60%	60%	0,7%	17%	14%	111%	61%	Ótimo	6%	10%	211%	
82	SCORPUS, S.A.	412.100,00	0.144.000,00	100.100,00	1.010.000,00			3,6%	17,6%	34,8%	40,3%	4	10	10%	10%	40%	40%	1,2%	100%	160%	111%	117%	Serviços de suporte	200%	10%	210%	
82	CONSTRUTORA FABRICANTES DE CONCRETO, S.A.	800.000,00	1.001.000,00	601.000,00	641.000,00			1,1%	1,2%	3,2%	30,2%	7	7	10%	10%	1,2%	44%	7%	89%	61%	Serviços de suporte	40%	4%	211%			
82	METASOL INDUSTRIA S.A.	20.000.000,00	31.000.000,00	17.000.000,00	30.111.000,00			6,6%	7,0%	18,4%	26,2%	31	31	10%	10%	10%	30%	10%	30%	30%	30%	30%	Ótimo	12%	3%	211%	
82	INTEGRA CONSULTORIA E SERVIÇOS DE TI, S.A.	1.000.000,00	1.000.000,00	0.980.000,00	0.941.000,00			1,0%	1,0%	0,0%	2%	20	20	14%	11%	1,0%	1,0%	0,8%	40%	37%	110%	47%	Centros de suporte	30%	10%	610%	
82	OPARQUE, S.A.	680.000,00	641.000,00	674.000,00	7.344.000,00			1,0%	0,6%	2,6%	3,4%	10	10	60%	60%	60%	0,7%	40%	28%	40%	6%	6%	Ótimo	37%	60%	211%	
82	TECNOLOGIA EMPRESAS S.A.	811.000,00	680.000,00	300.000,00	111.000,00			10,0%	2,7%	10,0%	6,6%	0	0	60%	70%	3,8%	82%	111%	60%	60%	60%	60%	Ótimo	10%	9%	211%	
82	INTEGRA CONSULTORIA E SERVIÇOS DE TI, S.A.	10.000,00	810.000,00	30.000,00	30.000,00			3,1%	1,7%	18,4%	1,1%	1	1	10%	10%	2,5%	7%	42%	-41%	40%	Centros de suporte	30%	43%	610%			
82	CONSTRUTORA CONSTRUTORA S.A.	610.000,00	1.000.000,00	620.000,00	0.600.000,00			0,6%	11,0%	26,0%	61,0%	0	10	10%	10%	1,2%	62%	200%	19%	19%	19%	19%	Centros de suporte	220%	20%	610%	
82	INTEGRA CONSULTORIA E SERVIÇOS DE TI, S.A.	1.000.000,00	1.000.000,00	1.000.000,00	1.000.000,00			10,1%	4,5%	10,0%	11,0%	10	10	10%	10%	1,0%	10%	10%	10%	10%	10%	10%	10%	Centros de suporte	7%	11%	610%
82	SOL PAPER S.A.	1.000.000,00	1.000.000,00	1.000.000,00	1.000.000,00			10,0%	0,0%	0,0%	0,0%	0	11	11%	11%	11%	11%	11%	11%	11%	11%	11%	11%	Centros de suporte	30%	20%	610%
82	INTEGRA CONSULTORIA E SERVIÇOS DE TI, S.A.	1.154.500,00	1.100.000,00	1.040.000,00	400.000,00			14,0%	-2,7%	14,0%	16,1%	1	1	10%	60%	1,2%	50%	27%	111%	111%	111%	111%	111%	Centros de suporte	50%	11%	610%
82	SOLTEC EQUIPAMENTOS E SERVIÇOS, S.A.	100.000,00	200.000,00	100.000,00	400.000,00			1,0%	1,0%	1,0%	10,0%	1	4	10%	60%	1,0%	10%	10%	10%	10%	10%	10%	10%	Centros de suporte	30%	6%	200%
82	INTEGRA CONSULTORIA E SERVIÇOS DE TI, S.A.	700.000,00	1.000.000,00	600.000,00	600.000,00			1,0%	1,0%	1,0%	10,0%	1	7	10%	70%	1,0%	60%	6%	10%	10%	10%	10%	10%	Centros de suporte	40%	10%	200%
82	INTEGRA CONSULTORIA E SERVIÇOS DE TI, S.A.	600.000,00	600.000,00	600.000,00	1.000.000,00			10,7%	3,0%	24,2%	4,4%	10	11	10%	11%	1,0%	1,0%	1,0%	1,0%	1,0%	1,0%	1,0%	1,0%	Centros de suporte	10%	40%	200%