PICCOLA IMPRESA
SMALL BUSINESS

Rivista Piccola Impresa/Small Business

n. 2, anno 2022

Codice ISSN 0394-7947 - ISSNe 2421-5724

DOES GENDER INFLUENCE THE COMPANIES' FINANCIAL STRATEGIES CHOICES? AN ANALYSIS OF THE FOOD & BEVERAGE ITALIAN INDUSTRIES

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Article info

Date of receipt: *12/05/2021*
Acceptance date: *09/01/2022*

Keywords: *financial structure; gender diversity; female entrepreneurship.*

doi: *10.14596/pisb.2862*

Abstract

Purpose: *The agri-food sector is one of the most important in Europe. Although crises occurred, this industry has always had an anti-cyclical trend because of the increasing food and beverage demand. Albeit the global pandemic due to Covid-19, indeed, Food & Beverage (F&B) sub-sector has shown stability and resilience. The work analyses the financial structure of 1924 Italian SMEs belonging to the F&B, to understand if (and eventually how and why) the owner's gender can affect the preferences about financing sources, and how these choices had influenced the reaction to the worldwide crises.*
Research design: *An empirical analysis is performed on a sample of F&B Italian Small and Medium Enterprises (SMEs) from 2013-2019. The data are collected by AIDA, a database containing the balance sheet data of all the Italian firms. Firstly, the firms extracted were classified according to gender ownership, then their financial structure is explored through an index analysis.*
Findings: *The results demonstrate that both women's and men's businesses tend to move away from the traditional form of bank financing, seeking alternative sources. Secondly, the quantitative gender gap due to a higher presence of male-led SMEs, is not supported by a financial gap in terms of stability, profitability and financial dependence.*
Practical and social implication: *Findings could be useful to agents belonging to the agri-food industry to support the decision-making about the financial structure, especially in a period of uncertainty or crisis. In addition, it could be an opportunity for both SMEs to explore new typologies of financing sources and for investors to be aware of different approaches to financial decisions existing between male and female companies' management.*
Originality of the study: *Although other research has already investigated the relationship between the financial structure and the owner's gender, this type of study has not interested yet the agri-food companies.*

1. Introduction

Food is a critical element of life and of a country's economy. This evidence is demonstrated by the number of firms operating in the food industry and by the results they generate (Tanda, 2018). In 2018, Italy was the first European country to recognize the added value of agriculture with €32.2 billion (ISTAT, 2019) and the food and beverage (F&B) industries have a turnover (total value of sales) that has been growing constantly in the last several years, increasing from €95 billion in 2013 to €114 billion in 2018 (ISTAT, 2019). Data for 2020 and trends in the F&B sector (Food Drink Europe, 2020) show that European companies require 4.82 million employees, generate a turnover of €1.2 trillion, and produce €266 billion in value-added products and services. In particular, the positive performance of F&B industries is connected to the production of registered Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI) products, which can be considered the Made in Italy drivers of the Italian economy and an important part of the country's exports: their value represents about 19% of the total Italian agri-food economy (CREA, 2019).

The significant economic development originated mainly from Small and Medium Enterprises (SMEs), that are the main actors in the F&B sector. These companies produce more than 40% of the F&B industry turnover and value-added, providing more than of jobs in the sector (Food Drink Europe, 2020, 7).

This is not atypical for the Italian economy since it has always entrusted its economic power to the work of SMEs, whose output contributes to the majority of Italy's gross domestic product (GDP). Indeed, in Italy, SMEs still represent more than 95% of the companies in the country. They comprise the essence of Italian entrepreneurship. Like in other sectors, female-run enterprises are a minority in the F&B industry, and some scholars (Walken & Robb, 2002; Paoloni, 2021; Antonelli & Vigano, 2012; De Martini, 2018) have asserted that they are undercapitalised and have less experience than male-managed firms. These are only some of the differences that have been identified between male-run and female-run firms. Indeed, focusing on the capital structure, many theories have attempted to explain the reason for specific financial choices, as a consequence of the environmental and social context in which a company develops (Husted, 1999; Hofstede, 2001; Licht et al., 2007), as being based on the economic convenience of debt or equity (Campbell & Kelly, 1994; Berk et al., 2008; Ai et al.,2021) or being influenced by the internal characteristics of the enterprise (Myers & Majluf, 1984; Frank & Goyal, 2003), including gender.

Other theories, such as the gender structure theory (Risman, 2004; Szymanska & Rubin, 2018), affirm that gender does not influence a company's financial structure; they only consider it a structural stereotyping characteristic, not a variable in the capital structure equation.

Given this, the present work aimed to analyse the financial structure of Italian SMEs operating in the F&B sector to understand whether or not female-run and male-run companies make the same financial decisions. A mixed-methods approach was used to achieve this goal, starting with a descriptive analysis of the results given by a balance sheet evaluation, considering a sample of F&B Italian SMEs. The findings were then tested using quantitative analysis to confirm or refute previous results. The research findings concluded that gender could not be a variable that influences the choice of the financial structure of Italian F&B SMEs, as gender structure theory states (Risman, 2004; Szymanska & Rubin, 2018). The present study belongs to the field of study of gender diversity, still, it will be valuable to financial scholars who can find elements about their research. Moreover, the work can have practical implications by providing business managers and owners with relevant information.

The paper is structured as follows. Section 2 presents a literature review on the key themes of this work, such as the theoretical perspectives of the financial decisions that are useful to understanding the behaviour of female- and male-owned companies (2.1) and the major literature that consider gender to be an influential criterion for a company's financial structure (2.2). The last subsection describes the panorama in which the analysis is set (2.3).

Section 3 explains the research design of the study. Section 4 discusses the study's findings. Section 5 presents the conclusion. Section 6 presents the originality and the value of the work. Section 7 presents the study's limitations and suggests further lines of research.

2. Literature Review

The first subsection exposes some of the theories that have identified different variables that can influence the composition of a company's financial structure. The second subparagraph discusses some studies investigating how gender can affect a firm's financial structure. Finally, the third subsection presents the state of the art of financial resources that European SMEs could access, specifically focusing on Italian SMEs operating in the F&B sector.

2.1 Theoretical Perspectives of Financial Structure

Theoretical perspectives can support the analysis of a firm's financial choices and understand why SMEs prefer using internal or external financing sources. As stated in the literature, the choice between equity or debt could be influenced by many elements, such as: i) the characteristics of the capital market (Alves et al., 2015); ii) the economic convenience of fi-

nancing sources, consisting of the cost of debt and equity (Berk et al., 2008; Domenichelli, 2012); iii) the specific characteristics of the company, i.e., the size and structure of the financial requirement, the profitability, the ability to provide guarantees, the contractual strength (Rajan & Zingales, 1995; Frank & Goyal, 2003). Regarding the external financing sources, scholars (Myers,1984; Ricca et al., 2021; Ai et al., 2021) have affirmed that two benefits essentially influence the preference for the type of debt. The first is a tax benefit. The cost sustained for interest is usually tax-deductible, which means that, unlike dividends, interest paid to bondholders avoids social taxation (Berk et al., 2008). Second, financing through third-party capital sources encourages the manager to be disciplined, since they are forced to find a way to produce a consistent cash flow to pay debts (Alves et al., 2015). Moreover, debt can mitigate the agency costs that arise from conflicts of interest between managers and shareholders (Jensen & Meckling, 1976). Nevertheless, a major disadvantage of resorting to external loans is the increase in bankruptcy costs, equal to the product of the probability of failure and the direct and indirect costs of failure (Alves et al., 2015).

One factor influencing this includes the legal and administrative fees and the costs of terminating operations (Ai et al., 2021). Another factor is the loss of customers, the divestment of managers or employees with greater skills, and fewer credit opportunities (Berk et al., 2008). Over time, many theories have been developed to study the different variables of a company's financial structure. Those studies can be divided into three lines of investigation.

The first stream analyses the financing source's choice as a variable that may or may not affect the corporate value (Campbell & Kelly, 1994; Modigliani & Miller, 1958).

The second stream involves studies that identify a relationship between the financial structure and the environmental and social context in which the company develops (Husted, 1999; Hofstede, 2001; Licht et al., 2007).

The third strand affirms that governance composition can determine a company's preferences regarding financial sources (Myers & Majluf, 1984; Frank & Goyal, 2003).

Regarding the relationship between the company's value and its financial choices, one of the theories that confirm this link is the trade-off theory. According to it, to choose which financing source to rely on and evaluate the convenience of debt capital, it is necessary to weigh the advantages and disadvantages (Campbell & Kelly, 1994; Berk et al., 2008; Ai et al., 2021).

Hence, trade-off theory recognises that the value of an indebted company is equal to the sum of the value of a company that does not resort to debt and the present value of the tax benefits, reduced by the current value of the bankruptcy costs (Ai et al., 2021). If the benefit is represented by deductible interest, the costs cannot be calculated precisely, but they

are influenced by three factors: the probability of default, costs to support the enterprise's failure, and the discount for the costs of failure (Alves et al., 2015). The probability of bankruptcy increases with increasing liabilities and with the volatility of the value of the corporate assets. This is the reason why companies that have unstable cash flows must contain their indebtedness in order to not have a high risk of insolvency (Berk et al., 2008). Since the value of an enterprise is greater when the increase in the actual value of the tax savings is equal to the increase in the actual value of the bankruptcy costs, trade-off theory suggests that enterprises will aim to achieve an optimal level of a mix between equity and debt that enhances the difference between them (Ricca et al., 2021).

Instead, the first proposition of Modigliani and Miller (1958) states that there is no optimal combination of credit and debt capital and that the value of a firm is independent of its financial structure. Therefore, value a firm that does not resort to debt (Alves et al., 2015).

For what concern the strand of research that identifies the relationship between the financial structure and the environmental and social context in which the company develops, studies affirm that a firm's financing choices are primarily affected by the environment, which influences both cultures of its and board members and the market trends (Aggarwal & Goodell, 2010). In particular, the demand for equity is higher in countries with better control of corruption and higher regulatory quality (Licht et al., 2007) as well as in countries with a low power distance and a high integration of citizens (Hofstede, 2001). Indeed, power distance increases social fractionalisation, affecting social trust (Aggarwal & Goodell, 2014). However, countries with a civil-law system tend to be bank-based, so they resort to debt (Ergungor, 2004) as donations with higher uncertainty avoidance (Kwok & Tadesse, 2006).

Among the studies that considered the composition of governance to be a relevant factor that affects a firm's financial choices, some utilised pecking order theory (POT) in their analysis. According to POT, companies in which agency costs are particularly low, due to the usual coincidence between ownership and management, prefer to use internal financial sources, represented both by self-financing and contributions made by the shareholders (Myers, 1984). The asymmetry incentivises managers to prefer using internal resources between managers and outside investors, which makes financial markets imperfect (Jensen & Meckling, 1976). Furthermore, indebtedness would only be used if internal capital resources are insufficient to finance all investment projects. Although POT has been developed for large companies and in Anglo-Saxon financial systems, recent studies have also highlighted its adaptation, as amended, to SMEs and bank-centric systems (Myers & Majluf, 1984; Domenichelli, 2007).

Scholars (Lemmon & Zender, 2010) have affirmed that a company's fi-

nancial choices are significantly influenced by the composition of its board of directors; in particular, companies with a higher percentage of independent directors and a wider variety of genders (Adams & Ferreia, 2009; Ahmed & Atif, 2020) prefer long-term debt over short-term debt and external equity over debt. The reason is that a more independent board of directors enhances the quality and quantity of information insiders provide to the public, reducing the adverse selection costs considered by POT (Frank & Goyal, 2003).

According to other scholars (John & Litov, 2010; Jiraporn et al., 2012; Harford & Zaho, 2008), more independent board members should prompt an equity financing or a long-term debt preference. Additionally, some characteristics of company owners, such as education levels, work experience, age, gender, and skills, are recognised by investors as factors that influence business prospects since they compose the human capital of the firm and have an impact on business performance (Bates,1991; Loan et al., 2020). In particular, according to some previous studies (Schouten, 2019; Thandabhani, 2020), enterprises owned by males tend to use more debt than those led by females since they are less reluctant to take risks than their female counterparts (Beckmann & Menkhoff, 2008). In contrast, most other studies have not yet identified a significative bond between the ownership factors and the level of debt used (Loan et al., 2020); moreover, the relationship between female ownership and lower debt is not statistically significant (at 5%) in the Ordinary Least Square and the Fixed- Effects model (Loan et al., 2020). These findings appear to confirm the ideas posited in gender structure theory, according to which the differences between females and males are attributable to stereotyping structural characteristics, whereas there is no reason to believe that the biological sex category could influence choices or personal capacities. Rather, the interactions between males and females are the variables that can reproduce or challenge the gender system (Risman, 2004; Szymanska & Rubin, 2018).

Considering the previous literature discussed in this section and the aim of the present study work, the following section analyses the existing literature on the influence of gender on a company's financial structure.

2.1 Is the financial structure influenced by Gender?

During the economic crisis of 2008–2013, companies demonstrated strong prudence, which is typical of both men and women. Therefore, there was a decrease in the demand for bank loans. Indeed, even if SMEs are forced to count on third-party financing, they usually only try to rely on external sources if internal ones are insufficient to create great value (Watson, 2006). Among all the firms, 78% of SMEs, both male-run and female-run enterprises, were very cautious during the crisis and did not

take on new debt (Cesaroni & Sentuti, 2016). However, what is different is the reason why they did not, if males predominantly declare that they do not rely on bank loans because they do not want to risk too high of a debt load and women declare that they prefer to adopt a downsizing strategy or ask for personal capital (Cesaroni & Sentuti, 2016). In fact, since the crisis started in 2007, firms owned by male-run companies have asked for smaller amounts of funding, while female-run companies have more rarely requested for funding.

Many studies (Coleman & Robb, 2009; Cesaroni & Sentuti, 2016; Stefani & Vacca, 2014) have also attempted to investigate either women prefer not to rely on bank loans because they do not need, or if there are other reasons for that decision. The result is that, from the demand side, women tend to be more skeptical about securing loans and they maintain a lower proportion between debt and equity because they prefer "personal capital" loans, so they tend to ask for capital investments from family or friends (Coleman & Robb, 2009). This choice can be attributed both to the characteristics of their business—size, age, sector—and to the personal characteristics of female entrepreneurs. Indeed, according to Cesaroni and Sentuti (2016), female-run companies are smaller and younger than man-run entities and mainly operate in the retail trade or service sectors; consequently, they tend to need fewer financial resources in the start-up phase. Additionally, the differences in the financial strategy used by male-run and female-run companies may also be attributed to the differences in business structures. For instance, women-owned companies are often organised as individual firms; they are rarely part of a group. This is another element that may justify a lower reliance on bank loans (Stefani & Vacca, 2014). Other studies have found that a lower appeal to third-party financing could be attributed to personal managerial choices (Watson, 2006).

Regarding gender stereotypes (Rita et al., 2018), males are more aggressive and inclined to risk; while females are more emphatic and prefer stability. These personal traits reflect on their behavior (Heilman, 2001) as well as on the way they manage a business. Indeed, women have a stronger aversion to risk than men in terms of financial policies. Nevertheless, this does not mean that women-led businesses deliver lower performances; however, female owners are less confident, and they prefer to use internal resources (Powell & Ansic, 1997).

Scholars (Bianchi et al., 2021) have also investigated the correlation between female presence in the company's governance and corporate performance. A financial analysis conducted among Italian innovative start-ups found that the start-ups managed by women do not reflect a gender gap in terms of size, profitability (this affirmation will be later identified as Hp1), efficiency, and financial management; however, their sources of financing grow proportionally less than those of start-ups managed by men

(De Martini, 2018). However, the inexperience of female-run firms, due to their more recent presence in the market than male-run companies, makes banks consider them riskier investments. Indeed, from the supply side, banks adopt discriminatory attitudes towards financing loans to female-run businesses: they ask for higher interest rates (this affirmation will be later identified as Hp2); those rates become a little lower if there is a male guarantor and are often higher if the guarantor is another woman (Alesina et al., 2013). The result is that female-run companies tend to avoid asking for loans because they develop a fear of being rejected by banks (Walken & Robb, 2002), which prevents them from pursuing that financing option. Although this is a common condition, for male-run and female-run SMEs, the difference between female-owned and male-owned businesses is statistically significant (this affirmation will be later identified as Hp3) (Walken & Robb, 2002). The percentage of women rejected by banks is twice that of men (Cesaroni & Sentuti, 2016). Bank discrimination regarding male and female loan policies does not consider the risk's proportionality; in fact, women do not take more risk than men. Moreover, women-run businesses have statistically filed for bankruptcy less often than those run by men. However, there is a more widespread trust for the latter, which eases the conditions for determining interest rates (Alesina et al., 2013).

In conclusion, the literature agrees that female-led firms are more likely to refrain from credit applications than male-led firms (Galli et al., 2020). In this context, it is interesting to verify if these specific differences in financial strategies are also confirmed for Italian SMEs operating in the F&B sector, the biggest manufacturing sector in terms of jobs and value-added, where only a small number of firms are female-led.

2.3 F&B sector's financial sources

In a larger framework, micro, small, and medium-sized enterprises (SMEs) are the engine of the European economy. They are essential for job creation and economic growth, and they ensure social stability. In 2013, more than 21 million SMEs offered 88.8 million jobs throughout the European Union (EU). Nine out of ten businesses are SMEs, and they create two out of three available jobs. SMEs also stimulate the spirit of entrepreneurship and innovation across the EU; therefore, they are essential for promoting competitiveness and ensuring employment (European Commission, 2019).

Many scholars have investigated the determinants of the debt policies of SMEs, finding out that, because of their structure, SMEs are often characterised by important limits that prevent them from easily raising funds via capital markets (Caglayan & Xu, 2016; Cingano et al., 2016). This results in undercapitalisation, uncertain availability of short-term liquidity, and insufficient working capital, without considering the usual inability of man-

agers, which represents a very dangerous loss possibly leading to a business failure (Birley & Niktari, 1995). Consequently, managers and owners frequently evaluate their recourse to external financing (Mazzoleni & Pollonini, 2020). They largely rely on banks to finance their projects. In fact, about 70% use bank loans or overdrafts (Butzbach et al., 2020). However, that causes a problem. Due to the aforementioned reasons, banks impose strict limits on and obstacles for this kind of enterprise, which has to struggle to access affordable credit facilities (Butzbach et al., 2020). To solve this problem, the EU has introduced specific policies to support an expansion in the stock market and their investments in the research and development field, despite the financial crisis due to COVID-19 (European Commission, 2020). Furthermore, the EU is looking for alternative financing forms that may support the same purpose, such as crowdfunding, which simplifies the ability to match investment demand with the growing number of SME loan requests (Maier, 2016; Cillo et al., 2019). To address the high level of SME-related risk, these options include mini bonds, consisting of a bond that can be issued by unlisted companies on regulated markets under some conditions (Nassr & Wehinger, 2015), hybrid instruments, such as subordinated debt, convertible debt, bonds with a warrant, mezzanine finance, or even relying on private equity or venture capitalists (Schäfer et al., 2004).

However, a poor financial culture that characterizes SMEs in terms of alternative financial instruments, together with the strict attitude of banks, discourages a company's growth (Rossi et al., 2016). Precisely because of their structural characteristics and their economic relevance, SMEs should be supported by third-party financing, so they can be encouraged to invest.

All of this has an even greater impact on firms operating in the F&B sector, which is part of the agri-food sector, since they employ most of the people in the manufacturing sector and they are the greatest source of innovation (Kafetzopoulos et al., 2020). In fact, 59% of food companies have the necessary skills to deal with a digital transformation and they are becoming used to employing robotics all along the production line. In Europe, the robotics density is highest in Sweden, Denmark, the Netherlands, and Italy (Food Drink Europe, 2020).

For an ecosystem that cannot be independent, that is, it needs external capital and support, a crisis obviously seems to have a greater impact.

Nevertheless, while crises persist, the SMEs in the F&B sector reveal their resilience (Mazzoleni & Pollonini, 2020). Although the EU accession of Central and Eastern European Countries and the global economic crisis of 2008 have influenced the output of the F&B industry, business in that sector showed an even better performance than the overall European market, leading to economic growth (Carraresi & Banterle, 2015). Hence, they have not been totally shocked; rather, they have demonstrated the ability to resist the significant events that occur. Specifically, in Italy, during the

economic crisis that started in 2007, SMEs confirmed their competitiveness in the European market, which could even be increased by exploiting the opportunities coming from traditional products made in Italy or introducing innovations in distribution channels (Carraresi & Banterle, 2015). Currently, according to the International Monetary Fund, the COVID-19 pandemic is the worst economic and financial crisis since the Great Recession of 1929. Italy is expected to see a marked contraction of its GDP in 2020 (-8.9%) and just a partial recovery in 2021 (+ 4.0%) (ISTAT, 2020). Yet, the analysis of the XVIII ISMEA qualitative report confirms the stability of the F&B sector that is capable of promoting the development of the entire Italian region because it can count on its strategic pillars: PDO and PG (ISMEA 2020). Nevertheless, Italian SMEs are characterized by having chronic difficulty accessing financing, due to a strict administration of banks and a high gap between interest rates applied to large and small enterprises (Rossi et al., 2016).

3. Research Design

3.1 Context of the Search and Sample Selectione

To analyze the financial structure of the SMEs operating in the F&B sector, and to understand if there are any differences in the companies owned by women and men to determine if these are divergent trends, a sample of 1.924 Italian firms were analyzed to compare their financial structure from 2013 to 2019.

The work focuses on the Italian F&B industry because the Italian agri-food system represents 15% of Italy's GDP and it is the first country in Europe to recognize the agricultural added value (CREA, 2019). The data about the PDO economy, relative to 2019, highlight a sector that has primary importance and that is growing: it generated €16.9 billion of value-added production (+ 4.2% in one year), contributing 19% to the turnover of the Italian agri-food sector, resulting in exports of €9.5 billion (+ 5.1% in one year) (ISMEA 2020). Indeed, a large share of Italian production is exported. In recent years, there has been an increase in that volume thanks to a reduction in average prices (Rossi, 2013).

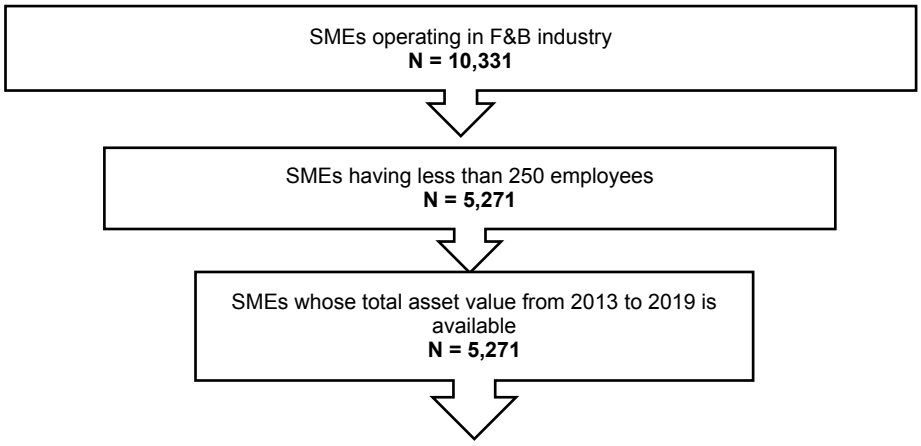
This study utilized the data extracted by AIDA, a database in which financial statement data of Italian firms are collected; the data were obtained on February 18, 2021. The firms involved in the analysis were selected through an industry classification, focusing on the firms belonging to the following ATECO code categories:

10 - Manufacturers of food products

11 - Manufacturers of beverages

The original sample included 10,331 firms, which are skimmed with additional boundaries that are imposed. The firms involved in the analysis were selected based on the definition of SMEs provided by the European Commission. Consequently, a limit of 250 employees is fixed. Additionally, the sample is restricted to firms whose turnover and financial statements are available for the 7 years that are considered. The resulting sample included 5,271 firms. These steps are summarized in Fig. 1.

Fig. 1. Methodology Flow



Source: Our elaboration (2021)

The other two boundaries of European SMEs, turnover, and total asset value, were later verified, but the number of firms did not change. Furthermore, to answer the research question, the sample was manually restricted to the SMEs whose owner's name was accessible. This finally resulted in identifying a group of 1,924 SMEs, of which only 19% are firms owned by women.

Table 1. Sample of SMEs in the F&B sector

	Owned by Women	**Owned by Men**
No	372	1572
%	19%	81%

Source: Our elaboration (2021)

3.2 Methodology

This study was conducted using a mixed-methods approach starting with a descriptive analysis of the results given by the data from the firms' balance sheets. This technique is based on the elaboration of several ratios, and it could be used for several purposes, such as the prediction of failure or, more generally, the observation of the health status of the firms (Beaver, 1966). It also allows for verifying the relevant condition of firms, such as their liquidity, stability, and profitability. The result of the index analysis was then tested using quantitative analysis consisting of two statistical tests: the t-test and the Mann-Whitney U test.

The full results of the descriptive analysis are reported in Appendix A.

The following indicators were taken into account:

- Return on investment (ROI). This is fundamental to understanding if the change in the financial structure has a negative impact on the economic performance of the firms. If the impact is positive, firms are able to improve their financial structure and, consequently, their rating.
- Return on debt (ROD). This indicates the average cost of money that the company incurs for the use of third-party capital.
- Debt on equity (D/E) ratio. This is given by the relationship between third-party financing and equity.
- The elasticity of liabilities (EoL). This is given by the relationship between current liabilities and total assets.

The statistical analysis consisted of two different kinds of tests, where data are analyzed considering 95% confidence interval. The first is a t-test, which is used to verify the means equivalence and to evaluate the significance of the result that is obtained. The second, is the non-parametric Mann-Whitney U test, which is used to compare two independent samples and to identify the median differences.

Considering what is stated in the literature, it is possible to recognize four hypotheses that this research study aimed to verify through qualitative and quantitative analyses of the key performance indicators (KPIs).

Hp1: Female inexperience does not affect economic performance, so the ROI is equal, regardless of the owner's gender.

$ROI_m = ROI_f$

Hp2: For the same loans, women have to pay a higher interest rate, so the ROD is lower in male-owned companies.

$ROD_m < ROD_f$

Hp3: Women tend to avoid asking for loans, so the level of indebtedness of enterprises managed by men is higher.

D/E m > D/E f

Hp4: Different financial preferences influence the EoL.

EoL m ≠ EoL f

4. Findings and Discussion

4.1 Descriptive Analysis

The findings show that ROI increased in the first four years of the time period considered. This could probably be explained by the new attention paid to guaranteeing a higher qualification of human capital, better quality products, and an extraordinary relational capacity, that have increased since 2010 (Capitanio et al., 2010). In contrast, ROI promptly decreased later, with a deep contraction in 2019, provoked by the high economic and political uncertainty. Indeed, 2019 was a year of economic global weakening due to worldwide political instability, the Brexit question; trade tensions, largely related to the evolution of the trade policies of the United States and China; and general uncertainty. In the first quarter of 2018, the Economic Sentiment Indicator showed a sign of uncertainty, with a worsening of the climate of confidence of entrepreneurs in March; additionally, the Euro-Coin indicator marked its second decline after 11 months of consecutive growth, settling at high levels (ISTAT, 2018). Hence, the trends seem to reveal that there would not be a significant difference in economic performance attributable to gender since ROI follows a very similar path in both female-led and male-led companies.

Regarding ROD, a decrease was seen throughout the entire time period considered in both of the analyzed samples. The reason for this is that, after the financial crisis of 2007 to ensure price stability in the context of low underlying price pressures in the medium-term and to favor the gradual recovery economic, in 2013 the European Board management lowered rates twice on European Central Bank benchmark interest rates (European Annual Report, 2013). Money market interest rates continued to decline even in 2015, when, after some attempts by investors, market frictions against negative interest rates gradually faded away (European Annual Report, 2015). Finally, in 2019 the European Council communicated its intention to keep the key ECB interest rates low, at least until the first half of 2020 (European Annual Report, 2019). Given that, it is possible to conclude that, in this case, the trends do not follow a gender logic.

For D/E, the index revealed a general contraction for the entire time period considered. Thus, the growth of profitability is almost directly propor-

tional to the increase in investment made with equity. This phenomenon may be encouraged by the credit crunch that has characterized banks in the last 8 years; because of that, the overall credit disbursed by the banking system decreased by over 200 billion € (Lainà, 2015). Moreover, in this case, the index analysis result does not confirm a lower proportion between debt and equity, due to the tendency of women being more skeptical than men about securing bank loans; they prefer to resort to personal loans (Watson, 2006; Coleman & Robb, 2009; Stefani & Vacca, 2014; Galli et al., 2020). Finally, based on the debt contraction mentioned above, it is easy to deduce that the index analysis also shows a homogenous decline in the EoL. In conclusion, in female-led and male-led SMEs, the findings identified a very similar path of KPIs representing profitability (ROI), financial autonomy (D/E and ROD), and elasticity of capital structure (EoL). Hence, these findings refute all the hypotheses deduced from what was stated in the literature. Nevertheless, to further confirm this contradiction and to better justify it, we investigated previous results using quantitative analysis.

4.2 Quantitative Analysis

Quantitative analysis was conducted considering the hypotheses previously defined Section 3.2. When the empirical data did not confirm the hypotheses (the cases are identified with an asterisk), the alternative hypothesis (H1) was used in both tests.

H1: $\text{Index}_{\text{man}} \neq \text{Index}_{\text{woman}}$

The findings from the t-test are presented in Tab. 2; the Mann-Whitney U Test results are presented in Tab. 3. The grey cells contain values that do not represent significant differences; in white cells contains values that are significant.

Tab. 2: The t-Test findings

	INDEX P-VALUE			
YEAR VALUE	ROI	ROD	D/E	EoL
2013	0.326	*0.355	*0.253	0.037
2014	0.250	*0.772	*0.218	0.010
2015	0.831	*0.506	0.141	0.060
2016	0.623	*0.729	*0.992	0.011
2017	0.999	*0.423	*0.121	0.041
2018	0.439	*0.842	*0.192	0.488
2019	0.166	*0.312	0.422	0.007

Source: Our elaboration (2021)

Tab. 3: The Mann-Whitney U Test findings

	INDEX P-VALUE			
YEAR VALUE	ROI	ROD	D/E	EoL
2013	0.2813	*0.0586	*0.0066	0.0233
2014	0.5799	*0.4468	*0.0254	0.0060
2015	0.6616	*0.3454	*0.0334	0.0444
2016	0.4148	*0.7090	*0.0450	0.0132
2017	0.4663	*0.9908	*0.0006	0.0113
2018	0.6137	0.4100	*0.0005	0.0301
2019	0.4666	0.3800	*0.0074	0.0054

Source: Our elaboration (2021)

As seen in Table 2 and Table 3, concerning ROI and ROD, the findings are not significant, since the hypotheses that emerged from the literature (Hp1, Hp2) are not supported by empirical evidence. More interesting is the analysis of D/E. Indeed, if the t-test shows that an insignificant difference persists, refusing Hp3, the Mann-Whitney U test shows that the median is significantly higher for women-run businesses than businesses run by men; and it reverses what the literature states because it means that the level of debt incurred by women-run businesses would be even higher than the level incurred by businesses run by men. Finally, regarding EoL, the t-test shows a significant difference between the average of male-run and female-run firms except in 2013 and 2018; whereas the Mann-Whitney U test, which was conducted to see if there is a significant difference between the two samples' median, appears to provide significant results throughout the time period considered.

In conclusion, the quantitative analysis results also show that, most of the time, the differences between the financial choices made by men and women are not significant, providing empirical proof that gender cannot be a variable to determine a firm's capital structure.

5. Conclusion

Micro, small and medium-sized enterprises are the essence of the European economy, although they are characterised by significant limits. The F&B industry is one of the most influential in Italy, and in the rest of Europe. In fact, it employs the most people in the manufacturing sector, and it is a significant source of innovation (Kafetzopoulos et al., 2020). It has also demonstrated a strong resistance to crises. In Italy, from the financial crises started on 2007, F&B SMEs confirmed their competitiveness in the

European market, introducing innovations in distribution channels or relying on PDO designation (Carraresi & Banterle, 2015). Moreover, in spite of the COVID-19 pandemic, it is still considered to be a stable and powerful sector (ISMEA, 2020). Like other industries, the F&B sector has a large gender gap; nevertheless, the literature review demonstrates that this gap has not been explored yet (Paoloni, 2021; Antonelli & Vigano, 2012). Hence, this work aimed to deepen the understanding of the financial differences between female-led and male-led enterprises.

The work used data about SMEs operating in the F&B sector extrapolated by AIDA to answer the following Research Question: *"As the Italian SMEs belong to the food & beverage sector, could the difference in gender ownership influence a firm's financial policies?"* This was investigated using descriptive analysis based on KPIs trends and quantitative analysis, consisting of a t-test and a Mann-Whitney U test.

Observing the four hypotheses deduced from the literature, the findings confirm that male-owned and female-owned enterprises follow a very similar path in terms of profitability, efficiency, and financial management (Powell & Ansic, 1997, De Martini 2018), and they agree with the gender structure theory (Risman, 2004; Szymanska & Rubin, 2018), according to which the distinction between men and women is attributable to stereotypes rather than real biological differences that influence their financial choices.

6. Originality/Value of the Work

The value of the study discussed in this article consists of analyzing the financial choices of SMEs operating in the F&B sector by comparing the trends seen in female-owned and male-owned enterprises. Thus, it aims to provide a deeper understanding of financial gender differences related to this specific sector. While other research studies have investigated the relationship between the financial structure and the owner's gender, they have not focused on agri-food companies. Consequently, the study discussed in this paper fits into the field of gender diversity, but its findings can be valued by financial scholars, who can identify elements pertaining to their research.

7. Study Limitations and Suggestions for Future Research

This study has some limitations. One limitation is the indistinction between interest-bearing debt and interest-free debt, which made it impossible for us to investigate the bank's attitude toward offering loans to women-owned enterprises. Another limitation is attributable to the index that

was used, because this was selected by the authors, so they only chose the data they considered to be relevant to the aim of the work. Future research may be needed to verify if banks are as discriminatory as the literature has reported. Another limitation is represented by the benchmark territory, which is restricted to Italy. In the future, a multiple case study comparative analysis between different countries in Europe, and between different continents, would be more interesting and exhaustive. Another future line of research can an analysis of the composition of equity: does it actually come from alternative financing sources? If so, which ones?

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