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# Synergies in Corporate Finance and Behavioral Finance: Unveiling the Impact of Franchising in Capital Budgeting Framework


**Supervisor**

Ch.ma Prof.ssa Caterina Cruciani

**Graduand**

Andrea Sparagna

Matriculation Number 892773


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# Introduction

This thesis conducts a thorough analysis that combines the strategic subtleties of franchising with the fundamental concepts of capital budgeting in the dynamic world of corporate finance. One of the most important processes in financial decision-making is capital budgeting, which involves carefully assessing anticipated capital expenditures and gives businesses a road map for handling investments and returns over long periods of time. The main objective of this study is to identify possible overlap areas between the theoretical frameworks that control capital budgeting, which are defined by risk assessment, strategic adaptability, and quantitative analysis, and the unique operational dynamics associated with franchising.

The aim of the first chapter is to define the process of capital budgeting and the theoretical framework around it. The focus of this chapter is on methods employed in capital budgeting, including indicators such as  the Profitability Index (PI), Net Present Value (NPV), Internal Rate of Return (IRR), and Period Payback (PP). Financial managers and analysts use each of these indicators as a compass to help them navigate the complex world of investment decision-making. To better understand which cognitive biases might influence a company's decision-making process, an emphasis on behavioral finance was incorporated in Sectionr 1.4, as well as quantitative analysis related to the methodology of evaluating strategic investments in the capital budgeting framework. This decision was made to broaden the scope of the analysis and include the research of the third chapter. This is related to the need for a broader understanding of the stages of the capital budgeting process.

The second chapter of the thesis intends to investigate the special characteristics of franchising, which is a type of agreement where one party gives another one particular rights in return for payment. The understanding of how companies strategically manage resources, choose investments, and plan for long-term growth requires a thorough comprehension of these approaches. To better explain the franchising relationship, it was necessary to also focus on cognitive biases that affect both the franchisor and the franchisee. This investigation seeks to offer a comprehensive understanding of why franchising may develop into a powerful and wise investment strategy within the broader context of corporate finance. The goal of the research is thus to provide valuable insights for companies looking to improve their financial strategies by examining how the principles of capital budgeting relate to the operational challenges associated with franchising. Franchising is a strategic option that attracts the interest of both corporate executives and academics when seen through the lens of capital budgeting. Capital budgeting is an essential financial decision-making process that seeks to optimize expected returns on capital investments. This concept heavily emphasizes franchising due to its ability to use brands, risk-sharing dynamics, and systematic resource allocation. The capacity of franchising to assist firms in entering new markets without imposing onerous financial burdens on them has led to an increased attention on the subject by academic and corporate groups.

In the last chapter, to fully understand the connection between franchising and capital budgeting, we will analyze the retail industry and, more specifically, the biggest players of Italy. Additionally, by examining customer satisfaction and brand impression, franchising may be better described as a successful approach in the capital budgeting framework. Following the exposition of this theoretical framework, the last section of the chapter will go further, focusing on an extensive case study of Carrefour S.p.A called "Tuscany Business case". Thanks to the interview with Pasquale Alicandro, regional director of Carrefour Italia, it was possible to have direct information on the investment in the 9 neighborhood sales points that Carrefour carried out in Tuscany in 2013. The interview has the purpose both of introducing the quantitative analysis linked to the Tuscany business case, better contextualizing the data from the companies' financial statment, and to capture the behavioral biases that have affected the evaluation of making this investment in franchising, in the context of capital budgeting, applying the theory of section 1.4. Supported by the theory of the first chapter, inherent to the capital budgeting process, it was decided to evaluate the growth in value of these companies through cash flow analysis, in order to capture the effect of the investment directly based on financial results. To enhance the results obtained from the analysis of the strategic investment in Tuscany, Carrefour has made available the analysis of 6 companies operating between Milan, Rome, Bergamo, Turin and Genoa, with which they have a franchising relationship. Since the structure of these companies is very similar to that of the sales points in Tuscany, a comparison of the cash flows of the two sectors will be made.Since a lot of financial information of companies are sensitive and confidential and, moreover, having Carrefour changed data-management software, it was not possible to study the cash flow trend from the acquisition of the neighborhood sales points (2013) until today. The analysis of cash flows, also for this reason, was preferred to other theoretical approaches, too linked to the "timing" of cash flows, as explained in the dedicated section of the second chapter.

# I. Capital Budgeting: A Comprehensive Examination of its Components and Functions

Capital budgeting is a crucial step in a company's financial decision-making process as it helps create long-term strategies and ensures continuous growth. This chapter explores the many facets of capital budgeting, emphasizing its composition and function in long-range planning, resource distribution, risk control, and the general improvement of shareholder value.

## 1.1 Capital Budgeting: an overview

The process of evaluating planned capital expenditures to see if the investment will yield a sufficient return on investment (ROI) is known as capital budgeting[1].

Capital budgeting deals with investments and returns that are spread over a number of years and offers a comprehensive road map to assist the company in achieving its long-term goals for profitability and growth.

The capital budgeting process handles investments that increase value to the company, such as fixed asset or real estate purchases. Future cash flows and the degree of uncertainty around those cash flows are crucial factors that must be taken into consideration, when making capital budgeting[2].

Capital budgeting process utilizes a cash flow approach to manage financial inflows and outflows. However, the theoretical framework is not devoid of challenges, with Risk and Uncertainty casting shadows over strategic planning. In this case, quantitative analysis is a crucial tool that aids in understanding the complexities of numerical estimations and evaluating return on investment.

Capital budgeting becomes a dynamic, strategic process by integrating financial objectives with flexibility in the face of an uncertain economic climate, according to this theoretical framework.

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[1] Farragher, Edward J., Robert T. Kleiman, and Anandi P. Sahu. "Current capital investment practices." *The Engineering Economist* 44.2 (1999): 137-150.

[2] Peterson, Pamela P., and Frank J. Fabozzi. *Capital budgeting: theory and practice*. Vol. 10. John Wiley & Sons, 2002.

For instance, capital budgeting is a key component of corporate finance that helps to manage expenses and, more significantly, evaluate and estimate the investment's long-term value and their direct and indirect impact on the firm[3]. (

Before going more in-depth into the Capital Budgeting process, it is crucial to understand how a company makes investment decisions and how those decisions are defined with respect to risk and cash flows.

Firms are prioritizing long-term investments in strategy, innovation and efficiency in order to gain and maintain a competitive advantage in today's markets, which are characterized by intense competition[4]. Firms determine the investments needed to satisfy client demand and provide long-term benefits. Generally, societies invest with the intention of entering new markets, enhancing the business's capabilities or creating new goods, utilizing cutting-edge technology, or investing in uncharted sectors of the economy.

Acquisitions, investments, product and technology development, adoption of new business and management techniques, and any combination of these might all be considered when making decisions on capital budgeting[5].

Companies constantly invest funds in assets, which provide income and cash flows that the company may utilize to pay the purchase of new assets or to distribute to owners.

The total amount of assets, both tangible and intangible, compose the "Capital"[6].

Together with tangible assets like land, buildings, machinery, and equipment, these assets also contain non tangible asset such as property rights, patents, copyrights, and accounts receivable.

Projects that company makes about capital expenditure should involve many decisions. For example, if it decides to produce a new product, it will need to invest in land acquisition, building development, and the purchase of manufacturing equipment. The

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[3] Levy, Haim, and Marshall Sarnat. *Capital investment and financial decisions*. Pearson Education, 1994.

[4] Ren, Liqin, Guangya Xie, and Koos Krabbendam. "Sustainable competitive advantage and marketing innovation within firms: A pragmatic approach for Chinese firms." *Management research review* 33.1 (2009): 79-89.

[5] Haka, Susan F. "A review of the literature on capital budgeting and investment appraisal: Past, present, and future musings." *Handbooks of management accounting research* 2 (2006): 697-728.

[6] Lim, Steve C., Antonio J. Macias, and Thomas Moeller. "Intangible assets and capital structure." *Journal of Banking & Finance* 118 (2020): 105873.

corporation will also need to invest more working capital in the form of cash, inventory, or accounts receivable for realizing this project. Working capital is the collection of resources needed for a business's continuous operations, which serve as the foundation for its long-term investments.[7]

Capital budgeting is a process that may be viewed as a sequence of stages: Strategic planning, Identification, Screening of projects, Quantitative analysis, Qualitative analysis, Final decision, Implementation and Post-implementation phases[8]. Capital budgeting is the process of choosing investment projects that maximize shareholder value and it concerns with large scale, long-term asset purchases.

Strategic planning is the first step in the capital budgeting process[9]. It comprises creating and implementing strategies to achieve long-term objectives and allocating resources in accordance with opportunities and challenges presented by the outside world. Furthermore, via strategic planning, the resources of a company may be deployed as effectively as possible to evaluate needs of the firms and maximize outcomes: the primary goals of the organization are outlined in the mission statement, which explains the criteria of the investments in line with purposes of the company. Choosing how to allocate financial, human, and technological resources is an essential component of strategic planning and plays a pivotal role for the whole company.

Identification of potential investments, then, is the second stage of the process. It is essential since it provides the organization with opportunities for growth and success and it involves evaluating, assessing and choosing potential investment projects that align with the strategic goals of the firm, defined during strategic planning. An appropriate identification process can help find opportunities to invest, in order to offer new products and improve operations, examining technical advancements, especially in fields where innovation drives business. A SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) can also be carried out to identify potential investments opportunities that can affect the firm and a Cash Flows analysis can be implemented too, in order to evaluate

[7] Peterson, Pamela P., and Frank J. Fabozzi. *Capital budgeting: theory and practice*. Vol. 10. John Wiley & Sons (2002).

[8] Mukherjee, Tarun K., and Glenn V. Henderson. "The capital budgeting process: theory and practice." *Interfaces* 17.2 (1987): 78-90.

[9] Steiss, Alan W. *Strategic management for public and nonprofit organizations*. Routledge, 2019.

the potential benefits of the investments and how the investments analyzed impact the value of the firm.

Project screening, which involves comparing and analyzing potential investment opportunities identified in the phase before in order to see which are the ones that fit better with the needs of the firm, is a critical phase in the capital budgeting process[10]. (Through project screening, firms can focus on investments that meet their strategic objectives, enhance the decision-making process and reduce possible risks, by making comparisons between investment projects that can increase the value of the firms.

Because it offers a comprehensive analysis of possible investment projects, quantitative evaluation is the key component of capital budgeting. This entails a thorough examination of these technical, financial, marketing, and economic components of the operations. At this stage of the process, investment impacts on the firm are evaluated and computed using financial metrics and mathematical models, to support the strategic goals of the organization.

Investment opportunities and their consequences are assessed using a variety of methods, but the most used ones are the Profitability Index (PI), Internal Rate of Return (IRR), Net Present Value (NPV) and Period Payback (PP).

The qualitative stage, on the other hand, includes an analysis of investments that benefits society and the environment in intangible ways. In order to assist decision-makers in identifying possible problems and possibilities for development, a detailed analysis of non-financial aspects is also necessary. This phase of capital budgeting covers management dynamics, political context, project impact on the environment, safety and its indirect impact on the firm. A variety of stakeholders' points of view are included in the qualitative components too. Considering a project from the perspectives of suppliers, customers, staff, and others can provide valuable information on the likelihood of success of the project.

According to Graham and Campbell (2001)[11], in capital budgeting, reaching the "final decision" is about finding a connection between the qualitative elements of stakeholder

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[10] Dean, Joel. *Capital budgeting: top-management policy on plant, equipment, and product development*. Columbia University Press, 1951.

[11] Graham, John R., and Campbell R. Harvey. "The theory and practice of corporate finance: Evidence from the field." *Journal of financial economics* 60.2-3 (2001): 187-243.

participation and strategy alignment and the quantitative results obtained from financial analysis, in order to develop an holistic point of view.

In capital budgeting process, the implementation phase denotes the change from making strategic decisions to execute the analyzed investment projects. Allocating resources in accordance with the guidelines of the the capital budget is the core activity in the implementation process. This comprises material assets like money and machinery, which are provided to facilitate the successful realization of the selected investments.

At the end of this process, post-implementation analysis provides valuable information for developing plans or evaluating projects. When an investment is accepted, the manager will provide monthly reports on the expenses incurred and any associated revenue. Monitoring investments and their impact on the firm is the aim of this phase.

In order to develop a strong capital budgeting process, it is necessary to estimate future cash flow of the firm. The present value of the company is equal to the present value of all future cash flows plus the present value of the cash flows from all current assets plus the cash flows from potential future investments. If the investment decision project generates cash flows that marginally exceed the risk assumed by capital providers, the value of the enterprise remains unchanged. If the project generates more cash flows than are needed to offset the associated risk, its value will increase. If the project generates less cash flows than needed, its cost of capital will not be covered, and its value will be reduced. Future cash flows are discounted at a rate that reflects the degree of uncertainty that investors have on the quantity and timing of these future cash flows.

Normally, a company invests solely to increase the value of its share of ownership. Compared to what it would have received from those expenses alone, a firm expects greater future cash flows from its investments in new assets. The difference between the company cash flows related to the investment decision and its cash flows not related to the investment decision, both collected during the same time period, is called incremental cash flows, which measures whether the investment decision is worth or not and captures the impact of the investment decision by giving the change in the firm’s value.

In short, capital budgeting is essential for firms because it enables them to make strategic investment's decisions that should have a significant impact on their business. Capital budgeting process is used for financial decision-making, which includes risk management, long-term planning, and maximizing shareholder value.

To conlude, implementing capital budgeting quantitative analysis is essential to ensuring firms long-term investments, expansion and success.

## 1.2 Cash Flow Approach and Risks

In order to facilitate the measurement of the change in a firm's value, it is possible to take into consideration the sum between the total amount of cash flows from operations (tipically positive) and investments cash flow (negative). The cash flows from operating activities expressed as a present value corresponds to revenues less operating expenses and is related to changes in working capital, taxes, expenses, and revenues.

On the side of the operating cash flow, working capital is made up of current assets that support the daily operating activities. The difference between current assets and liabilities is called net working capital.

Then, there is a relationship between taxable income and changes in revenues, expenses and taxes. In order to measure the impact of taxes on the results on the firms, the change in taxable income resulting from changes in revenues and expenses as a result of a new investment should be measured.

Then, it is important to take into account that taxes are lowered by the depreciation deduction. However, depreciation lowers the amount of taxes due, protecting money from being taxed.

With regard to investement cash flow, it is necessary to take into account all of the cash flows related to asset sales as well as the expenses incurred in purchasing those assets, installation costs and costs of disposing. If the company decides to replace an existing asset, the cash flow generated from selling the old asset must be taken into account because it is related to the purchase of the new asset. When an asset is sold by the company, either because it has reached the end of its useful life or has to be replaced, two forms of cash flows need to be taken into account: the proceeds from the sale and the costs incurred. Taxes are determined by the expected sales price, the book value of the asset at the time of disposal for tax purposes, and the appropriate tax rate.

If a business sells an asset for more than its book value but less than its initial cost, the difference between the sales price and the book value for tax purposes (also known as the tax basis) is a gain[12].

[12] Peterson, Pamela P., and Frank J. Fabozzi. *Capital budgeting: theory and practice*. Vol. 10. John Wiley & Sons, 2002.

There are two types of profits that might result from selling an asset for more than its book value. The first one is called Capital gain, which is the amount that remains after deducting the sales price from the initial cost. The benefit that arises from an asset's overdepreciation is known as depreciation recapture, and it is computed when the asset's selling price is higher than its tax basis. To conclude, when an asset is sold for less than book value, the corporation suffers a capital loss.

If there are no capital gains to balance the capital loss, the capital loss is deducted from ordinary taxable income. Gains and losses are aggregated if they occur during the same year, lowering the overall amount of capital gains taxes owed. The benefit of a loss is the amount of taxes that are reduced when an asset is sold. The decrease in taxable income is referred to as a "tax-shield". In order to evaluate an investment project, it is important to consider both the investment cash flows and the operating cash flows. The sum of these two cash flows is called Net Cash Flow and it is equal to the Incremental Cash flow related to an investment.

According to Andrews (1974)[13], to normally estimate Incremental Cash Flows, a few simplifying assumptions must be made: flows will enter and exit the company at predetermined times, usually at the end of the year, despite their irregular intervals. There is the same risk associated with all inflows and outflows over a given time period.

While projecting the costs and benefits of an investment, managers must deal with risk. There are several origins of uncertainty that can influence Future Cash Flows, such as economic conditions, market conditions, taxes and interest rates.

In order to choose investments that maximize the worth of the firm, companies should assess the level of uncertainty around the cash flows of a certain project.

Considering risk sources before selecting how to invest capital is a crucial point of capital budgeting process, because parties who supply capital demand remuneration for assuming this risk. The main goal of a profit-oriented firm is to generate enough revenue from its invested assets to cover interest payments and give its owners a return on equity (ROE) that adequately rewards them for taking on financial risks.

The amount of capital that could be invested in other investments projects at the same level of risk is known as the opportunity cost. In order initiate a capital budgeting process, firms should take into account all the opportunity costs with respect to the cost of capital,

[13] Andrews, William D. "A consumption-type or cash flow personal income tax." *Harvard Law Review* (1974): 1113-1188.

which is the lowest return necessary to invest capital in one or more projects or the rate of return on assets that must be generated in order for the business to pay its debts in interest and give owners the anticipated return. A company should always want to maximize returns that exceed the cost of capital necessary to sustain the investment, otherwise the project will not generate a returns for firms.

According to Marshall et al. (2020)[14], the interest rate used to discount cash flows to future periods is called the cost of capital, and it is used to calculate the investment strategy's worth.

Economic conditions and market conditions expose capital budgeting to different risks. Variations in interest rates may impact the cost of capital, hence impacting the feasibility and attractiveness of investments. Interest rate fluctuations provide a problem that has to be properly analyzed by enterprises in order to maximize their capital budgeting strategies. Many companies utilize debts and equities to finance company expansion and projects. The total cost of capital is computed by taking the weighted average cost of capital sources and it is called WACC.

To sum up, when making investment decisions, managers have to consider not only the impact of the project investment will have on the future cash flows of the company, but also the uncertainty around those cash flows. The present value of the company is equal to the present value of all future cash flows plus the present value of the cash flows from all current assets plus the cash flows from potential future investments. If the investment decision project generates cash flows that marginally exceed the risk assumed by capital providers, the value of the enterprise remains unchanged. If the project generates more cash flows than are needed to offset the associated risk, its value will increase. If the project generates less cash flows than needed, its cost of capital will not be covered, and its value will be reduced. Future cash flows are discounted at a rate that reflects the degree of uncertainty that investors have on the quantity and timing of these future cash flows. Investors refer to the required rate of return, or RRR, as the discount rate. The discount rate, which indicates the business risk of a project, is the rate of return required to balance the risk assumed by the capital providers[15]. In order to determine the company's

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[14] Marshall, David H., Wayne W. McManus, and Daniel F. Viele. *Accounting: What the numbers mean*. McGraw-Hill, 2020.

[15] Marshall, David H., Wayne W. McManus, and Daniel F. Viele. *Accounting: What the numbers mean*. McGraw-Hill, 2020.

valuation, we must assess the risk related to these future cash flows, which is called "Business Risk" and it is the combination of "Operating Risk" and "Sales Risk". Operating risk corresponds to the degree of uncertainty of operating cash flows that results from fixed and variable operating expenses. Sales risk, on the other hand, is the degree of uncertainty surrounding the quantity and the price of the item or service hat will be sold[16].

In Haka's (2006)[17] opinion, both accounting and economic rates of return are important ideas to understand when evaluating the attractiveness of an investment; indeed, the economic success of an investment is determined by the actual rate of return on the finished project. Based on this concept of economic performance, the present value of the anticipated investment cash flows, discounted at appropriate rates determined by the opportunity cost of capital, defines the economic value of a future investment.

According to Myers (1967)[18], there are a lot of similarities between the treatment of risk in Capital Budgeting process and in security portfolio analisys in portfolio composition process, focusing on diversification.

One of the most important phases in creating a portfolio is determining the right mix of investments in riskier assets and estimating profits and losses. Investment decisions includes selecting specific assets within each asset class, allocating funds between risky and risk-free assets, and allocating assets within the risky portfolio over a range of asset classes. Risk aversion and estimates about the risk-return trade-off of the ideal risky portfolio impact the optimal capital allocation, while composing a portfolio. The efficient frontier is a representation of a collection of portfolios that maximize expected return for a given amount of portfolio risk. Thus, as long as there is negative correlation between the assets in a portfolio, diversification is advantageous. The stronger the correlation between an asset and the other assets in the portfolio, the greater the contribution of the item to the variance of the portfolio. An optimal hedge is one that perfectly exhibits a negative correlation with the portfolio. Portfolio volatility may be totally eliminated with

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[16] Fabozzi, Frank J., and Pamela Peterson Drake. *Finance: capital markets, financial management, and investment management*. Vol. 178. John Wiley & Sons, 2009.

[17] Haka, Susan F. "A review of the literature on capital budgeting and investment appraisal: Past, present, and future musings." *Handbooks of management accounting research* 2 (2006): 697-728.

[18] Myers, Stewart C. *Procedures for capital budgeting under uncertainty*, Massachusetts Institute of Technology (1967)

the right hedging asset. In order to reduce exposure to a single risk factor, the diversification concept calls for splitting up a fixed portfolio over several different assets. On the other hand, to decide how to allocate capital, a company has to understand the characteristics of cashflow that are generated from the investment choice, taking into consideration deriving profits and risks[19].

In capital Budgeting framework, by investing in many and different projects, a company can reduce its exposure to the potential negative repercussions of any one of them failing. Diversification creates a "portfolio effect" whereby the overall risk of the investment portfolio is lower than the sum of the risks associated with its individual components, since the risk associated with different investments may not be closely related. The idea is that when an investment faces difficulties, others should balance the portfolio. Diversification may lead to more consistent and predictable cash flows. indeed, when the failure of one project is countered by the success of others, the total cash flow stream may stabilize.

By estimating the risk of future cash flows and the probabilities associated to these occurrences, it is possible to evaluate the risk of an investment. Because most firms have a lot of assets, the stand-alone risk of an investment might not be the right risk to evaluate the impact on the business. One approach to conceptualize a corporation can be as a portfolio of assets, and the returns on these different assets aren't always correlated.

A significant amount of the shares of a company is owned by its shareholders, who may also be investors with a variety of investment portfolios. The investors voice concerns about how the firm's holdings could affect the degree of risk attached to each of their own portfolios. In reality, owners who request risk compensation are requesting payment for market risk, whom diversification is unable to mitigate. In light of this, a business considering embarking on a new investment project has to focus on the potential impact on its market risk. There is frequently a strong correlation between the risk of the single investment and the market risk: investment projects that have greater levels of risk also frequently have higher levels of market risk.

Various techniques are employed to assess the risk attached to potential investment outcomes. The difference between the two extremes of a probability distribution is called

[19] Levy, Haim, and Marshall Sarnat. *Capital investment and financial decisions*. Pearson Education, 1994.

its range, and this is a statistical metric that provides no information on the probability of potential cash flows at or near the extremes[20].

Then, using the expected value, which is a measurement of a probability distribution's center, and comparing all possible investment's outcomes to this one value, it is possible to examine how each possible investment's outcome deviates from it, as seen in Formula 1, below.

$$E(x) = \sum_{n=1}^{N} p_n x_n$$

*Formula 1 (from Peterson et al., 2002).*

*N* represents the entire number of potential future investment's outcomes, *xn* the *nth* possible outcome of investments, *pn* the *p* probability of the *nth* investment, and *E(x)* the expected value. The weighted average of the cash flows, with the probabilities serving as the weights, is called the predicted cash flow. The standard deviation is a measurement of how each possible investment outcome deviates from the expected value (see Formula 2 below). The standard deviation provides information about the distribution of possible outcomes by showing how much each event deviates from the expected value and how probable it is to occur.

$$\sigma(x) = \sqrt{\sum_{n=1}^{N} p_n [x_n - E(x)]^2}$$

*Formula 2 (from Peterson et al., 2002).*

The standard deviation is a useful measure of dispersion. It indicates the degree to which the alternative outcomes differ from the expected value. However, the main disadvantage of this statistical approach is that it makes it impossible to compare the standard deviations of cash flows of different projects if the expected value of all projects is different. For this reason, the coefficient of variation is implemented. The fact is that it translates the standard deviation of many probability distributions to allow for

[20] Peterson, Pamela P., and Frank J. Fabozzi. *Capital budgeting: theory and practice*. Vol. 10. John Wiley & Sons, 2002.

comparison, even in situations where the expected values for each investment result differ (Formula 3).

$$Coefficient\ of\ variation = \frac{\sigma(x)}{E(x)}$$

*Formula 3 (from Peterson et al., 2002).*

By comparing the returns of the stock during the same time period with the returns of the market as a whole, a firm may determine the market risk and the sensitivity of the returns on an investment in stocks.

When a company has extra money, it may either utilize it as an immediate dividend or invest it in a project that will yield dividends on future cash flows. If the project's expected return on investment is more than or equal to the investment made in the financial asset at the same degree of risk, the company will fund it[21].

The Capital Asset Pricing Model explains the relationship between systemic risk and the expected return on assets and investments[22]. The idea is based on the relationship that exists between the risk-free rate, the beta of an asset, and the equity risk premium, which is calculated as the expected market return less the risk-free rate. The market risk metric, beta, denoted by β, will be employed. Beta indicates how sensitive an asset's returns are to shifts in the returns of the market. The terms "βasset" and "β equity" are used to denote the beta of an asset and a firm's stock, respectively, in order to differentiate between them. When the beta assets is the same as beta equity,the firm has not debts. On the other hand, when a company uses loans to finance investments that increase its value and provide returns on risk capital, it is said to be utilizing financial leverage. As a direct consequence, the use of debt increases the company's equity risk. If the company has debt commitments, β equity > β asset.

[21] Marshall, David H., Wayne W. McManus, and Daniel F. Viele. *Accounting: What the numbers mean*. McGraw-Hill, 2020.

[22] Vergara-Fernández, Melissa , Heilmann, Conrad, Szymanowska, Marta, Describing model relations: The case of the capital asset pricing model (CAPM) family in financial economics, *Studies in History and Philosophy of Science,* 97, (2023), 91-100.

According to Hamada (1969)[23], the firm's beta sould be divided into equity and debt components. Let us assume that β debt represents the market risk of creditors and β equity represents the market risk of owners. The market risk of the asset may be expressed as the weighted average of the company's equity beta and debt beta (Formula 4, below).

$$\beta_{asset} = \beta_{debt}\left(\frac{debt}{debt + equity}\right) + \beta_{equity}\left(\frac{equity}{debt + equity}\right)$$

*Formula 4 (from Peterson et al., 2002).*

Because interest on debt is deducted to calculate taxable revenue, the amount owing to creditors on the company's assets is actually a claim made after taxes rather than an amount that the corporation bears alone. The weight of debt financing is actually reduced because interest is deductible. The symbol τ represents a marginal tax rate (Formula 5).

$$\beta_{asset} = \beta_{debt}\left(\frac{(1-\tau)debt}{(1-\tau)debt + equity}\right) + \beta_{equity}\left(\frac{equity}{(1-\tau)debt + equity}\right)$$

*Formula 5 (from Peterson et al., 2002).*

Market returns and returns on debt are the same, if the firm's debt has β debt = 0. As a result, the nondiversifiable portion of the firm's financial risk as well as the market risk of the assets both affect the market risk of a company's shares (Formula 6).

$$\beta_{asset} = \beta_{equity}\left(\frac{equity}{(1-\tau)debt+equity}\right) = \beta_{equity}\left(\frac{1}{1+\frac{(1-\tau)debt}{equity}}\right)$$

*Formula 6 (from Peterson et al., 2002).*

We thus obtain the Hamada Equation (Formula 7):

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[23] Hamada, Robert S. "Portfolio analysis, market equilibrium and corporation finance." *The Journal of Finance* 24.1 (1969): 13-31.

$$\beta_{equity} = \beta_{asset}\left(1 + \frac{(1 - marginal\ tax\ rate)debt}{equity}\right)$$

*Formula 7 (from Peterson et al., 2002).*

A technique for figuring out a company's cost of capital as it employs growing financial leverage. If the Hamada equation's beta coefficient increases, it suggests that the company's risk is increasing.

A deep understanding of the relationship between a cash flow analysis and the dynamic nature of risks and market conditions is fundamental to evaluating investment chances. Even though cash flow analysis is a basic tool, understanding uncertainty becomes crucial to this decision-making process. Owing to their inherent volatility, markets can be affected by a variety of external factors, including unforeseen developments in geopolitics or shifts in the state of the economy. Managers need to be prepared to take on the element of risk that this uncertainty entails.

It compels a shift in perspective from deterministic to probabilistic, forcing decision-makers to consider both the most likely cash flow scenarios and quantitative project appraisal approaches in line with the capital budgeting process, in order to estimates returns deriving from investment's opportunities.

## 1.3 Quantitative analysis

Evaluating investments is a critical process that impacts a company's financial health and development in the dynamic realm of corporate finance. In this intricate field, financial managers and analysts use a range of methods to evaluate the potential results of investment decisions[24]. Among all the possible indicators, the Profitability Index (PI), Internal Rate of Return (IRR), Net Present Value (NPV), and Period Payback (PP) stand out as the pillars of these financial analysis. These methods are used for helping decision-makers in measuring the effect of the wide range of complicated investment possibilities

[24] Levy, Haim, and Marshall Sarnat. *Capital investment and financial decisions*. Pearson Education, 1994.

and provide quantitative evaluations of the long-term consequences, economics, and feasibility of potential company ventures[25].

### 1.3.1 Payback period

The term "payback period" refers to the amount of time needed to recover the cost of an investment. It correspond to the period of time between the project investment's first cash outflow and the point at which cash inflows and outflows are equal (equilibrium). Clearly, investments with shorter payback times are better.
The formula (Formula 8, below) for calculating the payback period is:

$$Payback\ Period = \frac{Cost\ of\ investment}{Average\ Annual\ Cash\ Flow}$$

*Formula 8 (from Peterson et al., 2002).*

The payback period technique determines how long the project will take to recover its initial expenditure. No matter how short the payback period is, the investment is worth less if the postpayback length is 0. A zero postpayback duration indicates that the present value of the future cash flows is less than the project's initial investment since all future cash flows will never surpass it. For instance, after an initial investment of $100.000, a project expects to get $40.000 in annual cash inflows. In this case, the expenditure will be recovered in three years, by assuming that the cash flows will be collected at the end of the year, which means it would need three years for the firm to repay its initial $100.000 investment. However, payment periods can be stated in years or in fractions of years, such days, weeks, or months. For instance, the investment will precisely pay for itself in two years and six months, not three years, assuming cash flows are steady throughout the year. There are benefits associated with payback period technique: Simple arithmetic is all that is needed for the computation; complicated analysis tools or intricate financial models are not needed. The payback period is simple to explain to stakeholders, even those without a strong background in finance. There is a simple rule for the repayment period: shorter payback periods are better than longer payback periods. However, the Payback Period's

[25] Peterson, Pamela P., and Frank J. Fabozzi. *Capital budgeting: theory and practice*. Vol. 10. John Wiley & Sons, 2002.

method has two limits: it does not take into consideration cash flows after the period necessary to revore the initial investment and it does not support the choice of the firm considering time value of the money.
For instance, consider the following two projects (Project 1 and Project 2 which can also be seen in Tables 1 and 2) for an investment project with a six-year duration:

Project 1:
Yields yearly cash inflows of $50,000 and requires a $150.000 initial investment. Three years would be the payback time.

Project 2:
Produces an annual cash inflow of $40.000 and requires a $200.000 initial investment. Five years would be the payback time.

| PROJECT 1 | |
|---|---|
| CASH FLOW | $50,000 |
| INITIAL INVESTMENT | $150.000 |
| PAYBACK PERIOD | 3 years |

| PROJECT 2 | |
|---|---|
| CASH FLOW | $40.000 |
| INITIAL INVESTMENT | $200.000 |
| PAYBACK PERIOD | 5 years |

*Table 1 and Table 2. Project 1 (left) and Project 2 (right) – own elaboration*

If repayment term is the only factor considered, Project 1 looks more appealing since it has a shorter payback period than Project 2 (three years as opposed to five years for reaching the equilibrium). Nevertheless, Project 2 produces $350.000 in cash inflows after the payback period in year six and project one continues to generate 50.000$ from year one to year six (150.000$ in total beyond payback period). While Project 2 appears to have a longer payback period than Project 1, it may end up being more profitable over the course of the investment horizon.
Cash flows that happen after that time are not taken into account by the payback period. This limit is important since it disregards an investment's long-term worth and profitability. Shorter payback periods may make investments appear more appealing, but they may not always result in the highest long-term profits.
Furthermore, consider the following two projects (Project 3 and Project 4) for an investment project that requires for both projects $100.000, with a 5-year duration:

Project 3:
five years would be the payback time.

Project 4:

five years would be the payback time

| PROJECT 3 | |
|---|---|
| CASH FLOW | $20,000 |
| INITIAL INVESTMENT | $100.000 |
| PAYBACK PERIOD | 5 years |

| PROJECT 4 | |
|---|---|
| CASH FLOW | $50.000 (only in year 4th and 5th) |
| INITIAL INVESTMENT | $100.000 |
| PAYBACK PERIOD | 5 years |

*Table 3 and Table 4. Project 3 (left) and Project 4 (right) – own elaboration*

Assuming that the cash flows of Project 4 are received later in the 4-year period than those of investment, payback theory cannot help with a preferable strategy. Cash received in the future is less valuable than cash received today, due to the time value of money, which is not considered in a payback evaluation.

| | **100.000 INVESTMENT** | |
|---|---|---|
| **Payback Period** | **PROJECT 3** | **PROJECT 4** |
| year 1 | 20.000,00 € | 0,00 € |
| year 2 | 20.000,00 € | 0,00 € |
| year 3 | 20.000,00 € | 0,00 € |
| year 4 | 20.000,00 € | 50.000,00 € |
| year 5 | 20.000,00 € | 50.000,00 € |
| | **100.000,00 €** | **100.000,00 €** |

*Table 5. Payback evaluation across time – own elaboration*

In order to solve these limits, the discounted payback period is implemented. The discounted payback period is the amount of time needed to recover the initial investment, considering discounted future cash flows. Indeed, cash flows are discounted using as discounting rate the cost of capital, which is also equal to the required rate of return. By including discounting into the analysis, the discounted payback period approach seeks to provide a more accurate image of an investment's true economic worth.

For instance, consider the following two projects (Project 5 and Project 6) for an investment project with a five-year duration that requires a $13.000.000 investment:

Project 5:

Yields yearly cash inflows of $4.000.000 and four years would be the payback time.

Project 6:

Yields yearly cash inflows of $4.000.000 and four years would be the payback time.

If repayment term is the only factor considered, it is impossible to prefer Project 5 or Project 6. However, discounting each Cash flow at 10% cost of capital, the discount payback both for Projects 5 and 6 is five years, but discounted cash flow at the end of year five is higher for Project 6, so it is preferable (15.163.147,08 < 16.404.989,72). Data of these supposed projects can be seen in Table 6, below:

| | 13.000.000 INVESTMENT | | | | | |
|---|---|---|---|---|---|---|
| | PROJECT 5 | | | PROJECT 6 | | |
| YEAR | RRR | CF | DCF | RRR | CF | DCF |
| 1 | 10% | 4.000.000,00 € | 3.636.363,64 € | 10% | 4.000.000,00 € | 3.636.363,64 € |
| 2 | 10% | 4.000.000,00 € | 3.305.785,12 € | 10% | 4.000.000,00 € | 3.305.785,12 € |
| 3 | 10% | 4.000.000,00 € | 3.005.259,20 € | 10% | 4.000.000,00 € | 3.005.259,20 € |
| 4 | 10% | 4.000.000,00 € | 2.732.053,82 € | 10% | 4.000.000,00 € | 2.732.053,82 € |
| 5 | 10% | 4.000.000,00 € | 2.483.685,29 € | 10% | 6.000.000,00 € | 3.725.527,94 € |
| | | **20.000.000,00 €** | **15.163.147,08 €** | | **22.000.000,00 €** | **16.404.989,72 €** |

*Table 6. Discounted Payback and DCF analysis – own elaboration*

Consider the following two projects (Project 7 and Project 8) for an investment project with a five-year duration that requires a $13.000.000 investment:

Project 7:
Yields yearly cash inflows of $4.000.000 and four years would be the payback time.

Project 8:
Cash flows are received later in the 4-year and four years would be the payback time.

If repayment term is the only factor considered, it is impossible to prefer Project 7 or Project 8. However, discounting each Cash flow at 10% cost of capital,the discount payback both for Project 7 and Project 8 is five years, but discounted cash flow at the end of year five is higher for Project 8, so it is preferable (15.163.147,08 > 13.411.900,58). Data of these supposed projects are offered in Table 7, below.

| | 13.000.000 INVESTMENT | | | | | |
|---|---|---|---|---|---|---|
| | PROJECT 7 | | | PROJECT 8 | | |
| YEAR | RRR | CF | DCF | RRR | CF | DCF |
| 1 | 10% | 4.000.000,00 € | 3.636.363,64 € | 10% | - € | - € |
| 2 | 10% | 4.000.000,00 € | 3.305.785,12 € | 10% | - € | - € |
| 3 | 10% | 4.000.000,00 € | 3.005.259,20 € | 10% | - € | - € |
| 4 | 10% | 4.000.000,00 € | 2.732.053,82 € | 10% | 16.000.000,00 € | 10.928.215,29 € |
| 5 | 10% | 4.000.000,00 € | 2.483.685,29 € | 10% | 4.000.000,00 € | 2.483.685,29 € |
| | | **20.000.000,00 €** | **15.163.147,08 €** | | **20.000.000,00 €** | **13.411.900,58 €** |

*Table 7. Timing of DCF – own elaboration*

### *1.3.2 NVP – Net Present Value*

The current value of an investment's future stream of payments is calculated using net present value, or NPV. Discounting the projected future cash flows in terms of volume and time for the cost of capital yields net present value. It displays the distinction between the cash flows from investments and operations, which have an impact on operational cash flow for the company. While cash flows from investments often imply outflows, adjustments to operating cash flows frequently imply inflows. It follows that the net present value is the difference between the present value of cash inflows and outflows.

A positive net present value (NPV) is associated with an investment when expected profits surpass allocated expenditures. Investing with a negative net present value (NPV) should provide lower returns. Investments are to be evaluated solely if their net present value (NPV) is positive. NPV is a method that goes beyond the simplicity of payback periods to account for the temporal value of money. It provides a comprehensive assessment of an investment's profitability by discounting future cash flows to their present value, accounting for factors such as opportunity cost and risk. When applied appropriately, net present value (NPV) offers decision-makers a precise tool for allocating resources and aids in determining if a project is likely to yield positive returns, enabling them to make well-informed choices in the face of competing investment opportunities.

The formula to compute NPV is indicated below (Formula 9):

$$NPV = \sum_{t=0}^{n} \frac{R_t}{(1+i)^t}$$

*Formula 9 (from Peterson et al., 2002).*

*Rt* is the difference between the operational cash flow and investment cash flow during period *t* and *i* is the discounting rate. This formula is used to compute the impact of an investment today, which is measured by the difference between the value of future cash flow computed today, generated by an investment and the cash outflow used to invest.
Decision-makers may see the whole financial picture by using net present value, which accounts for both the initial investment outlay and the stream of future cash inflows. Additionally, by including risk factors, NPV offers adaptability in modifying assessments according to the degree of related risk. The two main advantages of net present value (NPV) are its ability to account for value of cash flows over time by using discounting techniques and an understanding of the timing of cashflow.
For instance, in order to demonstrate that NVP accounts for value of cash flows over time by using discounting techniques, let's consider a present value of cash outflows of 10.000.000,00€ for a 5 years investment project.
A firm should consider to invest in one project between Project 9 orProject 10. The cost of capital is 10%.

Project 9 end year's cash flows are 3.000.000 and constant over time. At the end of year five the total amount is equal to 15.000.000.

Project 10 end year's cash flows are not constant over time. At the end of year five the total amount is equal to 15.000.000.

Data of these supposed projects are offered in Table 8, below.

| | 10.000.000 INVESTMENT | | | | | |
|---|---|---|---|---|---|---|
| | PROJECT 9 | | | PROJECT 10 | | |
| YEAR | RRR | CF | DCF | RRR | CF | DCF |
| 1 | 10% | 3.000.000,00 € | 2.727.272,73 € | 10% | 0,00 € | - € |
| 2 | 10% | 3.000.000,00 € | 2.479.338,84 € | 10% | 0,00 € | - € |
| 3 | 10% | 3.000.000,00 € | 2.253.944,40 € | 10% | 5.000.000,00 € | 3.756.574,00 € |
| 4 | 10% | 3.000.000,00 € | 2.049.040,37 € | 10% | 5.000.000,00 € | 3.415.067,28 € |
| 5 | 10% | 3.000.000,00 € | 1.862.763,97 € | 10% | 5.000.000,00 € | 3.104.606,62 € |
| | | 15.000.000,00 € | 11.372.360,31 € | | 15.000.000,00 € | 10.276.247,90 € |
| | | | 1.372.360,31 € | | | 276.247,90 € |

*Table 8. NPV – own elaboration*

Analyzing NPV results, a positive net present value shows that the company's worth has grown as returns have exceeded the required rate of investment. On the other hand, a negative net present value indicates that capital costs are higher than earnings. Investor

wealth is expected to be constant in scenarios where the investment's net present value is zero and decision-makers are indifferent between accepting or rejecting the investment project.
According to the example, both projects generate a positive present value, but Project 9 is preferrable (1.372.360,31 > 276.247,90).
Now, in order to demonstrate that NVP consider timing of cash flows, let’s consider a present value of cash outflows of 10.000.000,00€ for a 5 years investment project.
A firm should consider to invest in one project between Project 11 or Project 12. The cost of capital is 10%:

Project 11 end year’s cash flows are 3.000.000 and constant over time. At the end of year five the total amount is equal to 15.000.000.

Project 12 end year’s cash flows are not constant over time. At the end of year five the total amount is equal to 15.000.000.

Data of these supposed projects are offered in Table 9, below:

| | 10.000.000 INVESTMENT | | | | | |
|---|---|---|---|---|---|---|
| | PROJECT 11 | | | PROJECT 12 | | |
| YEAR | RRR | CF | DCF | RRR | CF | DCF |
| 1 | 10% | 3.000.000,00 € | 2.727.272,73 € | 10% | 0,00 € | - € |
| 2 | 10% | 3.000.000,00 € | 2.479.338,84 € | 10% | 0,00 € | - € |
| 3 | 10% | 3.000.000,00 € | 2.253.944,40 € | 10% | 0,00 € | - € |
| 4 | 10% | 3.000.000,00 € | 2.049.040,37 € | 10% | 8.000.000,00 € | 5.464.107,64 € |
| 5 | 10% | 3.000.000,00 € | 1.862.763,97 € | 10% | 7.000.000,00 € | 4.346.449,26 € |
| | | 15.000.000,00 € | 11.372.360,31 € | | 15.000.000,00 € | 9.810.556,90 € |
| | | | 1.372.360,31 € | | | - 189.443,10 € |

*Table 9. NPV and timing of cash flows – own elaboration*

According to the example, Project 11 generates a positive net present value and Project 12 generates a negative net present value. For this reason project 11 is preferrable and NPV takes into account timing of cash flows.

### *1.3.3 PI – Profitability Index*

When one uses the Profitability Index (PI) approach instead of net present value (NPV), the focus moves to a relative measure of investment attractiveness. While net present value (NPV) provides an absolute value of the net gain or loss, the profitability index provides a ratio of the present value of cash inflows to outflows from investments.

This is the Profitability Index (PI) Ratio (see Formula 10, below):

$$Profitability\ Index = \frac{Present\ Value\ of\ future\ Cash\ Flow}{Initial\ Investment}$$

*Formula 10 (from Peterson et el., 2002).*

When the estimated value is more than 1.0, the project's estimated future discounted cash inflows would exceed its expected future discounted cash outflows (initial investment). If the computations are less than 1.0, the investment project is not approved since the outflow exceeds the discounted inflows. if the ratio is equal to 1, the firm is indifferent.
For instance, in order to demonstrate that PI accounts for value of cash flows over time, risks and timing value, let's consider a present value of cash outflows of 10.000.000,00€ for a 5 years investment project.
A firm should consider to invest in one project between Project 13 or Project 14. The cost of capital is 10%.

Project 13 end year's cash flows are 3.000.000 and constant over time. At the end of year five the total amount is equal to 15.000.000.

Project 14 end year's cash flows are not constant over time. At the end of year five the total amount is equal to 15.000.000.

Data of these supposed projects are offered in Table 10, below:

| | 10.000.000 INVESTMENT | | | | | |
|---|---|---|---|---|---|---|
| | PROJECT 13 | | | PROJECT 14 | | |
| YEAR | RRR | CF | DCF | RRR | CF | DCF |
| 1 | 10% | 3.000.000,00 € | 2.727.272,73 € | 10% | 0,00 € | - € |
| 2 | 10% | 3.000.000,00 € | 2.479.338,84 € | 10% | 0,00 € | - € |
| 3 | 10% | 3.000.000,00 € | 2.253.944,40 € | 10% | 0,00 € | - € |
| 4 | 10% | 3.000.000,00 € | 2.049.040,37 € | 10% | 8.000.000,00 € | 5.464.107,64 € |
| 5 | 10% | 3.000.000,00 € | 1.862.763,97 € | 10% | 7.000.000,00 € | 4.346.449,26 € |
| | | 15.000.000,00 € | 11.372.360,31 € | | 15.000.000,00 € | 9.810.556,90 € |
| | | | 1,14 € | | | 0,98 € |

*Table 10. Profitability Index – own elaboration*

According to this example, PI takes into account value of cash flows over time, risks and timing value: investment presented by Project 13 is more attractive than Project 14, because the PI ratio is higher than 1 (1.14>1).

Some disadvantages of the model are that PI is dependent onto the rate used for discounting cash flows and like net present value (NPV), the profitability index oversimplifies the complex reinvestment options that exist in real life, by assuming that cash inflows will be reinvested at the discount rate. The main limits of the PI model is the differences in investment amounts. Projects having the same current value might have different PIs based on how the PI was calculated.

For instance, if we consider Project 15 and Project 16, according to profitability index both investment progects are the same (i.e. PI of Project 15 and Project 16 is equal to 1.1), but Project 15 would generate more value for the firm (100.000,00>10.000,00).

Data of these supposed projects are offered in Table 11, below:

| PROJECT | RRR | PV INFLOW | OUTFLOW (discounted) | NPV | PI |
|---|---|---|---|---|---|
| 15 | 10% | 1.100.000,00 € | 1.000.000,00 € | 100.000,00 € | 1,1 |
| 16 | 10% | 110.000,00 € | 100.000,00 € | 10.000,00 € | 1,1 |

*Table 11. NPV vs Profitability Index – own elaboration*

Because of this limitation, PI ratio is often implemented with NPV analysis.

### *1.3.4 IRR – Internal Rate of Return*

Another crucial method used for evaluating investment's project in capital budgeting is the internal rate of return (IRR).

Decision-makers may quickly determine an investment project's relative attractiveness by comparing its internal rate of return (IRR) to its cost of capital. It is the discount rate at which a project's net present value (NPV) drops to zero. According to the internal rate of return's hurdle (rating the lowest acceptable rate of return) criterion, a project should be invested if the return outweighs the cost of capital or WACC. If the IRR is less than cost of capital or WACC , project is refused. If cost of capital or WACC and IRR are equal, the firm is indifferent between invetsing or not.

The following is the IRR formula:

$$0 = NPV = \sum_{t=1}^{T} \frac{C_t}{(1+IRR)^t} - C_0$$

*Formula 11 (from Peterson et el., 2002).*

*t* is the period, *C0* is the initial investment inflow at *t*=0 and *Ct* is the cash flow at time *t*. For instance, consider a present value of cash outflows of 10.000.000,00€ for a 5 years investment project. The cost of capital is 10%. Project 17 end year's cash flows are 3.000.000 and constant over time. At the end of year five the total amount is equal to 15.000.000, as indicated in Table 12, below, where the data of this supposed projects is offered:

| | **10.000.000 INVESTMENT** | | |
|---|---|---|---|
| | **PROJECT 17** | | |
| **YEAR** | **RRR** | **CF** | **DCF** |
| 1 | 10% | 3.000.000,00 € | 2.727.272,73 € |
| 2 | 10% | 3.000.000,00 € | 2.479.338,84 € |
| 3 | 10% | 3.000.000,00 € | 2.253.944,40 € |
| 4 | 10% | 3.000.000,00 € | 2.049.040,37 € |
| 5 | 10% | 3.000.000,00 € | 1.862.763,97 € |
| | | **15.000.000,00 €** | **11.372.360,31 €** |
| | | | **1.372.360,31 €** |

*Table 12. NPV when RRR = 10% – own elaboration*

At 10% the difference between the value of future cash flow computed today, generated by the investment and the cash outflow used to invest (NPV) is equal to 1.372.360,31.
After some computation is possible to find IRR, which is equal to 15,24% in this example.
See Table 13 below, where data are proposed:

| | **PROJECT 17** | | |
|---|---|---|---|
| **YEAR** | **RRR** | **CF** | **DCF** |
| 1 | 15% | 3.000.000,00 € | 2.603.302,58 € |
| 2 | 15% | 3.000.000,00 € | 2.259.061,44 € |
| 3 | 15% | 3.000.000,00 € | 1.960.340,16 € |
| 4 | 15% | 3.000.000,00 € | 1.701.119,53 € |
| 5 | 15% | 3.000.000,00 € | 1.476.176,29 € |
| | | **15.000.000,00 €** | **10.000.000,00 €** |
| | | | **0,00 €** |

*Table 13. NPV when RRR = 15% – own elaboration*

Since the IRR is greater than the cost of capital (15%>10%), decision makers are willing to invest in the investment project. Since this technique is based on NPV and discounted cash flow analysis, it obviously provides an analysis that takes into consideration the time value of cash flows and risk. However, in situations when there is only one project that may be chosen between others, the IRR can occasionally produce a rating that deviates from the NPV ranking. IRR does not offer a definitive criterion for project comparison, in contrast to the Net Present Value (NPV) approach. Even though an investment with a greater internal rate of return (IRR) is usually more appealing, this is not necessary true that is the best.

In conclusion, the quantitative analysis is a critical procedure of Capital Budgeting, that has a significant influence on a firm's financial health and future trajectory in the ever-changing field of corporate finance. Financial managers and analysts use a variety of techniques to examine the possible results of investment decisions. The Profitability Index (PI), Internal Rate of Return (IRR), Net Present Value (NPV), and Period Payback (PP) stand out among the many indicators as the primary instruments in financial analysis. These techniques provide informative evaluations of the potential long-term effects and financial sustainability, of various business Investment projects.

The "best" approach among Profitability Index (PI), Internal Rate of Return (IRR), Net Present Value (NPV), and Period Payback (PP) may be chosen based on the specific context and assessment goals of the investment. Each strategy has benefits and drawbacks, and the optimal choice often depends on the specifics of the investment as well as the preferences of the decision-makers. Sometimes a combination of these approaches is used to provide a more complete view of an investment's potential. Decision-makers may select one strategy over another based on a variety of factors, including the company's cost of capital, the targeted level of profitability, and risk tolerance

## 1.4 Capital Budgeting and Behavioral Finance

Capital Budgeting and Behavioral finance are two distinct but connected areas within the broader field of finance. Capital budgeting is a process that may be viewed as a sequence of stages: Strategic planning, Identification, Screening of projects, Quantitative analysis, Qualitative analysis, Final decision, Implementation and Post-implementation phases. It is the process of evaluating and selecting long-term investment projects that meet a company's strategic goals. Behavioral finance investigates the psychological components and biases that influence financial decision-making while acknowledging that market participants may not always act rationally[26].

The purpose of this section is to clarify the behavioral biases that impact the strategic investment choices of decision makers and to see how they impact the final results, by focusing on the phase of the Capital budgeting process.

According to Fairchild (2005)[27], overconfidence bias[28] can cause decision makers to overestimate their skills. Overconfidence affects the capital budgeting process as a whole, even if it may be more prevalent at the beginning. It occurs most commonly right before the project is implemented, during the phases of strategic planning and identification. It has been noted that managers that are overconfident tend to overinvest because they overestimate cash inflows and underestimate project costs and duration. Additionally, they are more inclined to participate in mergers and acquisitions as well as strategic alliances such as Franchising, if they think that their firm has lately benefited from such activities.

Similarly, one may overestimate costs while underestimating sales due to poor self-esteem, pessimism, or negative self-esteem feedback. This might be due to a greater aversion to risk, which could lead to underinvestment and lost opportunities.

Another behavioral finance bias that can influence a decision maker's investment choice is the framing effect. Framing is the idea that how information is presented may have a big influence on how decisions are made[29]. In capital budgeting, the framing effect may influence how investment decisions are seen and made, leading to decisions that stray from strictly rational ones. More specifically, framing describes the attributes of information, objects, or circumstances that are categorized, labeled, or presented in a

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[26] De Bondt, Werner, Rosa M. Mayoral, and Eleuterio Vallelado. "Behavioral decision-making in finance: An overview and assessment of selected research." *Spanish Journal of Finance and Accounting/Revista Española de Financiación y Contabilidad* 42.157 (2013): 99-118

[27] Fairchild, Richard. "Behavioral finance in a principal-agent model of capital budgeting." *Icfai Journal of Behavioral Finance* 2.1 (2005): 34-44.

[28] Overconfidence is the tendency for people to overestimate their own competence and level of knowledge. In this instance, overconfidence is defined as an investor's propensity to overestimate the accuracy of their information regarding the outcomes of an investment (see Prosad, Jaya M., Sujata Kapoor, and Jhumur Sengupta. "Theory of behavioral finance." *Handbook of research on behavioral finance and investment strategies: decision making in the financial industry*. IGI Global, 2015, 1-24.).

[29] Umma, Ianna, and R. R. Sri Handayani. "The Effect of Attribute Framing and Justification on Capital Budgeting Decisions." *Jema*16.2 (2019): 117-132.

positive or negative way[30]. The positive and negative components of the assessment dimensions that the subject is asked to complete can vary depending on how differently the positive and negative cognitive representations of an attribute are constructed[31].
Decision makers, then, may succumb to the biases of availability, representativeness and self-attribution. According to Gervais et al. (2011)[32], the "availability bias" works by recalling similar situations from the decision-makers' memories. If something is easily remembered, there is a higher chance that it will occur. Estimates are made by anchoring, which is a cognitive bias that occurs when someone places an artificial benchmark on a certain amount of weight while making decisions[33], and then gradually modifying it. This form of estimating bias might affect cash flow representations.
The propensity of decision makers to believe that an organization's previous outstanding performance is "representative" of the type of overall performance the organization will deliver in the future when faced with uncertainty is known as the representativeness bias[34].
Representativeness in capital budgeting refers to the decision makers' perception that the investment choice under consideration is comparable to others in the past. Decision makers assess the likelihood of an event only on the basis of its resemblance to well-known classes, disregarding knowledge about the underlying probability. Therefore, in order to identify patterns in random data, they often compare such random walks to a non-random pattern. The "law of small numbers," or the propensity to assume that even very small samples should accurately represent the characteristics of the parent group, has an

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[30] Biondi, Yuri, and Guiseppe Marzo. "Decision making using behavioral finance for capital budgeting." *Capital budgeting valuation: Financial analysis for today'sinvestment projects*(2011): 421-444.

[31] Umma, Ianna, and R. R. Sri Handayani. "The Effect of Attribute Framing and Justification on Capital Budgeting Decisions." *Jema*16.2 (2019): 117-132

[32] Gervais, Simon, James B. Heaton, and Terrance Odean. "Overconfidence, compensation contracts, and capital budgeting." *The Journal of Finance* 66.5 (2011): 1735-1777.

[33] Biondi, Yuri, and Guiseppe Marzo. "Decision making using behavioral finance for capital budgeting." *Capital budgeting valuation: Financial analysis for today'sinvestment projects*(2011): 421-444.

[34] Schönbohm, Avo, and Anastasia Zahn. *Corporate capital budgeting: Success factors from a behavioral perspective*. No. 21. Beiträge zur Controlling-Forschung, 2012.

effect on people as well[35]. Self-attribution bias occurs when decision-makers overstate their own degree of accountability for their own accomplishments[36]. Because of self-attribution bias, effective managers frequently become overconfident in their abilities and think they know more than they actually do[37].

In conclusion, as can be seen in Table 14 below, this chapter has demonstrated how behavioral biases affect the choices made by investment managers in the context of capital budgeting.

| Bias | Description | Stages of the process |
|---|---|---|
| Overconfidence | Overconfidence in decision makers' own skills | Strategic planning, Identification, Screening of projects, Quantitative analysis, Qualitative analysis, Final decision, Implementation phases. |
| Underestimation / Pessimism | Decision makers' belief that there is little chance of positive future events and consequences | Strategic planning, Identification, Screening of projects, Quantitative analysis, Qualitative analysis, Final decision, Implementation phases. |
| Framing | How information presentation or framing, as opposed to the information's actual content, might affect managers' decisions. | Strategic planning, Identification, Screening of projects, Implementation and Post-implementation phases. |
| Availiability | Decision makers estimate the likelihood of events based on how easily relevant instances come to memory. | Strategic planning, Identification, Screening of projects, Final decision. |
| Representativeness | Decision makers assess the likelihood of an event only on the basis of its resemblance to well-known classes, disregarding knowledge about the underlying probability. | Strategic planning, Identification, Screening of projects, Final decision. |
| Self-attribution | Attributing success to Decision makers' own abilities and attributing unfavorable consequences to outside forces or causes. | Strategic planning, Identification, Screening of projects, Final decision. |
| Anchoring | Decision makers rely on the first piece of information encountered when making decisions. This initial information may influence investment decisions | Strategic planning, Identification, Screening of projects, Final decision. |

*Table 14. Chapter synopsis – own elaboration*

[35] Biondi, Yuri, and Guiseppe Marzo. "Decision making using behavioral finance for capital budgeting." *Capital budgeting valuation: Financial analysis for today'sinvestment projects*(2011): 421-444.

[36] Bibi, Lailo. *Effect of Overconfidence Bias on Investment Decisions: Mediating Role of Risk Perception and Moderating Role of Self-Attribution Bias and Illusion of Control*. Diss. CAPITAL UNIVERSITY, 2021.

[37] MLA Schönbohm, Avo, and Anastasia Zahn. Corporate capital budgeting: Success factors from a behavioral perspective. No. 21. Beiträge zur Controlling-Forschung, 2012.

Financial decision-makers get important insights into the psychological and human elements of financial decision-making by recognizing and understanding the biases present throughout the Capital Budgeting process. Understanding how decision-makers' biases impact their capacity for rational decision-making is crucial. Biases can lead to suboptimal allocations of resources, incorrect valuations, and even wrong risk assessments. This chapter thus highlights that the human factor in financial decision-making is a crucial determinant of success or failure in Capital Budgeting.

# II. Franchising as an Investment: A Capital Budgeting Perspective

In line with the concepts of capital budgeting, this chapter examines the reasons why franchising should be viewed as a feasible and strategically desirable investment. This chapter's purpose is to address franchising within the framework of capital budgeting after first concentrating on the broad idea of franchising and the cooperative relationship between franchisor and franchisee.

## 2.1 Franchising: an overview

Franchise is a contract between two independent parties, in which one of them grants the other a series of rights to receive compensations back. Technically, the contract binding both parties is called "franchise," but the business of creating and distributing brands and franchising systems is called "franchising"[38]. More specifically, a franchise can be described as a complex negotiation that defines a specific economic and business phenomenon (franchising), through which the creation of a structured network of production or distribution of goods or services is achieved. In particular, one party, the franchisor, transfers the available capacity of a set of public property rights business or intellectual property related to trademarks, trade names, signs to another person, called the franchisee. A franchise normally differs from other organizational forms such as joint ventures and strategic partnerships in two ways. First, businesses where a large amount of work must be done in close proximity to clients are typically home to franchisees. Consequently, it is necessary to geographically disperse and replicate service-providing sites. The second crucial component is that franchise agreements often outline a unique division of responsibilities, decision-making power, and income between a centralised principle

[38] Klein, Benjamin. "The economics of franchise contracts." *Journal of corporate finance* 2.1-2 (1995): 9-37.

(the franchisor) and a decentralised agent (the franchisee)[39]., The franchisor selects franchisees, approves store locations, upholds brand image, and arranges purchasing, among other tasks, where scale economies are feasible. Additionally, the franchisor sets and upholds standards of performance for the whole network. At first, the franchisee pays a one time fee called franchise fee and an on-going periodical fee, called royalties, for using franchisor's brand. Since the franchisees are considered users of the third parties with whom they enter into a contract with the franchisor, the franchisee essentially gives up building their own clientele[40].

The franchisor provides the franchisee with support and implements monitoring-processes to ensure that the franchisee follows guidelines based on its performance and capabilities.

The franchisor and franchisee often shares economic benefits of franchising. Therefore, franchisors see franchising as a way to quickly and widely spread a good, service or business model without having to take on the large financial risk of controlling each level of distribution. In response, the franchisee views franchising as a profit opportunity by entering into a well-established business model that includes several sites, a well-known brand, and standardized goods, services, or operating procedures.

Franchising involves a high degree of standardization, ensuring that all franchise units operate consistently and deliver a uniform customer experience[41]. Franchisors typically offer training, on-going support, marketing and management assistance, and access to a network of franchisees to help the franchisee succeed and developing.

Franchising is governed by a legal agreement, the franchise contract, which outlines the rights, obligations, and terms for both the franchisor and the franchisee.

A franchising collaboration focuses on "brand" and how it is perceived by consumers. A franchisor's brand is the most valuable asset and satisfying customer perceptions with respect to brand image is as much important as complex. In reality, consumers don't really care about who owns the company, as long as their expectations of the brand are met. As a first step after establishing a franchise collaboration, an affiliate must immediately try

[39] Brown, James R., and Chekitan S. Dev. "The franchisor—franchisee relationship: a key to franchise performance." *Cornell hotel and restaurant administration quarterly* 38.6 (1997): 30-38

[40] Brown, James R., and Chekitan S. Dev. "The franchisor—franchisee relationship: a key to franchise performance." *Cornell hotel and restaurant administration quarterly* 38.6 (1997): 30-38

[41] Kaufmann, Patrick J., and Sevgin Eroglu. "Standardization and adaptation in business format franchising." *Journal of Business Venturing* 14.1 (1999): 69-85.

to develop and intensify relationships with customers, to maintain and increase their loyalty. Once loyal, they will certainly choose that brand again and again, especially for the quality of the services and products, which are directly associated with the brand itself. Through a franchising agreement it is possible to increase brand awareness among customers and attract them even more. The more customers know and love a brand, the more profitable and successful the brand becomes, and vice versa. Increasing the brand awareness of a franchise located in different areas can be beneficial for both franchisor and franchisee, as it strengthens the brand image and increases customer loyalty.

## 2.2 Franchisee vs Franchisor: PRO and CONS of the relationship

In general, Franchising is an excellent system for starting a business by minimizing business risks, being able to take advantage of the know-how and management proven by a successful company. Due to the fact that it is a cooperative contract, the analysis of the purpose of Franchise has to be "shared" between parties, taking into account the fact that both franchisee and franchisor are called to act in an interdependent system, in which the economic outcome of the transactions is influenced by multiple variables. Indeed, Franchising brings many advantages but also many disadvantages for both parties involved[42].

### *2.2.1 Franchisee*

The franchisee will be able to use a strong and consolidated brand in the market, accessing the exclusive services and knowledge of the franchisor.
From the franchisee's perspective, franchisee wishes to obtain significant revenues, because its benefits from the reputation and commercial appeal of the brand of the franchisor. Furthermore, the initial investments necessary to produce a certain product or define the characteristics of a certain service will be significantly reduced, because franchisee will be able to use patents, held by franchisor. More and more entrepreneurs who want to grow are using the franchising business model, as it frequently makes setup simple for franchisors. The franchisee receives its whole

[42] Salar, Menekse, and Orkide Salar. "Determining pros and cons offranchising by using swot analysis." *Procedia-Social and Behavioral Sciences* 122 (2014): 515-519.

business format, marketing strategy and plan from its franchisor, according to Cavaliere and Swerdlow. By obtaining permission to utilize the franchisor's trademark, logo, insignia, and other symbols, the franchisee gains access to the brand's reputation and recognition. The franchisee needs to establish and adhere to a marketing plan both during the debut period and afterwards. Raising awareness of the brand that represent as well as an own business is the cornerstone of a proper marketing strategy that may yield measurable outcomes. Then, the franchisee benefits from the usage of know-how, initial and ongoing training, during the term of the agreement.

Furthermore, franchisees need assistance and guidance to offer their customers new purchasing solutions rather than going to the store: home delivery, online and telephone sales. Developing the customer experience is fundamental to expand, to attract new businesses, and to be percieved by customers as more attractive, increasing loyalty.

One of the advantages of franchising for the franchisee is the business help provided by the franchisor. With a franchise, the franchisor offers not only the brand, supplies, machinery and marketing plan, but also its knowledge and experience. Whether materials are delivered by phone or stored in a searchable digital knowledge base, the franchisee has access to an extensive library of business support materials to assist them in the process of starting and running a new business. With this knowledge, it is much easier to maintain a profitable business than starting one from zero. The ability to grow quickly and the involvement of franchisees who contribute capital and know how are two benefits of franchising. Additionally, franchisees wish to spread the associated risks and wants their investment to increase. On the other hand, a franchisor splits earnings with its franchisees; nevertheless, it might take a long time and effort to find proper franchisees.

Although franchising has lots of advantages, starting a franchise collaboration could lead some difficulties for franchisee. Indeed, the main disadvantage for the franchisee is the loss of control over their business. In addition to benefits brand, know-how, and goods or services provided, a franchisee must comply with the regulamentations established in the franchise agreement. The franchisor provides a long series of rules to franchisees, who are required to comply with them. Most franchise agreements[43] grant the franchisor broad discretion in this area and do not include clauses requiring binding arbitration, but normally the presence of strict rules could be a problem. In addition to making money through franchising, franchisors also indirectly provide growth capital, which is the sole responsibility of franchisees. Since franchisees want to turn their investments into profits, franchisors want to follow them, however, the franchisor's earnings depend on the franchisee's profits.

When the franchise starts, it is crucial to remember that for the franchisee the actual costs could surpass the initial estimates, even if the franchisor establishes the rules. Start-up costs, payroll, utilities, rent, franchising fees, and taxes are all part of the cost of a franchise. These costs are divided into one-time and recurring expenditures. After entering the system, the franchisee pays the franchisor a one-time charge which is the start-up cost. They also pay recurring charges such as royalties, which are a portion of their total sales, and staff, insurance, inventory, equipment maintenance and advertising expenses in addition to the initial investment, that might be a fixed charge that is unaffected by turnover.

| | Advantages | Disadvantages |
|---|---|---|
| **Franchisee** | Brand's reputation and recognition | Loss of control over their business |
| | Franchisor's patents. (reduction of initial costs) | Contract regulamentations |
| | Business format, marketing strategy and plan | Start-up costs, payroll, utilities, rent, fees, and taxes |
| | know-how, initial and ongoing training | |

*Table 15. Franchisee's advantages and disadvantages – own elaboration*

### *2.2.2 Franchisor*

The franchisor can gain significant benefits from franchising, thanks to this negotiation feature, minimizing risks by outsourcing them to the franchisee. The franchisor will be able to expand its network, thus distributing its goods or services on a large scale, decentralizing obligations, commissions and responsibilities.

[43] Salar, Menekse, and Orkide Salar. "Determining pros and cons of franchising by using swot analysis." *Procedia-Social and Behavioral Sciences* 122 (2014): 515-519.

The franchisor has the duty to inform the franchisee about new solutions available on the market and offer the most competitive prices to entrepreneurs within its network. Moreover, the latter also provides all the necessary information regarding the organization of working relationships as well as the organization of the sales points, essentially allowing the affiliate to replicate an already existing, tested and successful, business model. Then, franchisors should expand their market penetration and create distribution networks, without intervening directly, but collaborating with the franchisee. The franchisor can expand its brand widely across the territory with lower financial commitments compared to a similar operation, but with directly managed shops. The franchisor receives an initial fee of entry that reimburses him for the costs incurred for the engineering of the franchising system. In addition, it can benefit from periodic royalties that represent a reimbursement for continuous assistance, guaranteed to franchisees for the entire duration of the contract. Since the franchisee is mostly or entirely responsible for acquiring the finances necessary for the first investment and for establishing the firm, there are no or reduced obligations in start-up investment and human resources when it comes to franchising. By franchising, a franchisor may maximize their campaigns and even leverage financial donations from the entire network to fund advertising. This is especially important the more one's overall business growth plan aims for widespread brand recognition. In addition to managing the chain as a whole, a franchisor is also responsible for developing, advising, and assisting the franchisees[44].The brand is the most important intangible asset when determining the firm's value and is becoming increasingly strategic. Then, franchising is a good option for businesses that might not have the necessary capital because the franchise fees and royalties assist cover part of the expenses.

Given that one of the goals of the company is to create and expand a network for the distribution of products and services, the size of the network itself is an additional advantage of franchising. Franchising networks, for instance, have access to items at significant discounts. Additionally, the company may reduce its overall operating expenditures by leveraging the scale of the network to negotiate terms for each

[44]Lavonen, Riikka. *Franchising as a potential growth strategy for a small enterprise*. MA thesis in Business Management, Mikkeli University of Applied sciences (2010).

subsidiary. When it comes to joining a market, the most important aspect for entrepreneurs is the lower probability of failure.

One of the limit of the franchise collaboration is that in addition to making money through franchising, franchisors also indirectly provide growth capital, which is the sole responsibility of franchisees. Since franchisees want to turn their investments into profits, franchisors want to follow them; however, the franchisor's earnings depend on the franchisee's profits. One of the biggest disadvantages for franchisor is the possible harm to the brand that may result from one franchisee going out of business. A further issue emerges when a franchisee conceals crucial market data. This lack of transparency might lead to irresponsible behavior that undermines the relationship as a whole. The overall performance of the franchisor's network is closely correlated with its own success. A significant number of underperforming or struggling franchisees can have a negative effect on the franchisor's overall performance and expansion. Franchisors must invest in a robust infrastructure of assistance. The success of individual franchise units depends on the franchisor's ability to provide technological systems, continuing support mechanisms, and training programs, although doing so comes with extra expenses and managerial work.

One of the inherent issues lies in the agency problems that can arise between franchisors and franchisees. In corporate finance framework, a conflict of interest between management and investors of a corporation is an agency problem. By entrusting the operation of a business to the franchisee, the franchisor, acting as the principal, aims to optimize the value of the franchise system and to generate profits. Franchisees operate individual units while acting as agents, trying to accomplish both their personal aims and the franchisor's more general ones. Due to agency theory, the agent may not always operate in the principal's interest. For this reason, the dynamics of the franchisor-franchisee relationship are impacted by intrinsic obstacles such as asymmetric information, moral hazard, and adverse selection. The existence of asymmetric information in the franchisor-franchisee relationship is a key component of agency theory, since it adds complexity and affects the dynamics between the principal and agent (Bečić and Lahovnik, 2013)[45]. An information imbalance may lead to issues and disagreements in the franchising relationship when one side has access to more or better knowledge than the other. The franchisor often has extensive expertise about the brand, business plan, and industry dynamics. Franchisees may not receive complete disclosure on market insights and strategic strategies from franchisors. This might result in an imbalance whereby the franchisor has access to more information than any individual franchisee on systemic advancements and future developments. On the other hand, the franchisee could only have restricted access to a small number of crucial facts that could significantly influence their operational decisions. Franchise agreements may include comprehensive disclosure requirements as a way to lessen asymmetric knowledge. Franchisers are required to give comprehensive details on the business plan, initial and ongoing costs, and other relevant elements. The consequences of this information asymmetry are adverse selection and moral hazard. In the context of the franchisee and franchisor relationship, adverse selection occurs where information asymmetry leads to the inadvertent selection of franchisee who may not be suited to the opportunity, resulting in suboptimal outcomes for both parties. A franchisee may sign an agreement with expectations that are not in accordance with the actual needs of the franchisor's business strategy. Underperformance and dissatisfaction might result from this mismatch, which would be detrimental to both the franchisee and the system as a whole. When franchisees depart from the operational guidelines and practices that the franchisor provides, moral hazard ensues. The possibility that a party will be motivated to take risks to make profit before the contract expires is known as moral hazard. The fundamental principle of the agency model is that the franchisor, as principal, must incur significant monitoring costs in order to supervise the conduct and production of franchisees when there is asymmetric information. Moral hazard arises from the agent's lack of commitment and the principal's inability to supervise the agent's performance; managers who receive this type of compensation are motivated to perform below expectations. This might be the consequence of an

[45] Bečić, Edita and Lahovnik Matej. "Agency theory and franchising: a literature review." In: Kandžija, Vinko and Kumar, Andrej (eds.) *Economic Integrations, Competition and Cooperation*, University of Rijeka (2013), 258-267.

asymmetric information or a conscious decision to take shortcuts, jeopardizing the reputation and quality of the brand. The franchisor's brand is seriously at risk from moral hazard. Franchisee infractions might lead to variations in customer satisfaction, product quality, and service, all of which could harm the reputation of the franchise sector overall. To mitigate the agency risks inherent in the franchisor-franchisee relationship, it is essential to establish rigorous and efficient criteria for choosing franchisees (Sivakumar and Schoormans, 2011)[46]. The selection process represents a proactive approach to coordinating interests, ensuring that potential franchisees have the skills and characteristics necessary to maintain the franchisor's standards and principles. To ensure that the franchisees are fully informed about the risks, requirements and tasks of the franchise opportunity, these criteria should be given a high priority. This includes in-depth disclosure of all financial commitments, operational guidelines and any difficulties. The primary criteria that franchisors consider when selecting franchisees are financial qualification, management experience and ability, formal education, and personality and attitude assessments. In order to combat agency risks, commitment to brand integrity and shared values should be highlighted throughout the selection process. Establishing a thorough screening procedure that considers both quantitative and qualitative elements not only lowers agency risks but also lays the foundation for a more symbiotic and trust-based franchisor-franchisee relationship.

| | Advantages | Disadvantages |
|---|---|---|
| **Franchisor** | Network's Expansion | Franchisor's earnings depend on the franchisee's profits |
| | Large scale goods or services' distributions and market penetration's increase | Brand's image damage (risk of underperformance) |
| | Obligations, commissions and responsibilities'decentralization. | Agency problem |
| | Fees | Expenses for technological systems, support mechanisms, and training programs |

*Table 16. Franchisor's advantages and disadvantages – own elaboration*

[46] Sivakumar, A., and Schoormans, Jan PL. "Franchisee selection for social franchising success." *Journal of Nonprofit & Public Sector Marketing* 23.3 (2011): 213-225.

### 2.3 Strategic Investment: Capital Budgeting Insights into Franchising

After examining the advantages and disadvantages of the franchising business model and agency risks, attention must be directed into the developing of franchising and various kinds of franchising models.

Franchising has been rising gradually since the middle of the 20th century, and there is currently no indication that this trend is changing. Recently, graduated business students are drawn to the industries operated by franchised businesses, whose tools have an effect on other businesses in the economy in addition to being beneficial for franchising[47]. Everything seems to be in the favor of franchising, and industry prospects should be enhanced by franchise associations and regulators. Global franchising expansion is now the biggest trend in franchising overall. This accomplishment is the result of the effects of globalization. As a means of attracting attention, people identify with internationally renowned brands that set the standard for success and quality. Through franchising, customers have learnt to demand consistent levels of value and service quality.

Franchising is going to become more and more popular and important to the economy. The new franchise systems will offer greater diversity in terms of technology and skills. In addition, there will be increasing cooperation across franchise systems and a rise in the frequency of multi-unit franchise agreements. In order to grow, businesses seek to start their franchise operations as soon as possible. There will be higher quality franchise systems accessible in greater numbers; more research, training, and consultation, for instance. Along with awareness, reputation, and franchise experience, interest in franchising will rise.

Within the broad category of franchising, there are two subfields that provide distinct opportunities for business growth and collaboration. The first of these macro-areas, product and sevices distribution franchising, allowed franchisees to sell products under a brand and standardized services in accordance with a corporate strategy by expanding the concept of franchising into service-oriented industries. Product franchising and business format franchising are the two distinct business concepts that make up the wide category of franchising. A product franchise is a business arrangement in which a franchisor creates a trade name and grants a license to a

[47] Lavonen, Riikka. "Franchising as a potential growth strategy for a small enterprise." (2010).

franchisee. The product franchise binds itself contractually to the use of the trade name for the delivery of goods or services to final consumers.

The second area is called business format franchising and it allows franchisees to produce and market goods by providing them with access to an existing industrial facility. In a business format franchise, the franchisor develops a structural framework for operations and a brand identity in order to provide products and services costumers. This kind of franchising is particularly common in industries where companies need to operate in several locations over large geographic regions. A business format franchise gives the franchisee access to the whole operating system, as well as the brand, products, and services of the franchisor.

Starting with the franchise agreement, which forms the basis of the franchisor-franchisee relationship; highlighting the advantages and disadvantages of franchising; outlining its potential for shared risk and brand awareness while recognizing the difficulties in preserving operational consistency and managing agency risks; including theoretical models explaining the complex dynamics of brand distribution and operational guidelines, franchising is a strong and wise investment when considered in the context of capital budgeting, not only a business strategy.

Franchising is a strategic option that has garnered significant interest from academics and business professionals when seen through the lens of capital budgeting. As a fundamental component of the financial decision-making, the capital budgeting aims to maximize returns on anticipated capital expenditures. With its methodical approach to resource distribution, dynamics of risk-sharing, and brand leveraging, franchising has emerged as a key topic in this topic. Studies have systematically investigated franchising, demonstrating its ability to facilitate market expansion for businesses without burdening them with undue financial commitments. Before adopting a franchising strategy, firms must carefully consider all of the advantages and disadvantages from this investment's project. Extensive research is essential when choosing franchisees in order to guarantee brand concept congruence and reduce risks. The process of capital budgeting is crucial for anticipating obstacles, whether they legal, operational, or financial, and for creating proactive plans to address them. In order to lessen the difficulties that come with franchising, franchisors must take a proactive stance, actively communicating with franchisees, make quantitative analysis to forecast the project's return on investment and the impact on the firm.

According to Aliouche and Schlentrich (2009)[48], companies strategically and operationally take advantage of franchising benefits. Higher financial returns than for businesses that don't employ franchising should come from these advantages. However, there may be a wide range of actual evidence about the effect of franchising on financial success. The Capital Budgeting method is typically used to value franchising. This entails a thorough investigation of demand patterns, potential market saturation, market competition, brand awareness' analysis and a meticulous assessment of quantitative analysis. Robust financial techniques, such Payback Period, Discounted Cash Flow (DCF), IRR, Profitability Indeces and other indicators, offer a methodical framework for evaluating the possible returns and intrinsic worth of a franchising.

The case study of Marks & Spencer, one of the most famous companies in the UK retail sector, presents an analysis in the context of capital budgeting. Famous for its dedication to premium goods—from apparel and housewares to outstanding culinary selections—Marks & Spencer's entry into international retail in Japan provides a solid example of franchising as investment's strategy. Aimed at expanding its presence in Japan, the capital budgeting process necessitates a careful assessment of the Japanese economic landscape, including a detailed evaluation of potential disadvantages and expected advantages. The investment project is about to open fifty shops in franchising throughout the following two years. Then, a quantitative analysis to understand benefits and losses of this investment is carried out, using the Net Present Value (NPV) technique, which assumes that every cash inflow is reinvested at the needed rate of return, and the Internal Rate of Return (IRR) approach, which assumes that every cash input is reinvested at the estimated IRR. Based on the computation findings, investors have decided to move forward with the project since its net present value (NPV) is 294.98. This project's estimated internal rate of return is 27%.

However, the conclusion of the sensitivity analysis shows that a 10% decline in exchange rates causes a decline in net present value. Changes in exchange rates carry a significant risk since they have the potential to reduce earnings and, in the worst cases, cause losses. In response, M&S establishes a dedicated information department charged with promptly

[48] Aliouche, E. Hachemi, and Udo Schlentrich. "Does franchising create value? An analysis of the financial performance of US public restaurant firms." *International journal of hospitality & tourism administration* 10.2 (2009): 93-108.

obtaining market data and establishing a robust warning system to monitor this risk and undertake this calculated investment in global franchising (Chaoxin 2012)[49].

A different research explores capital budgeting at Trade House "Europa," a retail fashion franchising chain, famous in Russia. Using pertinent investment assessment approaches, the empirical phase focuses on implementing NPV, IRR, and discounted payback period evaluations. The empirical basis of the study is provided by actual data from the company's first-half performance in 2014. The aim of this study is to analyze insights that could support capital budgeting process and how could impact on a firm an investment in franchising. The company estimates that the economic life of the investment is five years with an investment rate of 10%. The investment generates enough cash flow, according to the results, to extra €16,337 in profit (NPV of €16,337 higher than €0). The additional percentage that the investment produced is 11.8%. The investment should be allowed since it yields a 1.8% higher rate of return than the business had anticipated in comparison to the uniform discount rate of 10% (IRR 11,8%> 10%).According to the Discount Payback Periods approach, the investment project's discounted cash inflows will be recovered in 4 years and a few months – The project's DPP = 4,75 yrs < 5 yrs does not surpass the expected economic life of five years (see Kostritsa, 2014)[50].

In the context of retail sector, Tsai-Yueh (2021)[51] aims to unravel the impact of franchising investments on Domino's Pizza. Focusing on the upcoming four years, from 2021 to 2025, There were implemented quantitative analysis by using discounted cash flow and net present value approaches. The empirical results suggests that Domino's Pizza frinchising model not only imparts stability to cash flows from franchisee sales, but also establishes a vertically integrated supply chain that ensures the consistency of high-quality products. Through the process of capital budgeting, Domino’s Pizza has defined two strategies by capital budgeting process: the fortification approach and the expansion strategy. Indeed, the company's main goal is to build more franchised stores in order to increase sales and operational profitability and to improve services by adding additional

[49] Chaoxin, Li. "The Research on Company’s Investment: An Empirical Study of Marks & Spencer." (2012). IN: Duysters, Geert, de Hoyos, Arnoldo, and Kaminishi, Ken (eds), *Proceedings of the 9th International Conference on Innovation and Management* (2012) 1288-1292.

[50] Kostritsa, Maria. *Applying investment appraisal techniques to assess profitability of franchise purchases as major capital budgeting expenditures*. BA thesis, Haaga-Helia University of Applied Sciences (2014).

[51] Tsai-Yueh, Lien. *Discounted Cash Flow Valuation Of Domino's Pizza, Inc.* Ma In Management Dissertation, Mahidol University (2021).

locations in current regions to give rapid delivery and achieve more costumers. Additionally, continuous investments in technological innovation serve as a cornerstone, enhancing Domino's ability to provide superior and more convenient services. Capital Budgeting process offers a methodical framework for assessing potential returns and firm value, since it is based on quantitative analysis. The Marks & Spencer, Domino's Pizza and Trade House "Europa" case studies serve as an example of how capital budgeting is applied in the context of franchising and highlights the importance of this process in directing strategic choices.The thorough examination of these instances highlights the strategic importance of franchising within the context of capital budgeting and provides insights into the possible advantages it may provide in a variety of sectors.

In conclusion, the intricate relationship between franchising and capital budgeting emphasizes the strategic significance of the business model as a possible funding source. Franchising is a flexible and dynamic way to enter new markets, and it also fits in well with the principles of financial decision-making due to its ability for brand leveraging, risk-sharing dynamics, and rational resource allocation.

It is vital to concentrate on the retail sector and examine the many businesses that exist in order to comprehend the link between franchising and capital budgeting. Furthermore, franchising may be more effectively explained as a successful strategy in the capital budgeting framework by analyzing customer happiness and brand perception.Franchising is a very attractive choice for capital planning because to its low cost, high operational efficiency, and more flexibility.

### 2.4 Retail Landscape: Franchise Collaboration and Job Satisfaction

Within the dynamic retail sector, where consumer preferences determine market dynamics, retail businesses play a significant role in influencing how consumers perceive items and recognize brands. Indeed, the link between retail categories and customer perception is crucial in determining the success of brands. This section explores the retail sector’s businesses and, in particular how the collaboration between franchisors and franchisees shapes the narrative that consumers hear about goods and services and how the job satisfaction impacts on the process.

According to Hameli (2018)[52], the retail sector of the economy is one of the most important sectors in the world, since it works directly with customers. It includes all retail spaces, from kiosks and grocery shops to supermarket chains.

Of all the categories, the three most important ones are price-, product-, and ownership-based categories.

The price-based classification identifies discount stores, factory outlets, off-price stores and warehouse clubs as the most significant forms of retailing.

Based on product classification, shops can be devided into of general shops, specialty stores, department shops, Supermarket and restaurants.

Based on ownership-based classification, Independent Shops, Chain Stores and Franchising are the most significant retailing establishments.

### *2.4.1 The price-based categorization*

According to According to Hameli (2018)[53], the first area that composes the complex nature of retailing is the price-based categorization. Discount shops, factory outlets, off-price stores and warehouse clubs are all highlighted in this group as essential retail formats that have a unique impact on customer experiences and market dynamics.

Discount stores compose a considerable portion of the price-based retail sector. These companies focus on providing goods at lower prices than other retailers in order to attract clients who are on a restricted budget. Discount stores are crucial to the retail business because they have the potential to expand the size of the consumer base, improve product accessibility, and dispel common misconceptions about pricing. After World War II, a lot of discount stores moved to more convenient locations and began providing stronger warranties and customer service. This is how the retail locations for this edition were made. Discount shops are self-serve establishments that consistently strive to provide consumers with branded goods at reasonable prices.

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[52] Hameli, Kujtim. "A literature review of retailing sector and business retailing types." *ILIRIA International Review* 8.1 (2018): 67-87

[53] Hameli, Kujtim. "A literature review of retailing sector and business retailing types." *ILIRIA International Review* 8.1 (2018): 67-87.

Factory Outlets are owned by a manufactures and they maintain inventory of products made by a manufacturer. In certain places, the manufacturer opens a retail store and provides clients with reduced goods.
Off-Price Retailing involve selling merchandise at a lower price. Discount retailers buy products at a cheaper wholesale price and give the savings to their consumers. Warehouse Clubs are large retail stores offering a variety of goods. Both small business owners and bargain shoppers are drawn to the store's ability to buy large, wholesale quantities of its products**.**

### *2.4.2 The product-based classification*

The length and breadth of their product assortments define the region of the product-based classification based on the products they offer.
According to Hameli (2018)[54], retail businesses are separated into several categories by this taxonomy, each of which is based on the kind and range of goods they offer. This classification system exposes the strategic maneuvers employed by merchants to satisfy a variety of consumer needs, including those of general shops, specialty stores, department shops, Supermarket and restaurants.
For instance, one of the things that distinguishes general stores from others is their emphasis on convenience. Customers frequent these stores because they simplify the shopping experience and offer a large choice of items under one roof.
General shops are designed with accessibility in mind, making it simpler for patrons to move about and do many chores in a single visit. The extensive selection of goods, which includes both name-brand and off-brand items, sets general shops apart. This inclusivity guarantees consideration of a broad spectrum of client preferences and budgetary restrictions. General shops are significant because, in addition to being practical, they are a responsive response to the evolving demands and preferences of modern customers who seek out expedient shopping.
Specialty stores are small, independent businesses that target a certain market niche and carry a particular product line, all the while offering a variety of options to its clientele. Specialty stores sell designer clothing, high-end sporting gear, adult products, and even

[54] Hameli, Kujtim. "A literature review of retailing sector and business retailing types." *ILIRIA International Review* 8.1 (2018): 67-87.

vintage things. These should be places with exceptional customer service, knowledgeable employees, and a unique product range. Specialty stores provide a limited assortment of carefully chosen product lines. Purchases at specialty stores are increased by faster sales, lower costs associated with product fashion shift and style changes, and services provided to particular clients who are well-known to management and sales staff. Specialty stores are independent businesses that concentrate on one or more niche markets, such as expensive athletic equipment, high-end clothing, or antique goods. Furthermore, their ability to swiftly adjust to shifting fashion trends stems from their concentration on a certain field of expertise. As a result, they may provide the newest and best items before larger retailers. With fewer, more focused alternatives, customers can also control their expenses more effectively.

Department stores are large-format, multi-level retail spaces with a focus on consumer goods that are housed in spacious structures. Usually, a department exists on each floor. The biggest stores are department stores, which have many departments and provide customers access to multiple production lines. The major metropolitan shopping malls are home to department shops, which provide a wide variety of unrelated goods such cookware, furniture, and other household goods, as well as men's, women's, and children's clothing and specialized items. In response, a number of department retailers have used promotional pricing to outmaneuver the possibility of discounts.

Supermarkets are stores that specialize on selling food goods, cleaning supplies for the home, and personal hygiene items through self-serve checkout lines that are positioned in certain areas. In industrialized nations, supermarkets have taken the role of other stores because they can handle vast quantities of food products, necessities, quickly moving commodities, and the like without the need for intermediaries and can sell low-profit goods at lower rates.

In addition, quick-service restaurants are the perfect fusion of the retail and culinary industries. By putting speed, accessibility, and convenience first, these businesses carve out a distinct position for themselves in the market and provide customers with a quick and easy dining experience. Because they provide more than just food, quick-service restaurants are essential because they meet modern consumers' need for convenient, quick meals while also adapting to their changing requirements and tastes. Quick service restaurants, which strive to improve the dining experience by reducing wait times for freshly created menu items, respect the fast-paced nature of modern life. Fast food restaurants are easily accessible to patrons who are always on the go since they are usually located in crowded places like bustling streets, transportation hubs, and shopping centers. With a focus on simplicity, these eateries serve everything from standard burgers and fries to salads and sandwiches that can be grabbed and gone. This facilitates speedy ordering and a hassle-free dining experience. Because their menus are consistent, patrons of quick service restaurants can count on a consistent and reliable experience from establishment to establishment.

### *2.4.3 The ownership-based classification*

In retail sector, ownership-based classification distinguishes between different models and structures based on who owns and manages the firms. This category includes a variety of ownership arrangements. Any form of retail space may function on its own, no matter how big or little, and they are called Independent shop. Just as a person might be the owner of a company, a partnership can also manage it. Independent shops are retail units of any size that are not affiliated with any other entity. They can be owned by individuals or by different types of partnerships. Independent retailers control and manage their businesses on their own terms. These companies stand out because they are unique and target specific markets with unique offerings and strategies.

A chain shop is a company that consists of two or more retail outlets and it is owned by one individual. Compared to independent shops, chain stores provide far more benefits. Indeed, because of their size, stores may receive promotional economies by making purchases at discounted prices. Anyway, Chain stores may be found in all types of retail establishments, although they are most common in department stores, supermarkets, multi-variety stores, and clothing stores. Compared to independent stores, they provide more advantages such as cost savings from other operations, promotion savings, and an higher possibility to hire highly qualified staff.

A summary of the price-, product-, and ownership-based categories characterizing the retail sector can be seen in Tables 17, 18 and 19 below.

| Category | Businesses | Descriptions |
| --- | --- | --- |
| Price based | Discount | attracts clients by offering goods at lower prices;<br>expands the consumer base;<br>enhances product accessibility;<br>provides branded goods at reasonable prices. |
| | Factory outlets | owned by manufacturers;<br>stock and sell inventory directly to consumers:<br>offering discounted goods in retail spaces opened by the manufacturer. |
| | Off-Price | provide quality merchandise at lower prices;<br>passes on savings to consumers;<br>attracts shoppers seeking both affordability and quality (customer-centric approach) |
| | Warehouse | Emphasizes bulk purchasing with cost savings;<br>Offers diverse product of high quality brands |

*Table 17. Price-based category – own elaboration*

| Category | Businesses | Descriptions |
| --- | --- | --- |
| Product based | General shops | designed for accessibility;<br>offers extensive selection of goods, encompassing both name-brand and off-brand items;<br>plays a significant role as a responsive solution to the evolving demands and preferences of modern customers. |
| | Specialty stores | specific market niches;<br>offers unique product lines such as designer clothing, high-end sporting gear, and vintage items;<br>capitalizes on faster sales, lower costs, and personalized services for well-known clients. |
| | Department shops | characterized by large, multi-level retail spaces, with numerous departments on each floor;<br>offers access to a wide range of consumer goods;<br>utilizes promotional pricing strategies to navigate the competitive landscape. |
| | Supermarket | specialized in offering a wide selection of food goods, home cleaning supplies, and personal hygiene items;<br>efficiently manages large quantities of diverse products, eliminating intermediaries, and providing low-profit goods at competitive prices;<br>emphasizes convenience and affordability in meeting the diverse needs of consumers. |
| | Restaurant (quick-service) | combines the retail and culinary industries;<br>prioritizes speed and convenience to meet the modern consumer's need;<br>positioned in busy locations (both in cities and outskirts);<br>simultaneously satisfies the consumer's needs, with standard and economical menus. |

*Table 18. Product-based category – own elaboration*

| Category | Businesses | Descriptions |
|---|---|---|
| Ownership based | Independent shops | operates without affiliation to any other entities;<br>ownership can rest with individuals or various types of partnerships, granting independent retailers full control over their business operations;<br>targets specific markets with distinct offerings and strategies, standing out as individualized ventures in the retail landscape. |
| | Chain stores | comprises two or more retail outlets under a single ownership;<br>is present in various retail businesses, with a prevalence in department stores, supermarkets, Restaurant (quick-service);<br>offers advantages such as cost savings derived from economies of scale and access to highly qualified staff |
| | Franchising | is a collaborative ownership model where franchisors and franchisees partner to leverage an established brand;<br>Offers benefits such as brand recognition, operational support, and economies of scale;<br>accelerates expansion;<br>provides entrepreneurial opportunities;<br>creates a win-win scenario for both parties and ensuring consistent experiences for consumers. |

*Table 19. Product-based category – own elaboration*

## 2.5 Franchisor and franchisee satisfaction

A retail business model describes how a retailer creates value for its customers while appropriates value from the markets. Innovations in business models are becoming more and more important to sustain a competitive edge in a market marked by rapid change, intense competition, and rising customer expectations[55].

According to Wong et al (2014)[56],, job satisfaction is the emotional state that arises from an employee's contentment with their current role.

This is because employees that exhibit higher levels of job satisfaction usually put in more effort at work, which might lead to better job performance. Therefore, in order to execute at a higher level, in the franchising landscape, an organization requires a fulfilling work

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[55] Sorescu, Alina, et al. "Innovations in retail business models." *Journal of retailing* 87 (2011): S3-S16

[56] Wong, Yvonne, Rabeatul Husna Abdull Rahman, and Choi Sang Long. "Research Article Employee Job Satisfaction and Job Performance: A Case Study in a Franchised Retail-Chain Organization." *Research Journal of Applied Sciences, Engineering and Technology* 8.17 (2014): 1875-1883.

environment. To put it simply, a company's capacity to maintain both franchisor and franchisee satisfaction is a major factor in its success.

After looking at the many retail businesses, it's important to comprehend one more basic theory: how franchisor and franchisee satisfaction affect customer satisfaction.

Understanding this mutually beneficial connection is crucial as the retail sector develops, because it improves service delivery, creates a positive work atmosphere, and ultimately guarantees that franchise consumers have a positive experience.

According to Evanschitzky et al (2011)[57], the experiences of front-line employees are heavily impacted by small business management and owners. Satisfied owners often cultivate positive corporate cultures by increasing employee moral and job satisfaction. Thus, this could affect the quality of service provided by front-line staff. Employees that are happy in their jobs are more likely to engage with clients in a courteous manner, showing them that they care and genuinely want to satisfy their requirements. The relationship between consumers and employees satisfaction is essential in a franchise agreement. Clients' loyalty is influenced by satisfied and motivated workers who provide positive client experiences. Managing staff and customer satisfaction becomes a dual duty for a franchisee. Optimizing overall businesses' success requires striking a balance between the requirements and satisfaction of front-line employees and the expectations and preferences of consumers. This is because the work environment that satisfy owners and managers has a big impact on how employees engage with customers. Work satisfaction is the emotional state that arises from an employee's contentment with their current role. This is because employees that exhibit higher levels of job satisfaction usually put in more effort at work, which might lead to better job performance.

Therefore, in order to execute at a higher level, in franchising landscape, an organization requires a fulfilling work environment. To put it simply, a company's capacity to maintain both franchisor and franchisee satisfaction is a major factor in its success.

According to Guilloux (2008)[58], a successful and long-lasting relationship requires more than just financial concepts; it also requires fairness, communication and trust, as can be

[57] Evanschitzky, Heiner, et al. "How employer and employee satisfaction affect customer satisfaction: An application to franchise services." *Journal of service research* 14.2 (2011): 136-148.

[58] Guilloux, Veronique, et al. "How franchiser and franchisee relationships affect franchisees' satisfaction? The importance of fairness, communication and trust as ethical bases of relationship marketing." *International Journal of Entrepreneurship and Small Business* 6.1 (2008): 155-172.,

demonstrated by examining the elements of franchisor-franchisee interactions. The degree of satisfaction of the individuals at the center of the franchising system depends largely on the symbiotic connection that is based on these moral principles between franchisor and franchisee.

A basic concept of fairness is how franchisors treat their franchisees properly, making sure that the partnership's obligations and benefits are distributed equitably. Effective communication, on the other hand, is essential to this partnership in order to facilitate the free exchange of expectations, information, and criticism. In conclusion, trust is the foundation of every successful partnership; it fosters mutual dependence and commitment between the franchisor and the franchisee. It is clear that these ethical foundations are important for reasons other than franchisee satisfaction. It affects customer experiences, brand reputation, and, eventually, financial success throughout the whole franchise system.

According to Lee, (1999)[59], there are four phases to a franchisor-franchisee relationship. The first is the introduction, which encourages reliance on one another as well as a common goal of wealth and gain. The second phase is characterized by growth. During this phase, the partnership grows and the new franchisee receives assistance from the franchisor. If the franchisor doesn't provide enough support, the partnership can also run into problems at this point. When each person understands what is expected of them, the maturity period is reached. The degradation is the last stage. In this phase, one or two conditions predominate. This might be due to one of two things: either the company is doing well and the franchisee is motivated, or the business is failing. The success of both sides depends on the ideal franchisor-franchisee relationship, which is based on mutual trust, consideration, and collaboration. A good partnership should benefit both the franchisor and the franchisee, require equal effort, increase profitability, job satisfaction and overall growth. However, there is a lot of potential for conflict or "agency problem" behaviours in a relationship, when two individuals are dependent on one another. Free riding emerges as an agency problem that challenges the equilibrium between franchisors and franchisees. This phenomenon unfolds when the costs associated with elevating product quality, often integral to the brand's reputation, are externalized, spreading

[59] Lee, Soo Bum. *An investigation of factors affecting the quality of the relationship between franchisee and franchisor and its impact of franchisee's performance, satisfaction, and commitment: A study of the restaurant franchise system*. Diss. Virginia Polytechnic Institute and State University, 1999.

beyond the immediate financial burden of the franchisee. Simultaneously, the gains derived from these quality enhancements become internalized, consolidating within the franchisor's domain. The result is a potential misalignment of incentives, with the franchisee holding a strategic motive for engaging in free-riding activities. Free riding emerges as an agency problem that challenges the equilibrium between franchisors and franchisees. This issue occurs when franchisees have a greater financial burden than they initially did due to the externalization of costs involved with improving product quality, which is frequently essential to the brand's image. Simultaneously, the benefits obtained from these quality improvements are internalized. As a result, there may be a mismatch in incentives, with the franchisee having a strategic reason to participate in unfair practices.

A strong franchisee-franchisor connection is necessary to prevent free riding difficulties and to enable high levels of work satisfaction. It is true that a better franchising connection will result from more job satisfaction, and vice versa. The strength of the relationship between the franchisor and the franchisee may have an impact on revenues and profits since it is projected that good relationships would result in high levels of productivity.

According to Rodriguez Vianaa et al. (2022)[60], satisfaction within the franchise system becomes a pillar as motivated franchisees become increasingly important to the company's overall success: franchisees are motivated to push boundaries and strive for optimal company success, indeed they are a proactive and engaged collaborator. The quality of the direct support provided from the franchisor has a direct influence on the link between franchisee performance and satisfaction. In this context, franchisees' satisfaction is based on the level of support they receive. This support can take many different forms, including guidance on operations, training, assistance with marketing, and ongoing support while navigating the complexities of the retail sector. Thanks to the support provided by franchisors, extremely satisfied franchisees are not only motivated entrepreneurs but also significant contributors to the positive narrative that consumers spread about the brand. Their enthusiasm, commitment and adherence to brand standards create a compelling story for customers that influences perceptions and purchases.

[60] Rodrigues Viana, T., Azevedo, A. C., & Morais Pereira, R. Association between satisfaction and performance in franchise networks: a study from the perspective of correspondence analysis. *REGEPE Entrepreneurship and Small Business Journal*, *11*(2), e2187, (2022) https://doi.org/10.14211/ibjesb.e2187

Franchisees' and franchisors' job satisfaction is evident through interactions with customers.

In conclusion, the exploration of the retail sector highlights that retail businesses have crucial importance in shaping consumer perception and brand recognition. Understanding the relationship between retail categories and customers' perception becomes crucial, as consumers' choices influence market dynamics. Considering in particular the context of franchising, the relationship between franchisor and franchisee emerges as a central theme, showing how this partnership influences job satisfaction and, consequently, the overall performance. The positive correlation between job satisfaction and franchising performances becomes a driving force for creating consistent and exceptional customer experiences. Indeed, satisfied affiliates are more likely to implement best practices and actively contribute to the success of the company.

# III. Franchising at Carrefour: Tuscany Case Study and Cash Flow Analysis

After having explained the theory behind the capital budgeting process, the business of franchising and the retail sector, in this chapter the focus will be on Carrefour and, in particular, on the specific case of the investment in franchising business in Tuscany. Data are corroborated by an interview we had with Pasquale Alicandro (National Area Head of Carrefour Italia), which is summarised in section 3.3 below[61] and which makes it possible to understand not only the decision-making processes that led to the choice of investment in the Tuscany business case, but also if and how cognitive biases might have influenced this process.

The purpose of the chapter is to verify whether franchising can be considered an effective investment choice for Carrefour Italia, in the capital budgeting paradigm, by using the Cash Flow method of the most representative franchising collaboration in Tuscany, compared to Cash Flows of six  franchising collaboration between Rome, Turin, Milan, Bergamo and Genoa.

## 3.1 Retail in Italy: an overview

Before delving into the cash flow analysis of Carrefour and its stores in Tuscany, it is essential to provide an overview of the Italian retail market.

Large-scale retail commerce in Italy encompasses the sale of food and consumer products through various points of sale. A distinctive feature of large-scale retail trade is the presence of "commercial chains" or GDO (Grande Distribuzione Organizzata), where multiple points of sale operate under a single brand[62]. This organizational structure enables the execution of centralized marketing campaigns and associated commercial strategies. Furthermore, procurement policies, including supplier selection, buying

[61] The inteview is fully reported in the *Appendix*.

[62] Viviano, Eliana. "L’affermarsi della grande distribuzione commerciale in Italia."(2014). Available at: https://www.bancaditalia.it/pubblicazioni/altri-atti-convegni/2014-concorrenza-mercato-crescita/VIVIANO_t.pdf

administration, and pricing rules, are often managed centrally. This integrated approach allows for streamlined operations and strategic coordination across the retail network, shaping the dynamics of the Italian retail market. Understanding this context is crucial for a comprehensive analysis of Carrefour's financial performance in the specific context of Tuscany.

Unique market formats that fall into several categories have developed throughout time as a consequence of the various tactics and corresponding sales locations used by businesses in the large-scale retail trade industry in Italy[63].

The shop's surface area and the references it handles make up the majority of the differentiating elements. The surfaces of hypermarkets are typically bigger than 2500 $m^2$. This type of sales station offers a wide range of goods, a good percentage of which are non-food items. The surface area of supermarkets is 2000–2500 $m^2$ and offer a medium–to big assortment of goods. Even yet, there are significantly less non-food goods than at a hypermarket. Self-service businesses, then, usually have between 100 and 400 $m^2$ of surface space. Their small proportions allow them to blend in well with hypermarkets, and their modest size makes them especially ideal for city centers where space is at a premium. Self-service is a straightforward structure that often has a small selection of references, making buying easier for consumers who are looking for convenience. Discount stores, on the other hand, vary not so much in quantity but rather in the kind of goods they carry; they are typically limited-edition products that do not have strong brand names attached to them. Furthermore, cash-and-carry departs from traditional models by serving only customers who have a current VAT number.

Italy's large-scale retail industry is defined by a diversified variety of enterprises, some of which are fairly considerable and have a strong international presence. Among Italy's well-known retail societies are Conad (https://www.conad.it/), Esselunga (https://www.esselunga.it/cms/homepage.html), and Coop (https://www.coop.it/).[64]

[63] Alein, Alessandro. "Misurazione delle performance logistiche nella Grande Distribuzione Organizzata in Italia: il caso Carrefour." Open Access thesis of the Politecnico di Torino, Corso di laurea magistrale in Ingegneria Gestionale (2020). Available at: http://webthesis.biblio.polito.it/id/eprint/14078

[64] Squarcina, Elisa. "GDO E OMNICANALITA': un'analisi dello stato dell'arte e del comportamento dei consumatori." Unpublished thesis of Ca Foscari, University of Venice, Corso di laurea magistrale in Marketing e Comunicazione (2020). Available at: http://hdl.handle.net/10579/17509

### *3.1.1 Coop*

In Italy, Coop is a well-known cooperative retail society. Since Coop is a cooperative, it gives customers the option to join in, giving them a voice in the governance of the organization. Its clientele is encouraged to participate and feel a feeling of shared responsibility because of its unusual structure. Supermarkets and hypermarkets that are positioned to meet a variety of consumer demands are part of Coop's vast network. Beyond its commercial activities, the cooperative places a strong focus on a community-oriented strategy, demonstrating a dedication to social responsibility and local participation. As one of the biggest retail chains in Italy, Coop has established a widespread presence across the country by providing a full shopping experience while adhering to the cooperative ideals of inclusion[65].

### *3.1.2 Conad*

Conad is a consortium that offers a distinctive business concept to the Italian retail industry. Under the Conad name, a group of individual shops come together to form a cooperative network. Conad's strategy, in contrast to conventional franchise models, encourages a sense of collaboration among merchants who, even if they remain independent, capitalize on the power of a shared brand.

The cooperative efforts of independent shops, big and small, to pool resources and seize opportunities are the core of Conad's business strategy. This partnership encompasses a number of areas, such as marketing and branding initiatives. By coming together under the Conad brand, these small shops are able to access a reliable and identifiable brand, which increases their ability to compete in the market[66].

### *3.1.3 Esselunga*

[65] Piana, Manuela. "Private label nella Gdo: il caso Coop Italia." *Consumatori, diritti e mercato* 1 (2009): 134-145

[66] Fratalocchi, Roberta. "Lo sviluppo del marketing relazionale nelle imprese della GDO: il caso Conad Adriatico." Politecnico delle Marche, Corso di laurea triennale in Economia e Commercio (2019). Available at: https://tesi.univpm.it/handle/20.500.12075/2203.

Esselunga is a well-known, privately-owned retail firm with a long history in Italy that is still held by the Caprotti family. Esselunga, a specialist in supermarkets and hypermarkets, has made a name for itself by persistently pursuing cutting-edge retail tactics, providing exceptional customer service, and maintaining a strong dedication to quality. Because it has allowed the business to preserve its fundamental values and sense of self, Esselunga's family-centric ownership structure sets it apart.

### *3.1.4 Carrefour*

Of course, the international feature of Carrefour (https://www.carrefour.com/en) allows it to exhibit a more sophisticated strategy by limiting the use of franchising to specific regions. This allows the company to leverage local knowledge and maintain its global brand standards. Throughout its international operations, Carrefour uses a variety of brand identities, each one specific to the features and products of a certain shop. Store size, product diversity, and location are the main determinants of which stores are chosen. Carrefour Express is the most recognizable brand in most of the nations in which the corporation conducts business. It identifies stores who meet the requirements for proximity outlets by having comparatively modest surface areas and assortments. It committed to offering clients in their immediate area quick and easy purchasing experiences.

Carrefour Markets are larger and provide a wider range of products than the Express type. They are positioned to provide a range of products and meet consumer requirements. Carrefour Hypermarkets are associated with exceptionally large sales outlets, often featuring an extensive assortment that includes a substantial quantity of non-food products. Hypermarkets typically provide a comprehensive shopping experience, combining groceries with a diverse range of household and non-food items. In 2000, Carrefour made its debut in the Italian market thanks to the success of the Dì per Dì brand and the acquisition of the whole GS group. Nevertheless, the first Carrefour signs were not actually deployed until 2007, when they replaced the GS hyperstore signs[67].

[67] Alein, Alessandro. "Misurazione delle performance logistiche nella Grande Distribuzione Organizzata in Italia: il caso Carrefour." Open Access thesis of the Politecnico di Torino, Corso di laurea magistrale in Ingegneria Gestionale (2020). Available at: http://webthesis.biblio.polito.it/id/eprint/14078

Carrefour Italia (https://www.carrefour.it) is an Italian retailer that operates a multi-format network of over 1,500 stores spread across 19 regions. The company also offers eCommerce services and is developing an omnichannel strategy. With more than 1,000 franchised locations, the business is also a top franchise network. Under the Act for Food program, Carrefour Italy pursues its purpose to realize the food transition for all, giving everyone access to high-quality, reasonably priced food every day, everywhere. This aim is driven by a strong consumer focus and a desire for innovation. Carrefour Italia was named a Top Employer in 2023 for the sixth consecutive year, with over 103,000 workers. With over 30 years of history, Carrefour's franchised retail locations have played a significant role in the retail landscape. From humble beginnings to a consolidated business, Carrefour's franchising story is a journey through the setbacks and triumphs of more than three decades. More than 500 entrepreneurs have chosen Carrefour as a business partner, highlighting the essential role that each entrepreneur plays within the Carrefour ecosystem. These entrepreneurs are not just business partners; they are also the architects of the communities in which they operate, converting their businesses into vital reference points. Every Carrefour retailer takes on a crucial role in the community where their store is located, serving as a resource for the area's residents. Presently, the Carrefour franchise network has over 770 sales locations, including agreements that allow for business-to-business franchising. The diversification of the agreements highlights the flexibility of Carrefour's franchising concept, tailoring it to the unique needs of each investor partner (https://www.carrefour.com/en/group/history).
Beyond directly managed retail locations, Carrefour has expanded its reach through franchising agreements, which increase Carrefour's geographic reach and further solidify its presence in significant Italian regions.

## 3.2 Carrefour Italy: An introduction

After having introduced the large-scale retail sector in Italy and having presented the main characteristics of Carrefour Italia, our analysis continues with a deeper focus on the capital budgeting process of Carrefour Italia, in the franchising framework. Finding qualified partners for new franchising opportunities is a crucial element of Carrefour. Developing a new store from scratch and purchasing an existing store with a different brand identity are the two separate situations that frame this complex decision-making process. Carrefour has rigorous standards and procedures in both situations to ensure that prospective partners are aligned with their key objectives. The following sections will focus on the strategies used by Carrefour to expand its company through venture a new market ore relaunching the market, focusing on Pasquale Alicandro's interview (Director of the Centre-North region at *Carrefour Italy*). More precisely, an in-depth investigation is launched to ascertain whether the construction of a new store is feasible. In this research, both the geographical position and the socio-economic composition of the area are taken into consideration. We will try to contextualize this topic using a Cash Flow analysis for evaluating the strategic investment in franchising of the venture operation that Carrefour carried out in 2013, called the Tuscany business case. We had the opportunity to make this analysis and obtain this data, because we are carrying out an extracurricular internship with the company, at the Carrefour Italia headquarters in Milan. At this moment the position of the author of this thesis is "credit analyst": we assist and support Credit managers in the evaluation, management and recovery of operations within the Franchising Model, we contribute to the monthly and forecast reporting on credit management data and we assist and support Credit Analysts in conducting analyzes and assessments during the business development phases, as well as in the preparation of approval dossiers.

As the contextualization of the data is crucial to understand the extent and reliability of the narration, in this thesis, all the data used come from the financial statements of the Tuscany Carrefour stores from 2020 to 2022, which are supplied by Cerved, the leader in the business information and big data management industries, as well as from Carrefour's management control.

Initially established in 1973, Cerved is an IT company that manages, processes, and disseminates Chamber of Commerce data maintained on file in the Companies Register. The group collects and analyzes information from financial statements to give a complete picture of the credit and financial situation of Italian companies. Its services are widely used by individuals to assist them in making educated business, financial, and strategic decisions.

The choice to use the financial statements from 2020 to 2022 was linked to the fact that the data prior to 2013 (acquisition of the sales points in Tuscany) are not available, while the financial statements for subsequent years up to and including 2019 are not present in the management software of Carrefour Italy or in Cerved.

Since many balance sheets are unavailable, it was determined that the best way to get the most accurate findings possible was to utilize the analysis of cash flows.

## 3.3 Carrefour Toscana: an interview

### *3.3.1 Introduction*

After having introduced the retail sector in Italy and having given a general focus on the business realities of the territory, the focus of the chapter will be on the business case of Carrefour Toscana. More precisely, we will summarize the case as reported by Pasquale Alicandro, regional director of the Central North Area of Carrefour Italia.

As reported by Alicandro, in 2013 Carrefour learned of the bankruptcy of eighteen stores in Tuscany of a very important supermarket chain in Italy. In those years, Carrefour's core business was the expansion of its points of sale throughout Italy, especially through the express format, managed as a franchise. Carrefour thus decided to acquire nine stores out of eighteen, which will be introduced in the following chapters. Tuscany was a region in which Carrefour had yet to arrive, therefore such an acquisition seemed a strategic choice for the expansion into a new territory. Pasquale Alicandro's interview on the nine companies acquired by Carrefour in 2013 in Tuscany offers valuable insights into the intricate decision-making processes inherent to a consolidated, globally oriented company primarily engaged in franchising. The purpose of this interview goes beyond a simple narration of Carrefour's experiences; the interview serves as an illuminating exploration of the multifaceted realm of financial considerations and the nuanced impacts of behavioral finance biases that play a critical role in shaping the investment choices made by this corporate giant in Tuscany.

Section 3.1.4 “Carrefour” discussed above, demonstrates how Carrefour's business model is adaptable to meet the specific needs of each partner. In the Tuscany investment operation, Carrefour has decided to divide the management of stores between direct stores and franchising. It becomes essential to grasp the distinctions between direct management and franchising to understand Carrefour's operational dynamics in this development. Carrefour has shops managed by a more centralized approach to business operations through "direct management". On the contrary, working with established local entrepreneurs who perfectly complement Carrefour's business strategy is what franchising entails. Today all the shops presented in the  Tuscany business study are regulated by franchising agreements.

### *3.3.2 Pasquale Alicandro's interview*

The interview[68] with Pasquale Alicandro provides valuable insights into Carrefour Italia's strategic approach, focusing in particular on franchising as an investment strategy within the framework of capital budgeting.

Alicandro, Regional Director of the Central-North area for 32 years in Carrefour Italia, underlines the company's strong emphasis on franchising, in particular through the 'employee-entrepreneur' project, which stimulates employees to take on entrepreneurial roles, managing direct sales points in corporate lease. This innovative initiative has proven to be a catalyst to uplift individuals who have made significant journeys in the retail industry. The project's unique approach encourages employees to transform into entrepreneurs, taking on the responsibility of managing direct sales outlets under a corporate lease. This shift in roles allows individuals with first-hand knowledge of the retail environment to take on entrepreneurial leadership positions, bringing a wealth of experience and insight from the operational side of retail. Their background within the company provides them with a deep understanding of Carrefour's ethics, business practices and customer dynamics. The project not only serves as a mechanism for internal talent development but also serves as a bridge for employees to evolve into successful entrepreneurs. Alicandro suggests that this dual role progression allows these individuals to leverage their newfound entrepreneurial skills, ultimately contributing to the success and growth of franchise operations. In addition, Alicandro illustrates the advantages of a globally recognized brand, such as Carrefour, highlighting the support provided to affiliates and the intricate selection process. He notes that while the franchising model shares common ground across countries, Carrefour's approach involves a mix of pure franchising and leasing, favoring a close relationship between franchisors and franchisees. Alicandro shares insights into Carrefour's careful selection process for franchise partners, considering the commercial capacity, willingness to collaborate and moral integrity of potential franchisees. The analysis involves the creation of preliminary profit and loss statements, with constant monitoring of key performance indicators such as turnover, labor costs and inventory discrepancies. Specifically, Alicandro delves into

[68] The interview can be found in the *Appendix* section of this thesis.

the success of Carrefour's investment in Tuscany, outlining his role in the acquisition and the factors that influenced the decision. The strategic investment in Tuscany marked a crucial moment in Carrefour's expansion journey: this bold move, started around ten years ago, reflects Carrefour's commitment to exploring untapped markets and leveraging the franchising model for growth sustainable. Driven by the success of Carrefour's initiatives in Milan, Alicandro perceived the opportunity to replicate this triumph in Tuscany. The decision to acquire 19 stores in the region was not simply a geographic expansion but a strategic alignment with the unique characteristics of Tuscany. The presence of these strategically placed stores, particularly in Florence, has paved the way for Carrefour to cater to a diverse customer base, including both locals and tourists who are familiar with the brand. The success of this operation was not only attributed to favorable conditions, but also to meticulous planning and effective use of the franchising model. The choice to involve historic entrepreneurs from the region, who understood the nuances of the local market, proved to be crucial to the success of the initiative. Pasquale Alicandro's optimism and confidence in Tuscany's suitability for Carrefour was based on an in-depth knowledge of the region's dynamics. However, the interview also sheds light on the cognitive biases that influenced Alicandro's perspective, particularly anchoring and representativeness biases. Despite these misconceptions, the Tuscany operation proved to be a triumph for Carrefour, demonstrating not only financial success but also the brand's resilience and ability to thrive in different markets.

### *3.3.4 Cognitive biases*

The interview with Pasquale Alicandro offers an in-depth look into the complex world of capital budgeting and franchising and the possible effects of behavioral finance biases that might influence  this leading figure in his strategic investment decisions.

Drawing on the theory presented in chapter 1.4, we will expose the cognitive prejudices that can be seen in Pasquale Alicandro's perspective and that migh have been crucial in determining Carrefour's strategic choices in the Tuscan landscape.

For instance, Pasquale Alicandro's recognition of the impact of the Covid-19 epidemic on the importance of proximity reveals a cognitive bias known as pessimism bias. "Pessimism bias”  is related to the fact that people tend to see the negative aspects of circumstances while minimizing their positive components. In this context, Alicandro's observation on the growing importance of proximity, combined with the benefits of the

pandemic for the retail sector, contributes to a more negative assessment of the current situation.
When he says that he thought there were several characteristics that were "perfect" for what Carrefour could do and that he believed that the success of the Milan stores influenced his idea Carrefour could replicate that success in Tuscany, Pasquale Alicandro was sure and optimistic about Tuscany's suitability for Carrefour. The word "perfect" he used conveys a deep belief that the circumstances were excellent for achieving results. The belief that what was successful in Milan will necessarily also be successful in Tuscany is suggested by this impact deriving from previous achievements. This assumption might show overconfidence and optimism in the possibility of replicating success in other geographical areas, but also anchoring from the past. The success of the Milan stores served as the cornerstone of Pasquale Alicandro's idea, and he used it as a benchmark or anchor to assess the likelihood of success in Tuscany. Because it entails basing choices concerning the new enterprise in Tuscany unduly on the initial information encountered (success in Milan), this anchoring bias might result in cognitive mistakes.
Representativeness bias arises as well when he makes assumptions about Tuscany's expected success based on Milan's past performance, the number of tourists, and the area's aesthetic attractiveness. This prejudice favors images or presumptions characteristic of a specific region or condition, ignoring risks that could impact the challenges or success of conducting business in Tuscany. Pasquale Alicandro was also influenced by the information he gathered on two important and readily accessible aspects of Tuscany: its tourism population and its scenic appeal. This awareness may be more memorable for him, leading him to focus too much on this knowledge. This could be an example of Availability bias.
Self-attribution bias in the interview is also evident in Pasquale Alicandro's tendency to attribute the success of Carrefour's investment decisions in Tuscany to internal factors or personal abilities, while minimizing external factors or luck and blaming external variables for failures.Indeed, when he underlines that shops in Tuscany have all switched to franchising and are still growing strongly, he attributes the success of the Tuscany operation to his optimism was and his foresight. When, on the contrary, he states that 30% of cases have deviated from the forecasts and claims that it is fair to consider the times when projects have not gone as expected, Alicandro maintains that there were many variables for failures, partly taking away responsibility or, in any case, also considering other reasons.

A summary of the behavioral finance basis are shown in Table 20.

| Bias | Description | Interview |
|---|---|---|
| Overconfidence | Overconfidence in decision makers' own skills | I thought there were several characteristics that were perfect for what we could do. I won't lie to you: the success of the Milan stores influenced my idea and I believed we could replicate that success in Tuscany for a number of reasons. |
| Underestimation / Pessimism | Decision makers' belief that there is little chance of positive future events and consequences | Today it is becoming increasingly difficult to repeat and replicate what we did then, because COVID has given great value to neighbourhood shops, which have therefore experienced and are experiencing an important moment. From that moment on, the other players in large-scale distribution also began to think that proximity has an important value and great potential; therefore, today it is much more complicated than before to seize the opportunities for other such profitable investments from the beginning. |
| Availiability | Decision makers estimate the likelihood of events based on how easily relevant instances come to memory. | I thought there were several characteristics that were perfect for what we could do. I won't lie to you: the success of the Milan stores influenced my idea and I believed we could replicate that success in Tuscany for a number of reasons. |
| Representativeness | Decision makers assess the likelihood of an event only on the basis of its resemblance to well-known classes, disregarding knowledge about the underlying probability. | I thought there were several characteristics that were perfect for what we could do. I won't lie to you: the success of the Milan stores influenced my idea and I believed we could replicate that success in Tuscany for a number of reasons. |
| Self-attribution | Attributing success to Decision makers' own abilities and attributing unfavorable consequences to outside forces or causes. | "Today, the shops in Tuscany have all switched to franchising and are still growing strongly; so my optimism at the time was, let us say, sensible in hindsight."<br><br>Then history teaches us that there are 30% of cases that have deviated from the forecasts: I say this because it is always easy to talk only about successes, but it is also fair to consider the times when projects have not gone as we actually expected for many reasons |
| Anchoring | Decision makers rely on the first piece of information encountered when making decisions. This initial information may influence investment decisions | I thought there were several characteristics that were perfect for what we could do. I won't lie to you: the success of the Milan stores influenced my idea and I believed we could replicate that success in Tuscany for a number of reasons. |

*Table 20. Effects of behavioral finance biases. A synopsys – own elaboration*

### 3.4 Tuscany Carrefour's Data and Financial Analysis

This section focuses on illustrating the financial data (retrieved from Cerved and from Carrefour's management control) of the Tuscany's companies that Carrefour acquired in 2013:

CARTER s.r.l.

PORTA AL PRATO SUPERMERCATI s.r.l.

MAGU' s.r.l.
GINORI 22 s.r.l.
ERREGI s.r.l.
DAILY s.r.l.
CARPE DIEM s.r.l.
BELDI' s.r.l.
AURORA DISTRIBUZIONE s.r.l.

The information needed to complete this analysis corresponds to the financial statements of the above mentioned firms for the years 2020 to 2022, as mentioned in section 3.2.
We were allowed to use only the 2020–2022 financial statements. Reasons for that are as follows:_

- data unavailability for the years prior to 2013 (the purchase of the Tuscany sales points),
- absence of the financial statements for later years in Cerved's and Carrefour Italy's management software.
- confidentiality issues stated in the contracts between Carrefour and Porta al Prato srl, Magu srl, Ginori srl, Carpe diem srl and Beldi srl. For this reason, Carrefour can release data on the financial accounts of the previous year exclusively.

Therefore, in order to convey the economic-financial situation of the companies, we will carry out an analysis in the following section, focusing on the key components of the accessible balance sheet searched and summarized from Cerved, of each components, giving a ”snapshot” of each firm involved in Tuscany business case.
These data serve to introduced the cash flow analysis in the following section.

### *3.4.1 CARTER s.r.l.*

From the comparative analysis of financial statements of the years 2020, 2021 and 2022, which have been suitably reclassified, the balance sheet's total assets on 12/31/2022 amount to 2,617 thousand Euro, experiencing a considerable increase of 22.86% in comparison with the previous financial year. At the same date the assets show a working capital of 2,436 thousand Euro (+25.18%) and a fixed capital decreased to 181 thousand Euro (-1.63%). Instead, the liabilities show net assets of 217 thousand Euro (-12.50%)

and a total of debts of 2,097 thousand Euro (+30.17%), the short-term debts of which amount to the 99.24%.

During the given three-year period the patrimonial structure has experienced an overall change of +42.07%.

The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 12,928 thousand Euro, strongly increasing by 28.08% in comparison with the one realized in the previous financial year. The same financial statements have been closed with a profit of 89 thousand Euro, the 24.58% less than 2021. The cash-flow created during the analysed financial year is positive for 244 thousand Euro.

From the financial point of view, the company is characterized by a quite balanced management, with liquid means, which allow the firm to face the current engagements, as confirmed by the indexes of prompt availability (Quick Ratio =92.00) and of availability (Current ratio =117.00).

The incidence of the third parties' capital on the total of the own means shows a high debt index (9.66) with financial charges compared with the turnover, which amount to 0.12%.

The incidence of the result of the financial year in comparison with the turnover passed from +1.17% of 2021 to +0.69% of 2022. The profitability index of the owner's equity (ROE) shows a value positive of 38.30%, taking its place above the alternative financial investments.

Data can be seen in Figures 1, 2 and 3.

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **Revenue** | **12,928** | +28.08 | **10,094** | -6.43 | **10,788** | **99.98** | **99.93** |
| + Variations in stocks, semi-finished and finished products | 0 | - | 0 | - | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| + Contributions | 2 | -60.00 | 5 | -77.27 | 22 | 0.02 | 0.07 |
| **= Value of production** | **12,930** | +28.03 | **10,099** | -6.58 | **10,810** | **100.00** | **100.00** |
| - Purchases | 10,011 | +33.84 | 7,480 | -7.15 | 8,056 | 77.42 | 73.52 |
| + Variations in raw materials | 159 | - | -23 | - | -29 | 1.23 | 0.37 |
| - Charges for services and third-parties goods | 1,235 | +25.64 | 983 | +7.79 | 912 | 9.55 | 11.44 |
| **Added value** | **1,843** | +14.26 | **1,613** | -11.03 | **1,813** | **14.25** | **15.41** |
| - Staff cost | 1,491 | +18.15 | 1,262 | +1.45 | 1,244 | 11.53 | 11.38 |
| **= Gross operating margin** | **352** | +0.28 | **351** | -38.31 | **569** | **2.72** | **4.03** |
| - Depreciation tangible assets | 34 | +9.68 | 31 | -13.89 | 36 | 0.26 | 2.18 |
| - Operative provisions | 15 | - | 0 | - | 0 | 0.12 | 0.20 |
| - Depreciation intangible assets | 22 | -58.49 | 53 | -1.85 | 54 | 0.17 | 0.57 |
| + Result of other income/costs | -114 | - | -92 | - | -253 | -0.88 | 1.02 |
| **= Operating profit** | **167** | -4.57 | **175** | -22.57 | **226** | **1.29** | **2.10** |
| **Financial income and charges** | **-16** | - | **-4** | - | **-4** | **-0.12** | **-0.09** |
| + Net financial income | **0** | -100.00 | **1** | -50.00 | **2** | **0.00** | **0.45** |
| Financial charges | 16 | +220.00 | 5 | -16.67 | 6 | 0.12 | 0.37 |
| **= Profit of the year** | **151** | -11.70 | **171** | -22.97 | **222** | **1.17** | **2.19** |
| Financial assets and fixed assets adjustments | 0 | - | 0 | - | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | - | 0 | - | 0 | 0.00 | 0.24 |
| **= Result before taxes** | **151** | -11.70 | **171** | -22.97 | **222** | **1.17** | **2.19** |
| - Operating tax | 62 | +16.98 | 53 | -55.08 | 118 | 0.48 | 0.61 |
| **= Profit after tax** | **89** | -24.58 | **118** | +13.46 | **104** | **0.69** | **1.57** |
| + Other | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| **= Net result/loss** | **89** | -24.58 | **118** | +13.46 | **104** | **0.69** | **1.58** |
| **Cash flow** | **244** | -5.79 | **259** | +4.86 | **247** | **1.89** | **4.84** |
| EBITDA | **238** | -8.11 | **259** | -18.04 | **316** | **1.84** | **5.04** |

*Figure 1.CARTER s.r.l.'s P&L*

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **ASSETS** | **2,617** | ▲ +22.86 | **2,130** | ▲ +15.64 | **1,842** | **100.00** | **100.00** |
| **Fixed assets** | **181** | ▼ -1.63 | **184** | ▼ -31.34 | **268** | **6.92** | **60.83** |
| Intangible assets | 60 | ▼ -26.83 | 82 | ▼ -39.71 | 136 | 2.29 | 7.04 |
| Tangible assets | 121 | ▲ +18.63 | 102 | ▼ -22.73 | 132 | 4.62 | 39.90 |
| Financial fixed assets | 0 | - | 0 | - | 0 | 0.00 | 13.89 |
| **Short-term assets** | **2,436** | ▲ +25.18 | **1,946** | ▲ +23.63 | **1,574** | **93.08** | **39.17** |
| Stocks | 520 | ▲ +44.44 | 360 | ▼ -6.25 | 384 | 19.87 | 10.84 |
| Trade debtors | 4 | ▼ -60.00 | 10 | ▼ -77.78 | 45 | 0.15 | 4.76 |
| Other short-term assets | 160 | ▲ +226.53 | 49 | ▲ +48.48 | 33 | 6.11 | 8.21 |
| Liquidity | 1,752 | ▲ +14.73 | 1,527 | ▲ +37.32 | 1,112 | 66.95 | 15.36 |

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **TOTAL LIABILITIES** | **2,617** | ▲ +22.86 | **2,130** | ▲ +15.64 | **1,842** | **100.00** | **100.00** |
| **Shareholders' Equity** | **217** | ▼ -12.50 | **248** | ▲ +90.77 | **130** | **8.29** | **35.70** |
| Share capital | 10 | ● 0.00 | 10 | ● 0.00 | 10 | 0.38 | 3.32 |
| Other reserves | 118 | ▼ -1.67 | 120 | ▲ +650.00 | 16 | 4.51 | 30.34 |
| Reserve from Profit/Loss of the year | 89 | ▼ -24.58 | 118 | ▲ +13.46 | 104 | 3.40 | 2.03 |
| **Consolidated funds and debts** | **319** | ▲ +1.59 | **314** | ▲ +18.94 | **264** | **12.19** | **18.89** |
| Debts towards banks | 11 | ▼ -66.67 | 33 | ▼ -28.26 | 46 | 0.42 | 8.47 |
| Medium-long-term funds and other debts | 308 | ▲ +9.61 | 281 | ▲ +28.90 | 218 | 11.77 | 10.41 |
| **Short-term liabilities** | **2,081** | ▲ +32.72 | **1,568** | ▲ +8.29 | **1,448** | **79.52** | **45.42** |
| Short-time debts towards Banks | 23 | ● 0.00 | 23 | ▲ +9.52 | 21 | 0.88 | 4.07 |
| Debts towards suppliers and down payments | 1,434 | ▲ +47.38 | 973 | ▼ -1.62 | 989 | 54.80 | 22.60 |
| Other debts | 624 | ▲ +9.09 | 572 | ▲ +30.59 | 438 | 23.84 | 18.75 |

*Figure 2.CARTER s.r.l.'s balance sheet*

| ITEM | 31/12/2022* | 31/12/2021* | 31/12/2020* | SECTOR 2022* |
|---|---|---|---|---|
| **DEVELOPMENT RATIOS** | | | | |
| Variation % revenues | 28.10 | -6.40 | 20.90 | 3.88 |
| Variation % production | 28.00 | -6.60 | 21.20 | 3.88 |
| Variation % added value | 14.30 | -11.00 | 23.80 | 1.79 |
| Variation % assets | 22.90 | 15.60 | 36.80 | 3.03 |
| Variation % shareholders' funds | -12.50 | 90.80 | 400.00 | -1.51 |
| **PROFITABILITY INDICATORS** | | | | |
| R.O.S. (%) | 1.29 | 1.74 | 2.11 | 2.55 |
| R.O.I. (%) | 37.80 | 49.10 | 74.80 | 3.96 |
| R.O.E. (%) | 38.30 | 62.40 | 133.30 | 6.10 |
| Cash flow / Total assets % | 10.30 | 13.00 | 15.50 | 6.88 |
| Turnover (revenues/assets) | 5.45 | 5.08 | - | 1.42 |
| Financial expenses/revenues % | 0.12 | 0.05 | 0.06 | 0.37 |
| **PRODUCTIVITY INDICATORS** | | | | |
| Revenues per capita (€/000) | 404 | 224.3 | 291.6 | 300.85 |
| Added value per capita (€/000) | 57.6 | 35.8 | 49 | 46.39 |
| Work costs per capita (€/000) | 46.6 | 28 | 33.6 | 34.25 |
| **MANAGEMENT OF CURRENT ASSETS** | | | | |
| Current ratio % | 117.1 | 124.1 | 108.7 | 86.23 |
| Acid test % | 92.1 | 101.2 | 82.2 | 62.49 |
| Average days of stock rotation | 12.3 | 13.3 | 13.3 | 26.52 |
| Credit towards customers in days | 0.2 | 1 | 0.8 | 12.5 |
| Credit towards suppliers in days | 38.5 | 41.7 | 33.6 | 66.79 |
| Net working capital (€/000) | 355 | 378 | 126 | - |
| **FINANCIAL STRUCTURE** | | | | |
| Treasury margin (€/000) | -165 | 18 | -258 | - |
| Structure margin (€/000) | 36 | 64 | -138 | - |
| Debt ratio | 9.66 | 6.50 | 11.49 | 1.72 |
| Tangible shareholders' funds/total financial debts % | 638.20 | 442.90 | 194.00 | 106.51 |
| Short-term debts on production | 0.16 | 0.16 | 0.13 | 0.32 |

*Figure 3. CARTER s.r.l.'s Indicators*

### *3.4.2 PORTA AL PRATO SUPERMERCATI s.r.l.*

From the financial statement analysis of the financial year 2022, which has been suitably reclassified, the balance sheet's total assets on 12/31/2022 amount to 372 thousand Euro. At the same date the assets show a working capital of 366 thousand Euro and a fixed

capital of 6 thousand Euro. Instead, the liabilities show net assets of 78 thousand Euro and a total of debts of 293 thousand Euro, all with short term time limit.

The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 2,068 thousand Euro. The same financial statements have been closed with a profit of 68 thousand Euro. The cash-flow created during the analysed financial year is positive for 74 thousand Euro.

From the financial point of view, the company is characterized by a quite balanced management, with liquid means, which allow the firm to face the current engagements, as confirmed by the indexes of prompt availability (Quick Ratio =97.00) and of availability (Current ratio =124.00).

The incidence of the third parties' capital on the total of the own means shows a limited debt index (3.76).

The incidence of the result of the financial year in comparison with the turnover amounts to 3.29%.

Data can be seen in Figures 4, 5, and 6.

| ITEM | 31/12/2022* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|
| **Revenue** | **2,068** | **99.33** | **99.93** |
| + Variations in stocks, semi-finished and finished products | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | 0.00 | 0.01 |
| + Contributions | 14 | 0.67 | 0.07 |
| **= Value of production** | **2,082** | **100.00** | **100.00** |
| - Purchases | 1,653 | 79.39 | 73.52 |
| + Variations in raw materials | 81 | 3.89 | 0.37 |
| - Charges for services and third-parties goods | 302 | 14.51 | 11.44 |
| **Added value** | **208** | **9.99** | **15.41** |
| - Staff cost | 108 | 5.19 | 11.38 |
| **= Gross operating margin** | **100** | **4.80** | **4.03** |
| - Depreciation tangible assets | 0 | 0.00 | 2.18 |
| - Operative provisions | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 1 | 0.05 | 0.57 |
| + Result of other income/costs | -6 | -0.29 | 1.02 |
| **= Operating profit** | **93** | **4.47** | **2.10** |
| **Financial income and charges** | **0** | **0.00** | **-0.09** |
| + Net financial income | **0** | **0.00** | **0.45** |
| Financial charges | 0 | 0.00 | 0.37 |
| **= Profit of the year** | **93** | **4.47** | **2.19** |
| Financial assets and fixed assets adjustments | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | 0.00 | 0.24 |
| **= Result before taxes** | **93** | **4.47** | **2.19** |
| - Operating tax | 25 | 1.20 | 0.61 |
| **= Profit after tax** | **68** | **3.27** | **1.57** |
| + Other | 0 | 0.00 | 0.01 |
| **= Net result/loss** | **68** | **3.27** | **1.58** |
| **Cash flow** | **74** | **3.55** | **4.84** |
| **EBITDA** | **94** | **4.51** | **5.04** |

*Figure 4. PORTA AL PRATO SUPERMERCATI s.r.l.'s P&L*

| ITEM | 31/12/2022* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|
| **ASSETS** | **372** | **100.00** | **100.00** |
| **Fixed assets** | **6** | **1.61** | **60.83** |
| Intangible assets | 3 | 0.81 | 7.04 |
| Tangible assets | 3 | 0.81 | 39.90 |
| Financial fixed assets | 0 | 0.00 | 13.89 |
| **Short-term assets** | **366** | **98.39** | **39.17** |
| Stocks | 81 | 21.77 | 10.84 |
| Trade debtors | 0 | 0.00 | 4.76 |
| Other short-term assets | 10 | 2.69 | 8.21 |
| Liquidity | 275 | 73.92 | 15.36 |
| ITEM | 31/12/2022* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
| **TOTAL LIABILITIES** | **372** | **100.00** | **100.00** |
| **Shareholders' Equity** | **78** | **20.97** | **35.70** |
| Share capital | 10 | 2.69 | 3.32 |
| Other reserves | 0 | 0.00 | 30.34 |
| Reserve from Profit/Loss of the year | 68 | 18.28 | 2.03 |
| **Consolidated funds and debts** | **1** | **0.27** | **18.89** |
| Debts towards banks | 0 | 0.00 | 8.47 |
| Medium-long-term funds and other debts | 1 | 0.27 | 10.41 |
| **Short-term liabilities** | **293** | **78.76** | **45.42** |
| Short-time debts towards Banks | 0 | 0.00 | 4.07 |
| Debts towards suppliers and down payments | 0 | 0.00 | 22.60 |
| Other debts | 293 | 78.76 | 18.75 |

*Figure 5. PORTA AL PRATO SUPERMERCATI s.r.l.'s balance sheet*

| ITEM | 31/12/2022* | SECTOR 2022* |
|---|---|---|
| **DEVELOPMENT RATIOS** | | |
| Variation % revenues | n.c. | 3.88 |
| Variation % production | n.c. | 3.88 |
| Variation % added value | n.c. | 1.79 |
| Variation % assets | n.c. | 3.03 |
| Variation % shareholders' funds | n.c. | -1.51 |
| **PROFITABILITY INDICATORS** | | |
| R.O.S. (%) | 4.50 | 2.55 |
| R.O.I. (%) | n.c. | 3.96 |
| R.O.E. (%) | 104.60 | 6.10 |
| Cash flow / Total assets % | 23.90 | 6.88 |
| Turnover (revenues/assets) | - | 1.42 |
| Financial expenses/revenues % | 0.00 | 0.37 |
| **PRODUCTIVITY INDICATORS** | | |
| Revenues per capita (€/000) | 620.4 | 300.85 |
| Added value per capita (€/000) | 62.4 | 46.39 |
| Work costs per capita (€/000) | 32.4 | 34.25 |
| **MANAGEMENT OF CURRENT ASSETS** | | |
| Current ratio % | 124.9 | 86.23 |
| Acid test % | 97.3 | 62.49 |
| Average days of stock rotation | 11.8 | 26.52 |
| Credit towards customers in days | n.c. | 12.5 |
| Credit towards suppliers in days | n.c. | 66.79 |
| Net working capital (€/000) | 73 | - |
| **FINANCIAL STRUCTURE** | | |
| Treasury margin (€/000) | -8 | - |
| Structure margin (€/000) | 72 | - |
| Debt ratio | 3.76 | 1.72 |
| Tangible shareholders' funds/total financial debts % | n.c. | 106.51 |
| Short-term debts on production | 0.14 | 0.32 |

*Figure 6.PORTA AL PRATO SUPERMERCATI s.r.l.'s indicators*

### *3.4.3 MAGU' s.r.l.*

From the financial statement analysis of the financial year 2022, which has been suitably reclassified, the balance sheet's total assets on 12/31/2022 amount to 289 thousand Euro. At the same date the assets show a working capital of 281 thousand Euro and a fixed

capital of 8 thousand Euro. Instead, the liabilities show net assets of 43 thousand Euro and a total of debts of 245 thousand Euro, the short-term debts of which amount to the 86.53%.

The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 1,586 thousand Euro. The same financial statements have been closed with a profit of 33 thousand Euro. The cash-flow created during the analysed financial year is positive for 39 thousand Euro.

From the financial point of view, the company has a balanced standing, characterized by sufficient means, which allow it to face its short-term engagements (Current ratio=132.00. Quick Ratio =92.00). Nevertheless, the debt index is a bit high (5.70).

The incidence of the result of the financial year in comparison with the turnover amounts to 2.08%.

Data can be shorn in Figures 7, 8, and 9.

| ITEM | 31/12/2022* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|
| **Revenue** | **1,586** | **99.06** | **99.93** |
| + Variations in stocks, semi-finished and finished products | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | 0.00 | 0.01 |
| + Contributions | 15 | 0.94 | 0.07 |
| **= Value of production** | **1,601** | **100.00** | **100.00** |
| - Purchases | 1,282 | 80.07 | 73.52 |
| + Variations in raw materials | 84 | 5.25 | 0.37 |
| - Charges for services and third-parties goods | 222 | 13.87 | 11.44 |
| **Added value** | **181** | **11.31** | **15.41** |
| - Staff cost | 128 | 8.00 | 11.38 |
| **= Gross operating margin** | **53** | **3.31** | **4.03** |
| - Depreciation tangible assets | 0 | 0.00 | 2.18 |
| - Operative provisions | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 1 | 0.06 | 0.57 |
| + Result of other income/costs | -8 | -0.50 | 1.02 |
| **= Operating profit** | **44** | **2.75** | **2.10** |
| **Financial income and charges** | **0** | **0.00** | **-0.09** |
| + Net financial income | **0** | **0.00** | **0.45** |
| Financial charges | 0 | 0.00 | 0.37 |
| **= Profit of the year** | **44** | **2.75** | **2.19** |
| Financial assets and fixed assets adjustments | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | 0.00 | 0.24 |
| **= Result before taxes** | **44** | **2.75** | **2.19** |
| - Operating tax | 11 | 0.69 | 0.61 |
| **= Profit after tax** | **33** | **2.06** | **1.57** |
| + Other | 0 | 0.00 | 0.01 |
| **= Net result/loss** | **33** | **2.06** | **1.58** |
| **Cash flow** | **39** | **2.44** | **4.84** |
| **EBITDA** | **45** | **2.81** | **5.04** |

*Figure 7. Magu' s.r.l.'s P&L*

| ITEM | 31/12/2022* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|
| **ASSETS** | **289** | **100.00** | **100.00** |
| **Fixed assets** | **8** | **2.77** | **60.83** |
| Intangible assets | 4 | 1.38 | 7.04 |
| Tangible assets | 4 | 1.38 | 39.90 |
| Financial fixed assets | 0 | 0.00 | 13.89 |
| **Short-term assets** | **281** | **97.23** | **39.17** |
| Stocks | 84 | 29.07 | 10.84 |
| Trade debtors | 0 | 0.00 | 4.76 |
| Other short-term assets | 23 | 7.96 | 8.21 |
| Liquidity | 174 | 60.21 | 15.36 |
| ITEM | 31/12/2022* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
| **TOTAL LIABILITIES** | **289** | **100.00** | **100.00** |
| **Shareholders' Equity** | **43** | **14.88** | **35.70** |
| Share capital | 10 | 3.46 | 3.32 |
| Other reserves | 0 | 0.00 | 30.34 |
| Reserve from Profit/Loss of the year | 33 | 11.42 | 2.03 |
| **Consolidated funds and debts** | **34** | **11.76** | **18.89** |
| Debts towards banks | 0 | 0.00 | 8.47 |
| Medium-long-term funds and other debts | 34 | 11.76 | 10.41 |
| **Short-term liabilities** | **212** | **73.36** | **45.42** |
| Short-time debts towards Banks | 0 | 0.00 | 4.07 |
| Debts towards suppliers and down payments | 0 | 0.00 | 22.60 |
| Other debts | 212 | 73.36 | 18.75 |

*Figure 8. Magu' s.r.l.'s balance sheet*

| ITEM | 31/12/2022* | SECTOR 2022* |
|---|---|---|
| **DEVELOPMENT RATIOS** | | |
| Variation % revenues | n.c. | 3.88 |
| Variation % production | n.c. | 3.88 |
| Variation % added value | n.c. | 1.79 |
| Variation % assets | n.c. | 3.03 |
| Variation % shareholders' funds | n.c. | -1.51 |
| **PROFITABILITY INDICATORS** | | |
| R.O.S. (%) | 2.77 | 2.55 |
| R.O.I. (%) | n.c. | 3.96 |
| R.O.E. (%) | 92.10 | 6.10 |
| Cash flow / Total assets % | 16.20 | 6.88 |
| Turnover (revenues/assets) | - | 1.42 |
| Financial expenses/revenues % | 0.00 | 0.37 |
| **PRODUCTIVITY INDICATORS** | | |
| Revenues per capita (€/000) | 634.4 | 300.85 |
| Added value per capita (€/000) | 72.4 | 46.39 |
| Work costs per capita (€/000) | 51.2 | 34.25 |
| **MANAGEMENT OF CURRENT ASSETS** | | |
| Current ratio % | 132.6 | 86.23 |
| Acid test % | 92.9 | 62.49 |
| Average days of stock rotation | 15.9 | 26.52 |
| Credit towards customers in days | n.c. | 12.5 |
| Credit towards suppliers in days | n.c. | 66.79 |
| Net working capital (€/000) | 69 | - |
| **FINANCIAL STRUCTURE** | | |
| Treasury margin (€/000) | -15 | - |
| Structure margin (€/000) | 35 | - |
| Debt ratio | 5.70 | 1.72 |
| Tangible shareholders' funds/total financial debts % | n.c. | 106.51 |
| Short-term debts on production | 0.13 | 0.32 |

*Figure 9. Magu' s.r.l.'s Indicators*

### *3.4.4 GINORI 22 s.r.l.*

From the financial statement analysis of the financial year 2022, which has been suitably reclassified, the balance sheet's total assets on 12/31/2022 amount to 267 thousand Euro. At the same date the assets show a working capital of 259 thousand Euro and a fixed

capital of 8 thousand Euro. Instead, the liabilities show net assets of 63 thousand Euro and a total of debts of 202 thousand Euro, all with short term time limit.
The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 1,354 thousand Euro. The same financial statements have been closed with a profit of 53 thousand Euro. The cash-flow created during the analysed financial year is positive for 54 thousand Euro.
From the financial point of view, the company has a balanced standing, characterized by sufficient means, which allow it to face its short-term engagements (Current ratio=128.00. Quick Ratio =81.00). Moreover, the adequacy of the liquid means allows the reduction of debts (3.21) and of the relevant financial charges in comparison with the turnover, which amounts to 0.07%.
The incidence of the result of the financial year in comparison with the turnover amounts to 3.91%.
Data are shown in Figures 10, 11 and 12.

| ITEM | 31/12/2022* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|
| **Revenue** | **1,354** | **100.00** | **99.93** |
| + Variations in stocks, semi-finished and finished products | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | 0.00 | 0.01 |
| + Contributions | 0 | 0.00 | 0.07 |
| **= Value of production** | **1,354** | **100.00** | **100.00** |
| - Purchases | 1,099 | 81.17 | 73.52 |
| + Variations in raw materials | 95 | 7.02 | 0.37 |
| - Charges for services and third-parties goods | 156 | 11.52 | 11.44 |
| **Added value** | **194** | **14.33** | **15.41** |
| - Staff cost | 110 | 8.12 | 11.38 |
| **= Gross operating margin** | **84** | **6.20** | **4.03** |
| - Depreciation tangible assets | 0 | 0.00 | 2.18 |
| - Operative provisions | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 1 | 0.07 | 0.57 |
| + Result of other income/costs | -5 | -0.37 | 1.02 |
| **= Operating profit** | **78** | **5.76** | **2.10** |
| **Financial income and charges** | **-1** | **-0.07** | **-0.09** |
| + Net financial income | **0** | **0.00** | **0.45** |
| Financial charges | 1 | 0.07 | 0.37 |
| **= Profit of the year** | **77** | **5.69** | **2.19** |
| Financial assets and fixed assets adjustments | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | 0.00 | 0.24 |
| **= Result before taxes** | **77** | **5.69** | **2.19** |
| - Operating tax | 24 | 1.77 | 0.61 |
| **= Profit after tax** | **53** | **3.91** | **1.57** |
| + Other | 0 | 0.00 | 0.01 |
| **= Net result/loss** | **53** | **3.91** | **1.58** |
| **Cash flow** | **54** | **3.99** | **4.84** |
| **EBITDA** | **79** | **5.83** | **5.04** |

*Figure 10. Ginori22 s.r.l.'s P&L*

| ITEM | 31/12/2022* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|
| **ASSETS** | **267** | **100.00** | **100.00** |
| **Fixed assets** | **8** | **3.00** | **60.83** |
| Intangible assets | 4 | 1.50 | 7.04 |
| Tangible assets | 4 | 1.50 | 39.90 |
| Financial fixed assets | 0 | 0.00 | 13.89 |
| **Short-term assets** | **259** | **97.00** | **39.17** |
| Stocks | 95 | 35.58 | 10.84 |
| Trade debtors | 1 | 0.37 | 4.76 |
| Other short-term assets | 23 | 8.61 | 8.21 |
| Liquidity | 140 | 52.43 | 15.36 |
| ITEM | 31/12/2022* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
| **TOTAL LIABILITIES** | **267** | **100.00** | **100.00** |
| **Shareholders' Equity** | **63** | **23.60** | **35.70** |
| Share capital | 10 | 3.75 | 3.32 |
| Other reserves | 0 | 0.00 | 30.34 |
| Reserve from Profit/Loss of the year | 53 | 19.85 | 2.03 |
| **Consolidated funds and debts** | **2** | **0.75** | **18.89** |
| Debts towards banks | 0 | 0.00 | 8.47 |
| Medium-long-term funds and other debts | 2 | 0.75 | 10.41 |
| **Short-term liabilities** | **202** | **75.66** | **45.42** |
| Short-time debts towards Banks | 0 | 0.00 | 4.07 |
| Debts towards suppliers and down payments | 146 | 54.68 | 22.60 |
| Other debts | 56 | 20.97 | 18.75 |

*Figure 11. Ginori22 s.r.l.'s balance sheet*

| ITEM | 31/12/2022* | SECTOR 2022* |
|---|---|---|
| **DEVELOPMENT RATIOS** | | |
| Variation % revenues | n.c. | 3.88 |
| Variation % production | n.c. | 3.88 |
| Variation % added value | n.c. | 1.79 |
| Variation % assets | n.c. | 3.03 |
| Variation % shareholders' funds | n.c. | -1.51 |
| **PROFITABILITY INDICATORS** | | |
| R.O.S. (%) | 5.76 | 2.55 |
| R.O.I. (%) | 114.30 | 3.96 |
| R.O.E. (%) | 112.20 | 6.10 |
| Cash flow / Total assets % | 27.00 | 6.88 |
| Turnover (revenues/assets) | - | 1.42 |
| Financial expenses/revenues % | 0.07 | 0.37 |
| **PRODUCTIVITY INDICATORS** | | |
| Revenues per capita (€/000) | n.c. | 300.85 |
| Added value per capita (€/000) | n.c. | 46.39 |
| Work costs per capita (€/000) | n.c. | 34.25 |
| **MANAGEMENT OF CURRENT ASSETS** | | |
| Current ratio % | 128.2 | 86.23 |
| Acid test % | 81.2 | 62.49 |
| Average days of stock rotation | 18.9 | 26.52 |
| Credit towards customers in days | 0.2 | 12.5 |
| Credit towards suppliers in days | 31.4 | 66.79 |
| Net working capital (€/000) | 57 | - |
| **FINANCIAL STRUCTURE** | | |
| Treasury margin (€/000) | -38 | - |
| Structure margin (€/000) | 55 | - |
| Debt ratio | 3.21 | 1.72 |
| Tangible shareholders' funds/total financial debts % | n.c. | 106.51 |
| Short-term debts on production | 0.15 | 0.32 |

*Figure 12. Ginori22 s.r.l.'s Indicators*

### *3.4.5 ERREGI s.r.l.*

From the comparative analysis of financial statements of the years 2020, 2021 and 2022, which have been suitably reclassified, it stands out that the balance sheet's total assets on

12/31/2022 amount to 555 thousand Euro, experiencing a limited increase of 2.21% in comparison with the previous financial year. At the same date the assets show a working capital of 335 thousand Euro (+4.36%) and a fixed capital decreased to 220 thousand Euro (-0.90%). Instead, the liabilities show net assets of 74 thousand Euro (+1.37%) and a total of debts of 418 thousand Euro (+0.24%) , the short term debts of which amount to the 52.15%.

During the given three-year period the patrimonial structure has experienced an overall change of +27.00%.

The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 1,958 thousand Euro, slightly increasing of 2.35% in comparison with the one realized in the previous financial year The same financial statements have been closed with The cash- flow created during the analysed financial year is positive for 23 thousand Euro.

The liquidity index (Quick Ratio=78.00) has an acceptable value, which therefore is in line with the engagements taken by the current management, through the immediately available resources.

The value of the availability index (Current ratio =153.00) indicates that the company has good short-term monetizable activities and therefore is able to meet its current engagements.

From the value of the debt index (5.65), it can be observed that the debt situation is high with poor financial autonomy. In comparison with the previous financial year the ratio between third parties' capital and its own financial means is, nevertheless, slightly improving.

In the meanwhile, the financial charges weigh upon the turnover for a limited part (0.41%). The short-term debts weigh upon the turnover for the 11.13%.

The incidence of the result of the financial year in comparison with the turnover passed from +0.05% of 2021 to +0.05% of 2022. The profitability index of the owner's equity (ROE) shows a improve (+1.30% in 2021 and +1.40% in 2022). Nevertheless, its value remains clearly below the average return got through the alternative financial investments.

Data are shown in Figures 13, 14, and 15.

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **Revenue** | **1,958** | +2.35 | **1,913** | -8.60 | **2,093** | **100.00** | **99.93** |
| + Variations in stocks, semi-finished and finished products | 0 | - | 0 | - | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| + Contributions | 0 | - | 0 | -100.00 | 8 | 0.00 | 0.07 |
| **= Value of production** | **1,958** | +2.35 | **1,913** | -8.95 | **2,101** | **100.00** | **100.00** |
| - Purchases | 1,512 | +5.44 | 1,434 | -10.04 | 1,594 | 77.22 | 73.52 |
| + Variations in raw materials | -2 | - | 10 | - | -8 | -0.10 | 0.37 |
| - Charges for services and third-parties goods | 166 | -11.70 | 188 | 0.00 | 188 | 8.48 | 11.44 |
| **Added value** | **278** | -7.64 | **301** | -3.22 | **311** | **14.20** | **15.41** |
| - Staff cost | 255 | -6.25 | 272 | +13.81 | 239 | 13.02 | 11.38 |
| **= Gross operating margin** | **23** | -20.69 | **29** | -59.72 | **72** | **1.17** | **4.03** |
| - Depreciation tangible assets | 5 | -44.44 | 9 | +50.00 | 6 | 0.26 | 2.18 |
| - Operative provisions | 0 | - | 0 | - | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 0 | -100.00 | 8 | -11.11 | 9 | 0.00 | 0.57 |
| + Result of other income/costs | -4 | - | -3 | - | -31 | -0.20 | 1.02 |
| **= Operating profit** | **14** | +55.56 | **9** | -65.38 | **26** | **0.72** | **2.10** |
| **Financial income and charges** | **-8** | - | **-4** | - | **-5** | **-0.41** | **-0.09** |
| + Net financial income | **0** | - | **0** | - | **0** | **0.00** | **0.45** |
| Financial charges | 8 | +100.00 | 4 | -20.00 | 5 | 0.41 | 0.37 |
| **= Profit of the year** | **6** | +20.00 | **5** | -76.19 | **21** | **0.31** | **2.19** |
| Financial assets and fixed assets adjustments | 0 | - | 0 | - | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | - | 0 | - | 0 | 0.00 | 0.24 |
| **= Result before taxes** | **6** | +20.00 | **5** | -76.19 | **21** | **0.31** | **2.19** |
| - Operating tax | 5 | +25.00 | 4 | -33.33 | 6 | 0.26 | 0.61 |
| **= Profit after tax** | **1** | 0.00 | **1** | -93.33 | **15** | **0.05** | **1.57** |
| + Other | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| **= Net result/loss** | **1** | 0.00 | **1** | -93.33 | **15** | **0.05** | **1.58** |
| **Cash flow** | **23** | -28.12 | **32** | -23.81 | **42** | **1.17** | **4.84** |
| **EBITDA** | **19** | -26.92 | **26** | -36.59 | **41** | **0.97** | **5.04** |

*Figure 13. Erregi s.r.l.'s P&L*

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **ASSETS** | **555** | +2.21 | **543** | +24.26 | **437** | **100.00** | **100.00** |
| **Fixed assets** | **220** | -0.90 | **222** | +89.74 | **117** | **39.64** | **60.83** |
| Intangible assets | 88 | +1.15 | 87 | -9.37 | 96 | 15.86 | 7.04 |
| Tangible assets | 132 | -2.22 | 135 | +542.86 | 21 | 23.78 | 39.90 |
| Financial fixed assets | 0 | - | 0 | - | 0 | 0.00 | 13.89 |
| **Short-term assets** | **335** | +4.36 | **321** | +0.31 | **320** | **60.36** | **39.17** |
| Stocks | 165 | -1.20 | 167 | +5.70 | 158 | 29.73 | 10.84 |
| Trade debtors | 7 | -41.67 | 12 | -42.86 | 21 | 1.26 | 4.76 |
| Other short-term assets | 111 | +24.72 | 89 | +27.14 | 70 | 20.00 | 8.21 |
| Liquidity | 52 | -1.89 | 53 | -25.35 | 71 | 9.37 | 15.36 |

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **TOTAL LIABILITIES** | **555** | +2.21 | **543** | +24.26 | **437** | **100.00** | **100.00** |
| **Shareholders' Equity** | **74** | +1.37 | **73** | -3.95 | **76** | **13.33** | **35.70** |
| Share capital | 60 | 0.00 | 60 | 0.00 | 60 | 10.81 | 3.32 |
| Other reserves | 13 | +8.33 | 12 | +1,100.00 | 1 | 2.34 | 30.34 |
| Reserve from Profit/Loss of the year | 1 | 0.00 | 1 | -93.33 | 15 | 0.18 | 2.03 |
| **Consolidated funds and debts** | **263** | -7.39 | **284** | +79.75 | **158** | **47.39** | **18.89** |
| Debts towards banks | 200 | -13.42 | 231 | +102.63 | 114 | 36.04 | 8.47 |
| Medium-long-term funds and other debts | 63 | +18.87 | 53 | +20.45 | 44 | 11.35 | 10.41 |
| **Short-term liabilities** | **218** | +17.20 | **186** | -8.37 | **203** | **39.28** | **45.42** |
| Short-time debts towards Banks | 23 | +43.75 | 16 | -30.43 | 23 | 4.14 | 4.07 |
| Debts towards suppliers and down payments | 86 | +28.36 | 67 | -20.24 | 84 | 15.50 | 22.60 |
| Other debts | 109 | +5.83 | 103 | +7.29 | 96 | 19.64 | 18.75 |

*Figure 14. Erregi s.r.l.'s balance sheet*

| ITEM | 31/12/2022* | 31/12/2021* | 31/12/2020* | SECTOR 2022* |
|---|---|---|---|---|
| **DEVELOPMENT RATIOS** | | | | |
| Variation % revenues | 2.40 | -8.60 | 15.20 | 3.88 |
| Variation % production | 2.40 | -9.00 | 15.60 | 3.88 |
| Variation % added value | -7.60 | -3.20 | 11.50 | 1.79 |
| Variation % assets | 2.20 | 24.30 | 7.40 | 3.03 |
| Variation % shareholders' funds | 1.40 | -4.00 | 24.60 | -1.51 |
| **PROFITABILITY INDICATORS** | | | | |
| R.O.S. (%) | 0.72 | 0.47 | 1.24 | 2.55 |
| R.O.I. (%) | 2.90 | 1.90 | 9.40 | 3.96 |
| R.O.E. (%) | 1.40 | 1.30 | 21.90 | 6.10 |
| Cash flow / Total assets % | 4.20 | 6.50 | 10.00 | 6.88 |
| Turnover (revenues/assets) | 3.57 | 3.90 | - | 1.42 |
| Financial expenses/revenues % | 0.41 | 0.21 | 0.24 | 0.37 |
| **PRODUCTIVITY INDICATORS** | | | | |
| Revenues per capita (€/000) | 195.8 | 191.3 | 261.6 | 300.85 |
| Added value per capita (€/000) | 27.8 | 30.1 | 38.9 | 46.39 |
| Work costs per capita (€/000) | 25.5 | 27.2 | 29.9 | 34.25 |
| **MANAGEMENT OF CURRENT ASSETS** | | | | |
| Current ratio % | 153.7 | 172.6 | 157.6 | 86.23 |
| Acid test % | 78 | 82.8 | 79.8 | 62.49 |
| Average days of stock rotation | 30.5 | 30.6 | 27.8 | 26.52 |
| Credit towards customers in days | 1.8 | 3.1 | 3.6 | 12.5 |
| Credit towards suppliers in days | 16.4 | 16.8 | 17 | 66.79 |
| Net working capital (€/000) | 117 | 135 | 117 | - |
| **FINANCIAL STRUCTURE** | | | | |
| Treasury margin (€/000) | -48 | -32 | -41 | - |
| Structure margin (€/000) | -146 | -149 | -41 | - |
| Debt ratio | 5.65 | 5.71 | 4.17 | 1.72 |
| Tangible shareholders' funds/total financial debts % | 33.20 | 29.60 | 55.50 | 106.51 |
| Short-term debts on production | 0.11 | 0.10 | 0.10 | 0.32 |

*Figure 15. Erregi s.r.l.'s Indicators*

### *3.4.6 DAILY s.r.l.*

From the comparative analysis of financial statements of the years 2020, 2021 and 2022, which have been suitably reclassified, what stands out is that the balance sheet's total assets on 12/31/2022 amount to 1,507 thousand Euro, experiencing a strong increase of

11.46% in comparison with the previous financial year. At the same date the assets show a working capital of 1,146 thousand Euro (+10.72%) and a fixed capital increased to 361 thousand Euro (+13.88%). Instead, the liabilities show net assets of 219 thousand Euro (+5.80%) and a total of debts of 1,241 thousand Euro (+12.00%), the short-term debts of which amount to the 84.53%.

During the given three-year period the patrimonial structure has experienced an overall change of +33.36%.

The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 4,727 thousand Euro, strongly increasing of 29.12% in comparison with the one realized in the previous financial year The same financial statements have been closed with a profit of 41 thousand Euro, the 583.33% more than 2021. The cash-flow created during the analysed financial year is positive for 112 thousand Euro. The liquidity index (Quick Ratio=94.00) has an acceptable value, which therefore is in line with the engagements taken by the current management, through the immediately available resources.

The value of the availability index (Current ratio =109.00) indicates that the company has sufficient short-term monetizable activities and therefore is able to meet its current engagements.

From the value of the debt index (5.67), it is possible to see the debt situation is high with poor financial autonomy. In comparison with the previous financial year the ratio between third parties' capital and its own financial means is slightly worsening. In the meanwhile the financial charges weigh upon the turnover for a limited part (0.25%). The short-term debts weigh upon the turnover for the 22.19%.The incidence of the result of the financial year in comparison with the turnover passed from +0.16% of 2021 to +0.87% of 2022. The profitability index of the owner's equity (ROE) shows a improve (+2.50% in 2021 and +18.00% in 2022), obtaining a return, which is above the alternative financial investments.

Data can be seen in Figurea 16, 17, and 18.

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **Revenue** | 4,727 | +29.12 | 3,661 | +2.72 | 3,564 | 100.00 | 99.93 |
| + Variations in stocks, semi-finished and finished products | 0 | - | 0 | - | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| + Contributions | 0 | - | 0 | - | 0 | 0.00 | 0.07 |
| **= Value of production** | 4,727 | +29.12 | 3,661 | +2.72 | 3,564 | 100.00 | 100.00 |
| - Purchases | 3,783 | +35.64 | 2,789 | +7.06 | 2,605 | 80.03 | 73.52 |
| + Variations in raw materials | -64 | - | 119 | +325.00 | 28 | -1.35 | 0.37 |
| - Charges for services and third-parties goods | 422 | +5.50 | 400 | +32.01 | 303 | 8.93 | 11.44 |
| **Added value** | 458 | -22.50 | 591 | -13.60 | 684 | 9.69 | 15.41 |
| - Staff cost | 597 | +30.63 | 457 | +25.21 | 365 | 12.63 | 11.38 |
| **= Gross operating margin** | -139 | - | 134 | -57.99 | 319 | -2.94 | 4.03 |
| - Depreciation tangible assets | 36 | +50.00 | 24 | +84.62 | 13 | 0.76 | 2.18 |
| - Operative provisions | 0 | - | 0 | - | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 1 | -85.71 | 7 | 0.00 | 7 | 0.02 | 0.57 |
| + Result of other income/costs | 280 | - | -28 | - | -14 | 5.92 | 1.02 |
| **= Operating profit** | 104 | +38.67 | 75 | -73.68 | 285 | 2.20 | 2.10 |
| **Financial income and charges** | -12 | - | -32 | - | -24 | -0.25 | -0.09 |
| + Net financial income | 0 | -100.00 | 2 | - | 0 | 0.00 | 0.45 |
| Financial charges | 12 | -64.71 | 34 | +41.67 | 24 | 0.25 | 0.37 |
| **= Profit of the year** | 92 | +113.95 | 43 | -83.52 | 261 | 1.95 | 2.19 |
| Financial assets and fixed assets adjustments | 0 | - | 0 | - | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | - | 0 | - | 0 | 0.00 | 0.24 |
| **= Result before taxes** | 92 | +113.95 | 43 | -83.52 | 261 | 1.95 | 2.19 |
| - Operating tax | 51 | +37.84 | 37 | -54.88 | 82 | 1.08 | 0.61 |
| **= Profit after tax** | 41 | +583.33 | 6 | -96.65 | 179 | 0.87 | 1.57 |
| + Other | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| **= Net result/loss** | 41 | +583.33 | 6 | -96.65 | 179 | 0.87 | 1.58 |
| **Cash flow** | 112 | +80.65 | 62 | -71.56 | 218 | 2.37 | 4.84 |
| **EBITDA** | 141 | +33.02 | 106 | -65.25 | 305 | 2.98 | 5.04 |

*Figure 16. Daily s.r.l.'s P&L*

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **ASSETS** | 1,507 | ▲ +11.46 | 1,352 | ▲ +19.65 | 1,130 | 100.00 | 100.00 |
| **Fixed assets** | 361 | ▲ +13.88 | 317 | ▲ +44.09 | 220 | 23.95 | 60.83 |
| Intangible assets | 2 | ▼ -50.00 | 4 | ▼ -50.00 | 8 | 0.13 | 7.04 |
| Tangible assets | 165 | ▲ +3.77 | 159 | ▲ +238.30 | 47 | 10.95 | 39.90 |
| Financial fixed assets | 194 | ▲ +25.97 | 154 | ▼ -6.67 | 165 | 12.87 | 13.89 |
| **Short-term assets** | 1,146 | ▲ +10.72 | 1,035 | ▲ +13.74 | 910 | 76.05 | 39.17 |
| Stocks | 154 | ▼ -25.60 | 207 | ▲ +132.58 | 89 | 10.22 | 10.84 |
| Trade debtors | 268 | ▲ +1,961.54 | 13 | ▼ -81.43 | 70 | 17.78 | 4.76 |
| Other short-term assets | 146 | ▲ +33.94 | 109 | ▼ -7.63 | 118 | 9.69 | 8.21 |
| Liquidity | 578 | ▼ -18.13 | 706 | ▲ +11.53 | 633 | 38.35 | 15.36 |
| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
| **TOTAL LIABILITIES** | 1,507 | ▲ +11.46 | 1,352 | ▲ +19.65 | 1,130 | 100.00 | 100.00 |
| **Shareholders' Equity** | 219 | ▲ +5.80 | 207 | ▼ -11.16 | 233 | 14.53 | 35.70 |
| Share capital | 100 | ● 0.00 | 100 | ▲ +400.00 | 20 | 6.64 | 3.32 |
| Other reserves | 108 | ▲ +6.93 | 101 | ▲ +48.53 | 68 | 7.17 | 30.34 |
| Reserve from Profit/Loss of the year | 11 | ▲ +83.33 | 6 | ▼ -95.86 | 145 | 0.73 | 2.03 |
| **Consolidated funds and debts** | 239 | ▼ -16.43 | 286 | ▲ +44.44 | 198 | 15.86 | 18.89 |
| Debts towards banks | 192 | ▼ -22.89 | 249 | ▲ +44.77 | 172 | 12.74 | 8.47 |
| Medium-long-term funds and other debts | 47 | ▲ +27.03 | 37 | ▲ +42.31 | 26 | 3.12 | 10.41 |
| **Short-term liabilities** | 1,049 | ▲ +22.12 | 859 | ▲ +22.89 | 699 | 69.61 | 45.42 |
| Short-time debts towards Banks | 0 | - | 0 | - | 0 | 0.00 | 4.07 |
| Debts towards suppliers and down payments | 311 | ▼ -7.72 | 337 | ▲ +31.64 | 256 | 20.64 | 22.60 |
| Other debts | 738 | ▲ +41.38 | 522 | ▲ +17.83 | 443 | 48.97 | 18.75 |

*Figure 17. Daily s.r.l.'s balance sheet*

| ITEM | 31/12/2022* | 31/12/2021* | 31/12/2020* | SECTOR 2022* |
|---|---|---|---|---|
| **DEVELOPMENT RATIOS** | | | | |
| Variation % revenues | 29.10 | 2.70 | 78.50 | 3.88 |
| Variation % production | 29.10 | 2.70 | 78.50 | 3.88 |
| Variation % added value | -22.50 | -13.60 | 114.40 | 1.79 |
| Variation % assets | 11.50 | 19.70 | 58.00 | 3.03 |
| Variation % shareholders' funds | 5.80 | -11.20 | 164.80 | -1.51 |
| **PROFITABILITY INDICATORS** | | | | |
| R.O.S. (%) | 2.20 | 2.10 | 8.00 | 2.55 |
| R.O.I. (%) | 11.80 | 8.90 | 60.10 | 3.96 |
| R.O.E. (%) | 18.00 | 2.50 | 100.90 | 6.10 |
| Cash flow / Total assets % | 7.80 | 5.00 | 23.60 | 6.88 |
| Turnover (revenues/assets) | 3.31 | 2.95 | - | 1.42 |
| Financial expenses/revenues % | 0.25 | 0.93 | 0.67 | 0.37 |
| **PRODUCTIVITY INDICATORS** | | | | |
| Revenues per capita (€/000) | n.c. | n.c. | n.c. | 300.85 |
| Added value per capita (€/000) | n.c. | n.c. | n.c. | 46.39 |
| Work costs per capita (€/000) | n.c. | n.c. | n.c. | 34.25 |
| **MANAGEMENT OF CURRENT ASSETS** | | | | |
| Current ratio % | 109.3 | 120.5 | 130.2 | 86.23 |
| Acid test % | 94.6 | 96.4 | 117.5 | 62.49 |
| Average days of stock rotation | 13.4 | 14.6 | 7.6 | 26.52 |
| Credit towards customers in days | 10.7 | 4.1 | 3.8 | 12.5 |
| Credit towards suppliers in days | 27.7 | 33.5 | 33.8 | 66.79 |
| Net working capital (€/000) | 97 | 176 | 211 | - |
| **FINANCIAL STRUCTURE** | | | | |
| Treasury margin (€/000) | -57 | -31 | 122 | - |
| Structure margin (€/000) | -142 | -110 | 13 | - |
| Debt ratio | 5.67 | 5.35 | 3.74 | 1.72 |
| Tangible shareholders' funds/total financial debts % | 114.10 | 83.10 | 135.50 | 106.51 |
| Short-term debts on production | 0.22 | 0.23 | 0.20 | 0.32 |

*Figure 18. Daily s.r.l.'s Indicators*

### *3.4.7 CARPE DIEM s.r.l.*

The balance sheet's total assets on 12/31/2022 amount to 725 thousand Euro, experiencing a moderate increase of 4.02% in comparison with the previous financial year. At the same date the assets show a working capital of 709 thousand Euro (+3.20%) and a fixed capital

increased to 16 thousand Euro (+60.00%). Instead, the liabilities show net assets of -6 thousand Euro (-166.67%) and a total of debts of 728 thousand Euro (+5.81%) , the short-term debts of which amount to the 88.32%.
The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 4,786 thousand Euro, strongly increasing of 913.98% in comparison with the one realized in the previous financial year. The same financial statements have been closed with a loss of 14 thousand Euro, further worsening the firm financial standing (in 2021 the loss amounted to 1 thousand Euro). The cash-flow created during the analysed financial year is positive for 16 thousand Euro.
The liquidity index (Quick Ratio=52.00) has a limited value, which therefore is insufficient to reach the short-term financial balance through the immediately available resources.
The value of the availability index (Current ratio =110.00) indicates that the company has sufficient short-term monetizable activities and therefore is able to meet its current engagements.
In the meanwhile, the financial charges weigh upon the turnover for a limited part (0.02%). The short-term debts weigh upon the turnover for the 13.29%. The incidence of the result of the financial year in comparison with the turnover passed from -0.21% of 2021 to -0.29% of 2022.
Data can be shown in Figures 19, 20, and 21.

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|
| **Revenue** | **4,786** | ▲ +913.98 | **472** | **98.90** | **99.93** |
| + Variations in stocks, semi-finished and finished products | 0 | - | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | - | 0 | 0.00 | 0.01 |
| + Contributions | 53 | - | 0 | 1.10 | 0.07 |
| **= Value of production** | **4,839** | ▲ +925.21 | **472** | **100.00** | **100.00** |
| - Purchases | 3,646 | ▲ +447.45 | 666 | 75.35 | 73.52 |
| + Variations in raw materials | 54 | ▼ -82.91 | 316 | 1.12 | 0.37 |
| - Charges for services and third-parties goods | 652 | ▲ +1,230.61 | 49 | 13.47 | 11.44 |
| **Added value** | **595** | ▲ +715.07 | **73** | **12.30** | **15.41** |
| - Staff cost | 602 | ▲ +772.46 | 69 | 12.44 | 11.38 |
| **= Gross operating margin** | **-7** | - | **4** | **-0.14** | **4.03** |
| - Depreciation tangible assets | 3 | ▲ +200.00 | 1 | 0.06 | 2.18 |
| - Operative provisions | 0 | - | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 0 | - | 0 | 0.00 | 0.57 |
| + Result of other income/costs | 2 | - | -4 | 0.04 | 1.02 |
| **= Operating profit** | **-8** | - | **-1** | **-0.17** | **2.10** |
| **Financial income and charges** | **-1** | - | **0** | **-0.02** | **-0.09** |
| + Net financial income | **0** | - | **0** | **0.00** | **0.45** |
| Financial charges | 1 | - | 0 | 0.02 | 0.37 |
| **= Profit of the year** | **-9** | - | **-1** | **-0.19** | **2.19** |
| Financial assets and fixed assets adjustments | 0 | - | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | - | 0 | 0.00 | 0.24 |
| **= Result before taxes** | **-9** | - | **-1** | **-0.19** | **2.19** |
| - Operating tax | 5 | - | 0 | 0.10 | 0.61 |
| **= Profit after tax** | **-14** | - | **-1** | **-0.29** | **1.57** |
| + Other | 0 | - | 0 | 0.00 | 0.01 |
| **= Net result/loss** | **-14** | - | **-1** | **-0.29** | **1.58** |
| **Cash flow** | **16** | ▲ +433.33 | **3** | **0.33** | **4.84** |
| **EBITDA** | **-5** | - | **0** | **-0.10** | **5.04** |

*Figure 19. Carpe Diem s.r.l.'s P&L*

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|
| **ASSETS** | **725** | +4.02 | **697** | **100.00** | **100.00** |
| **Fixed assets** | **16** | +60.00 | **10** | **2.21** | **60.83** |
| Intangible assets | 1 | -50.00 | 2 | 0.14 | 7.04 |
| Tangible assets | 15 | +87.50 | 8 | 2.07 | 39.90 |
| Financial fixed assets | 0 | - | 0 | 0.00 | 13.89 |
| **Short-term assets** | **709** | +3.20 | **687** | **97.79** | **39.17** |
| Stocks | 371 | +17.03 | 317 | 51.17 | 10.84 |
| Trade debtors | 4 | +300.00 | 1 | 0.55 | 4.76 |
| Other short-term assets | 104 | +65.08 | 63 | 14.34 | 8.21 |
| Liquidity | 230 | -24.84 | 306 | 31.72 | 15.36 |

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|
| **TOTAL LIABILITIES** | **725** | +4.02 | **697** | **100.00** | **100.00** |
| **Shareholders' Equity** | **-6** | - | **9** | **-0.83** | **35.70** |
| Share capital | 10 | 0.00 | 10 | 1.38 | 3.32 |
| Other reserves | -2 | - | 0 | -0.28 | 30.34 |
| Reserve from Profit/Loss of the year | -14 | - | -1 | -1.93 | 2.03 |
| **Consolidated funds and debts** | **88** | - | **0** | **12.14** | **18.89** |
| Debts towards banks | 0 | - | 0 | 0.00 | 8.47 |
| Medium-long-term funds and other debts | 88 | - | 0 | 12.14 | 10.41 |
| **Short-term liabilities** | **643** | -6.54 | **688** | **88.69** | **45.42** |
| Short-time debts towards Banks | 0 | - | 0 | 0.00 | 4.07 |
| Debts towards suppliers and down payments | 0 | - | 0 | 0.00 | 22.60 |
| Other debts | 643 | -6.54 | 688 | 88.69 | 18.75 |

*Figure 20. Carpe Diem s.r.l.'s balance sheet*

| ITEM | 31/12/2022* | 31/12/2021* | SECTOR 2022* |
|---|---|---|---|
| **DEVELOPMENT RATIOS** | | | |
| Variation % revenues | 153.50 | n.c. | 3.88 |
| Variation % production | 156.30 | n.c. | 3.88 |
| Variation % added value | 103.80 | n.c. | 1.79 |
| Variation % assets | 4.00 | n.c. | 3.03 |
| Variation % shareholders' funds | -166.70 | n.c. | -1.51 |
| **PROFITABILITY INDICATORS** | | | |
| R.O.S. (%) | -0.17 | -0.21 | 2.55 |
| R.O.I. (%) | n.c. | n.c. | 3.96 |
| R.O.E. (%) | -933.30 | -44.40 | 6.10 |
| Cash flow / Total assets % | 2.30 | 1.70 | 6.88 |
| Turnover (revenues/assets) | 6.73 | - | 1.42 |
| Financial expenses/revenues % | 0.02 | 0.00 | 0.37 |
| **PRODUCTIVITY INDICATORS** | | | |
| Revenues per capita (€/000) | 281.5 | 188.8 | 300.85 |
| Added value per capita (€/000) | 35 | 29.2 | 46.39 |
| Work costs per capita (€/000) | 35.4 | 27.6 | 34.25 |
| **MANAGEMENT OF CURRENT ASSETS** | | | |
| Current ratio % | 110.3 | 99.9 | 86.23 |
| Acid test % | 52.6 | 53.8 | 62.49 |
| Average days of stock rotation | 25.9 | 60.4 | 26.52 |
| Credit towards customers in days | 0.2 | 0.2 | 12.5 |
| Credit towards suppliers in days | n.c. | n.c. | 66.79 |
| Net working capital (€/000) | 66 | -1 | - |
| **FINANCIAL STRUCTURE** | | | |
| Treasury margin (€/000) | -305 | -318 | - |
| Structure margin (€/000) | -22 | -1 | - |
| Debt ratio | n.c. | 76.44 | 1.72 |
| Tangible shareholders' funds/total financial debts % | n.c. | n.c. | 106.51 |
| Short-term debts on production | 0.13 | 1.46 | 0.32 |

*Figure 21. Carpe Diem s.r.l.'s Indicators*

### *3.4.8 BELDÌ s.r.l.*

From the financial statement analysis of the financial year 2022, which has been suitably reclassified, it stands out that the balance sheet's total assets on 12/31/2022 amount to 308

thousand Euro. At the same date the assets show a working capital of 302 thousand Euro and a fixed capital of 6 thousand Euro. Instead the liabilities show net assets of 46 thousand Euro and a total of debts of 258 thousand Euro, all with short term time limit.
The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 1,666 thousand Euro. The same financial statements have been closed with a profit of 36 thousand Euro. The cash-flow created during the analysed financial year is positive for 44 thousand Euro.
The liquidity index (Quick Ratio=78.00) has an acceptable value, which therefore is in line with the engagements taken by the current management, through the immediately available resources.
The value of the availability index (Current ratio =117.00) indicates that the company has acceptable short-term monetizable activities and therefore is able to meet its current engagements.
From the value of the debt index (5.61), it is possible to see that the debt situation is high with poor financial autonomy.
In the meanwhile, the financial charges weigh upon the turnover for (0.00). The short-term debts weigh upon the turnover for the 15.40%. The incidence of the result of the financial year in comparison with the turnover amounts to 2.16%.
Data are offered in Figure 8, below.

| ITEM | 31/12/2022* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|
| **Revenue** | **1,666** | **99.46** | **99.93** |
| + Variations in stocks, semi-finished and finished products | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | 0.00 | 0.01 |
| + Contributions | 9 | 0.54 | 0.07 |
| **= Value of production** | **1,675** | **100.00** | **100.00** |
| - Purchases | 1,372 | 81.91 | 73.52 |
| + Variations in raw materials | 100 | 5.97 | 0.37 |
| - Charges for services and third-parties goods | 199 | 11.88 | 11.44 |
| **Added value** | **204** | **12.18** | **15.41** |
| - Staff cost | 148 | 8.84 | 11.38 |
| **= Gross operating margin** | **56** | **3.34** | **4.03** |
| - Depreciation tangible assets | 0 | 0.00 | 2.18 |
| - Operative provisions | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 1 | 0.06 | 0.57 |
| + Result of other income/costs | -4 | -0.24 | 1.02 |
| **= Operating profit** | **51** | **3.04** | **2.10** |
| **Financial income and charges** | **0** | **0.00** | **-0.09** |
| + Net financial income | **0** | **0.00** | **0.45** |
| Financial charges | 0 | 0.00 | 0.37 |
| **= Profit of the year** | **51** | **3.04** | **2.19** |
| Financial assets and fixed assets adjustments | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | 0.00 | 0.24 |
| **= Result before taxes** | **51** | **3.04** | **2.19** |
| - Operating tax | 15 | 0.90 | 0.61 |
| **= Profit after tax** | **36** | **2.15** | **1.57** |
| + Other | 0 | 0.00 | 0.01 |
| **= Net result/loss** | **36** | **2.15** | **1.58** |
| **Cash flow** | **44** | **2.63** | **4.84** |
| **EBITDA** | **52** | **3.10** | **5.04** |

*Figure 22. Beldì s.r.l.'s P&L*

| ITEM | 31/12/2022* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|
| **ASSETS** | **308** | **100.00** | **100.00** |
| **Fixed assets** | **6** | **1.95** | **60.83** |
| Intangible assets | 3 | 0.97 | 7.04 |
| Tangible assets | 3 | 0.97 | 39.90 |
| Financial fixed assets | 0 | 0.00 | 13.89 |
| **Short-term assets** | **302** | **98.05** | **39.17** |
| Stocks | 100 | 32.47 | 10.84 |
| Trade debtors | 0 | 0.00 | 4.76 |
| Other short-term assets | 10 | 3.25 | 8.21 |
| Liquidity | 192 | 62.34 | 15.36 |
| ITEM | 31/12/2022* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
| **TOTAL LIABILITIES** | **308** | **100.00** | **100.00** |
| **Shareholders' Equity** | **46** | **14.94** | **35.70** |
| Share capital | 10 | 3.25 | 3.32 |
| Other reserves | 0 | 0.00 | 30.34 |
| Reserve from Profit/Loss of the year | 36 | 11.69 | 2.03 |
| **Consolidated funds and debts** | **4** | **1.30** | **18.89** |
| Debts towards banks | 0 | 0.00 | 8.47 |
| Medium-long-term funds and other debts | 4 | 1.30 | 10.41 |
| **Short-term liabilities** | **258** | **83.77** | **45.42** |
| Short-time debts towards Banks | 0 | 0.00 | 4.07 |
| Debts towards suppliers and down payments | 0 | 0.00 | 22.60 |
| Other debts | 258 | 83.77 | 18.75 |

*Figure 23. Beldì s.r.l.'s balance sheet*

| ITEM | 31/12/2022* | SECTOR 2022* |
|---|---|---|
| **DEVELOPMENT RATIOS** | | |
| Variation % revenues | n.c. | 3.88 |
| Variation % production | n.c. | 3.88 |
| Variation % added value | n.c. | 1.79 |
| Variation % assets | n.c. | 3.03 |
| Variation % shareholders' funds | n.c. | -1.51 |
| **PROFITABILITY INDICATORS** | | |
| R.O.S. (%) | 3.06 | 2.55 |
| R.O.I. (%) | n.c. | 3.96 |
| R.O.E. (%) | 93.90 | 6.10 |
| Cash flow / Total assets % | 17.10 | 6.88 |
| Turnover (revenues/assets) | - | 1.42 |
| Financial expenses/revenues % | 0.00 | 0.37 |
| **PRODUCTIVITY INDICATORS** | | |
| Revenues per capita (€/000) | 399.8 | 300.85 |
| Added value per capita (€/000) | 49 | 46.39 |
| Work costs per capita (€/000) | 35.5 | 34.25 |
| **MANAGEMENT OF CURRENT ASSETS** | | |
| Current ratio % | 117.1 | 86.23 |
| Acid test % | 78.3 | 62.49 |
| Average days of stock rotation | 18 | 26.52 |
| Credit towards customers in days | n.c. | 12.5 |
| Credit towards suppliers in days | n.c. | 66.79 |
| Net working capital (€/000) | 44 | - |
| **FINANCIAL STRUCTURE** | | |
| Treasury margin (€/000) | -56 | - |
| Structure margin (€/000) | 40 | - |
| Debt ratio | 5.61 | 1.72 |
| Tangible shareholders' funds/total financial debts % | n.c. | 106.51 |
| Short-term debts on production | 0.15 | 0.32 |

*Figure 24. Beldì s.r.l. Indicators*

### *3.4.9 AURORA DISTRIBUZIONE s.r.l.*

From the comparative analysis of financial statements of the years 2020, 2021 and 2022, which have been suitably reclassified, the balance sheet's total assets on 12/31/2022 amount to 414 thousand Euro, experiencing a quite good increase of 7.53% in comparison

with the previous financial year. At the same date the assets show a working capital of 351 thousand Euro (+9.01%) and a fixed capital decreased to 63 thousand Euro (+0.00%). Instead, the liabilities show net assets of 34 thousand Euro (+0.00%) and a total of debts of 351 thousand Euro (+9.69%), the short-term debts of which amount to the 64.67%.
During the given three-year period the patrimonial structure has experienced an overall change of +29.38%.
The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 1,672 thousand Euro, strongly increasing of 104.65% in comparison with the one realized in the previous financial year The same financial statements have been closed with a profit of 1 thousand Euro, the 85.71% less than 2021. The cash-flow created during the analysed financial year is positive for 13 thousand Euro.
The liquidity index (Quick Ratio) has a satisfactory value (110.00), this allows the management to face its short term engagements through the immediately available resources.
The value of the availability index (Current ratio =154.00) indicates that the company has good short term monetizable activities and therefore is able to meet its current engagements.
From the value of the debt index (10.32), it can be seen that the situation is characterized by a great use of third parties' capital and by a very poor financial autonomy. In comparison with the previous financial year the ratio between third parties' capital and its own financial means is slightly worsening.
In the meanwhile, the financial charges weigh upon the turnover for a limited part (0.24%). The short-term debts weigh upon the turnover for the 13.58%.
The incidence of the result of the financial year in comparison with the turnover passed from +0.86% of 2021 to +0.06% of 2022. The profitability index of the owner's equity (ROE) shows a worsening (+23.00% in 2021 and +2.90% in 2022) taking its place clearly below the average return got through the alternative financial investments.
Data are offered in Figures 25, 26 and 27.

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **Revenue** | **1,672** | +104.65 | **817** | +2.38 | **798** | **100.00** | **99.90** |
| + Variations in stocks, semi-finished and finished products | 0 | - | 0 | - | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | - | 0 | - | 0 | 0.00 | 0.00 |
| + Contributions | 0 | -100.00 | 48 | - | 0 | 0.00 | 0.10 |
| **= Value of production** | **1,672** | +93.29 | **865** | +8.40 | **798** | **100.00** | **100.00** |
| - Purchases | 1,191 | +127.72 | 523 | +21.91 | 429 | 71.23 | 82.34 |
| + Variations in raw materials | -3 | - | 19 | - | -9 | -0.18 | 1.05 |
| - Charges for services and third-parties goods | 273 | +23.53 | 221 | -1.34 | 224 | 16.33 | 12.61 |
| **Added value** | **205** | +46.43 | **140** | +2.94 | **136** | **12.26** | **6.10** |
| - Staff cost | 181 | +28.37 | 141 | -10.76 | 158 | 10.83 | 3.43 |
| **= Gross operating margin** | **24** | - | **-1** | - | **-22** | **1.44** | **2.67** |
| - Depreciation tangible assets | 1 | 0.00 | 1 | 0.00 | 1 | 0.06 | 0.64 |
| - Operative provisions | 0 | - | 0 | - | 0 | 0.00 | 0.37 |
| - Depreciation intangible assets | 0 | - | 0 | - | 0 | 0.00 | 0.31 |
| + Result of other income/costs | -14 | - | 13 | -58.06 | 31 | -0.84 | 1.12 |
| **= Operating profit** | **9** | -18.18 | **11** | +37.50 | **8** | **0.54** | **2.47** |
| **Financial income and charges** | **-4** | - | **-4** | - | **-4** | **-0.24** | **-0.03** |
| + Net financial income | **0** | - | **0** | - | **0** | **0.00** | **0.26** |
| Financial charges | 4 | 0.00 | 4 | 0.00 | 4 | 0.24 | 0.22 |
| **= Profit of the year** | **5** | -28.57 | **7** | +75.00 | **4** | **0.30** | **2.51** |
| Financial assets and fixed assets adjustments | 0 | - | 0 | - | 0 | 0.00 | -0.13 |
| + Extraordinary result | 0 | - | 0 | - | 0 | 0.00 | 0.04 |
| **= Result before taxes** | **5** | -28.57 | **7** | +75.00 | **4** | **0.30** | **2.42** |
| - Operating tax | 4 | - | 0 | -100.00 | 2 | 0.24 | 0.71 |
| **= Profit after tax** | **1** | -85.71 | **7** | +250.00 | **2** | **0.06** | **1.71** |
| + Other | 0 | - | 0 | - | 0 | 0.00 | 0.02 |
| **= Net result/loss** | **1** | -85.71 | **7** | +250.00 | **2** | **0.06** | **1.72** |
| **Cash flow** | **13** | -27.78 | **18** | +38.46 | **13** | **0.78** | **3.22** |
| **EBITDA** | **10** | -16.67 | **12** | +33.33 | **9** | **0.60** | **3.79** |

*Figure 25. Aurora Distribuzioni s.r.l.'s P&L*

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **ASSETS** | **414** | +7.53 | **385** | +20.31 | **320** | **100.00** | **100.00** |
| **Fixed assets** | **63** | 0.00 | **63** | 0.00 | **63** | **15.22** | **31.29** |
| Intangible assets | 0 | - | 0 | - | 0 | 0.00 | 5.98 |
| Tangible assets | 3 | 0.00 | 3 | 0.00 | 3 | 0.72 | 16.39 |
| Financial fixed assets | 60 | 0.00 | 60 | 0.00 | 60 | 14.49 | 8.92 |
| **Short-term assets** | **351** | +9.01 | **322** | +25.29 | **257** | **84.78** | **68.71** |
| Stocks | 100 | -3.85 | 104 | +23.81 | 84 | 24.15 | 14.09 |
| Trade debtors | 1 | - | 0 | - | 0 | 0.24 | 28.34 |
| Other short-term assets | 49 | -12.50 | 56 | +229.41 | 17 | 11.84 | 13.06 |
| Liquidity | 201 | +24.07 | 162 | +3.85 | 156 | 48.55 | 13.22 |

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **TOTAL LIABILITIES** | **414** | +7.53 | **385** | +20.31 | **320** | **100.00** | **100.00** |
| **Shareholders' Equity** | **34** | 0.00 | **34** | +25.93 | **27** | **8.21** | **36.61** |
| Share capital | 10 | 0.00 | 10 | 0.00 | 10 | 2.42 | 5.26 |
| Other reserves | 23 | +35.29 | 17 | +13.33 | 15 | 5.56 | 28.99 |
| Reserve from Profit/Loss of the year | 1 | -85.71 | 7 | +250.00 | 2 | 0.24 | 2.36 |
| **Consolidated funds and debts** | **153** | -13.07 | **176** | +7.32 | **164** | **36.96** | **13.88** |
| Debts towards banks | 118 | -15.11 | 139 | +1.46 | 137 | 28.50 | 7.82 |
| Medium-long-term funds and other debts | 35 | -5.41 | 37 | +37.04 | 27 | 8.45 | 6.05 |
| **Short-term liabilities** | **227** | +29.71 | **175** | +35.66 | **129** | **54.83** | **49.52** |
| Short-time debts towards Banks | 0 | - | 0 | -100.00 | 13 | 0.00 | 6.03 |
| Debts towards suppliers and down payments | 138 | +26.61 | 109 | +131.91 | 47 | 33.33 | 34.78 |

*Figure 26. Aurora Distribuzioni s.r.l.'s balance sheet*

| ITEM | 31/12/2022* | 31/12/2021* | 31/12/2020* | SECTOR 2022* |
|---|---|---|---|---|
| **DEVELOPMENT RATIOS** | | | | |
| Variation % revenues | 104.70 | 2.40 | -54.80 | 9.34 |
| Variation % production | 93.30 | 8.40 | -54.80 | 9.35 |
| Variation % added value | 46.40 | 2.90 | -46.90 | 9.41 |
| Variation % assets | 7.50 | 20.30 | 2.20 | 8.56 |
| Variation % shareholders' funds | 0.00 | 25.90 | 8.00 | 5.34 |
| **PROFITABILITY INDICATORS** | | | | |
| R.O.S. (%) | 0.54 | 1.35 | 1.00 | 2.74 |
| R.O.I. (%) | 3.10 | 6.30 | 3.40 | 6.62 |
| R.O.E. (%) | 2.90 | 23.00 | 7.70 | 8.83 |
| Cash flow / Total assets % | 3.30 | 5.10 | 4.10 | 6.31 |
| Turnover (revenues/assets) | 4.19 | 2.32 | - | 1.96 |
| Financial expenses/revenues % | 0.24 | 0.49 | 0.50 | 0.22 |
| **PRODUCTIVITY INDICATORS** | | | | |
| Revenues per capita (€/000) | 557.3 | 136.2 | 133 | 1,272.63 |
| Added value per capita (€/000) | 68.3 | 23.3 | 22.7 | 77.75 |
| Work costs per capita (€/000) | 60.3 | 23.5 | 26.3 | 43.74 |
| **MANAGEMENT OF CURRENT ASSETS** | | | | |
| Current ratio % | 154.6 | 184 | 199.2 | 138.76 |
| Acid test % | 110.6 | 124.6 | 134.1 | 110.53 |
| Average days of stock rotation | 22 | 41.4 | 39.9 | 24.77 |
| Credit towards customers in days | 0.2 | n.c. | n.c. | 51.71 |
| Credit towards suppliers in days | 30.4 | 37.7 | 25.9 | 65.44 |
| Net working capital (€/000) | 124 | 147 | 128 | - |
| **FINANCIAL STRUCTURE** | | | | |
| Treasury margin (€/000) | 24 | 43 | 44 | - |
| Structure margin (€/000) | -29 | -29 | -36 | - |
| Debt ratio | 10.32 | 9.41 | 9.85 | 1.65 |
| Tangible shareholders' funds/total financial debts % | 28.80 | 24.50 | 18.00 | 193.90 |
| Short-term debts on production | 0.14 | 0.20 | 0.16 | 0.26 |

*Figure 27. Aurora Distribuzioni s.r.l.'s Indicators*

## 3.5 Italian Carrefour's Data and Financial Analysis

To broaden the financial analysis we are carrying out in this thesis and to compare the results obtained from the operation in Tuscany with other similar operations in Italy carried out by Carrefour, in this section we will focuse on the the financial data of some

companies in Milan, Rome, Bergamo, Genoa and Turin which Carrefour manages through franchising and. These data, collected from Cerved and from Carrefour's management control and obtained from the official financial statements of the companies, serve as an introduction to the cash flow analysis in the next chapter. Since it is not easy to compare shops in different cities, we tried to find contexts as similar as possible to the ones dealt with in the Tuscany business case study. We randomly selected 6 stores among the 500 total managed in franchising by Carrefour in Italy, filtering for the location as North-Centre Italy (i.e. the area between Milan, Turin, Rome, Bergamo and Genoa - in order to capture the effect of tourism and population density, discussed in the interview). We also took into consideration the financial statements from 2020 to 2022 to verify the presence of the Covid-19 effect.
The companies selected are the following:

SIMIMARKET s.r.l. MILAN

BYMA s.r.l. MILAN

AMBROSINI FRESCHI s.r.l. BERGAMO

ELSI 16 s.r.l. ROME

FAMILY FOOD s.r.l. TURIN

ATHENA s.r.l. GENUA

It was not possible to get more than six companies to carry out the comparison analyses, since the data is sensitive and confidential.

### *3.5.1 SIMIMARKET s.r.l. MILAN*

From the comparative analysis of the financial statements of the years 2020, 2021 and 2022, which have been suitably reclassified, it stands out what follows: The balance sheet's total assets on 12/31/2022 amount to 541 thousand Euro, experiencing a strong decrease of 12.88% in comparison with the previous financial year. At the same date the assets show a working capital of 355 thousand Euro (-8.27%) and a fixed capital decreased to 186 thousand Euro (-20.51%). Instead, the liabilities show net assets of 28 thousand Euro (-24.32%) and a total of debts of 471 thousand Euro (-10.96%) , the short term debts of which amount to the 61.57%.

During the given three-year period the patrimonial structure has experienced an overall change of -15.34%.

The profit and loss account highlights that in the financial year 2022 the firm had a turnover of 1,114 thousand Euro, strongly decreasing of 51.77% in comparison with the one realized in the previous financial year. The same financial statements have been closed with a profit of 1 thousand Euro, improving in comparison with the previous financial year, when it experienced a loss of 10 thousand Euro. The cash-flow created during the analysed financial year is positive for 36 thousand Euro.

From the financial point of view the company is characterized by a quite balanced management, with liquid means, which allow the firm to face the current engagements, as confirmed by the indexes of prompt availability (Quick Ratio = 97.00) and of availability (Current ratio = 122.00). The incidence of the third parties' capital on the total of the own means shows a high debt index (16.82)with financial charges compared with the turnover, which amount to to 0.54%.

The incidence of the result of the financial year in comparison with the turnover passed from -0.43% of 2021 to +0.09% of 2022. The profitability index of the owner's equity (ROE) shows a improve (-25.00% in 2021 and +3.10% in 2022). Nevertheless, its value remains clearly below the average return got through the alternative financial investments.

Data can be seen in Figure 28, below.

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **Revenue** | **1,114** | **▼ -51.77** | **2,310** | **▼ -21.05** | **2,926** | **100.00** | **99.93** |
| + Variations in stocks, semi-finished and finished products | 0 | - | 0 | - | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| + Contributions | 0 | - | 0 | - | 0 | 0.00 | 0.07 |
| **= Value of production** | **1,114** | **▼ -51.77** | **2,310** | **▼ -21.05** | **2,926** | **100.00** | **100.00** |
| - Purchases | 711 | ▼ -56.73 | 1,643 | ▼ -23.26 | 2,141 | 63.82 | 73.52 |
| + Variations in raw materials | -9 | - | 2 | - | -67 | -0.81 | 0.37 |
| - Charges for services and third-parties goods | 207 | ▼ -25.81 | 279 | ▼ -13.62 | 323 | 18.58 | 11.44 |
| **Added value** | **187** | **▼ -52.05** | **390** | **▼ -1.27** | **395** | **16.79** | **15.41** |
| - Staff cost | 125 | ▼ -55.99 | 284 | ▲ +2.16 | 278 | 11.22 | 11.38 |
| **= Gross operating margin** | **62** | **▼ -41.51** | **106** | **▼ -9.40** | **117** | **5.57** | **4.03** |
| - Depreciation tangible assets | 33 | ▼ -8.33 | 36 | ▲ +28.57 | 28 | 2.96 | 2.18 |
| - Operative provisions | 0 | - | 0 | - | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 2 | ● 0.00 | 2 | ● 0.00 | 2 | 0.18 | 0.57 |
| + Result of other income/costs | -9 | - | -57 | - | -47 | -0.81 | 1.02 |
| **= Operating profit** | **18** | **▲ +63.64** | **11** | **▼ -72.50** | **40** | **1.62** | **2.10** |
| **Financial income and charges** | **-6** | - | **-8** | - | **-10** | **-0.54** | **-0.09** |
| + Net financial income | **0** | - | **0** | - | **0** | **0.00** | **0.45** |
| Financial charges | 6 | ▼ -25.00 | 8 | ▼ -20.00 | 10 | 0.54 | 0.37 |
| **= Profit of the year** | **12** | **▲ +300.00** | **3** | **▼ -90.00** | **30** | **1.08** | **2.19** |
| Financial assets and fixed assets adjustments | 0 | - | 0 | - | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | - | 0 | - | 0 | 0.00 | 0.24 |
| **= Result before taxes** | **12** | **▲ +300.00** | **3** | **▼ -90.00** | **30** | **1.08** | **2.19** |
| - Operating tax | 11 | ▼ -15.38 | 13 | ▼ -13.33 | 15 | 0.99 | 0.61 |
| **= Profit after tax** | **1** | - | **-10** | - | **15** | **0.09** | **1.57** |
| + Other | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| **= Net result/loss** | **1** | - | **-10** | - | **15** | **0.09** | **1.58** |
| **Cash flow** | **36** | **▼ -14.29** | **42** | **▼ -28.81** | **59** | **3.23** | **4.84** |
| **EBITDA** | **53** | **▲ +8.16** | **49** | **▼ -30.00** | **70** | **4.76** | **5.04** |

*Figure 28. SIMIMARKET s.r.l. MILAN - financial data (continues on the following pages)*

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **ASSETS** | **541** | **-12.88** | **621** | **-2.82** | **639** | **100.00** | **100.00** |
| **Fixed assets** | **186** | **-20.51** | **234** | **-8.24** | **255** | **34.38** | **60.83** |
| Intangible assets | 18 | -10.00 | 20 | -9.09 | 22 | 3.33 | 7.04 |
| Tangible assets | 168 | -17.65 | 204 | -8.52 | 223 | 31.05 | 39.90 |
| Financial fixed assets | 0 | -100.00 | 10 | 0.00 | 10 | 0.00 | 13.89 |
| **Short-term assets** | **355** | **-8.27** | **387** | **+0.78** | **384** | **65.62** | **39.17** |
| Stocks | 73 | -10.98 | 82 | +2.50 | 80 | 13.49 | 10.84 |
| Trade debtors | 52 | +85.71 | 28 | -20.00 | 35 | 9.61 | 4.76 |
| Other short-term assets | 3 | -50.00 | 6 | +100.00 | 3 | 0.55 | 8.21 |
| Liquidity | 227 | -16.24 | 271 | +1.88 | 266 | 41.96 | 15.36 |

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **TOTAL LIABILITIES** | **541** | **-12.88** | **621** | **-2.82** | **639** | **100.00** | **100.00** |
| **Shareholders' Equity** | **28** | **-24.32** | **37** | **-13.95** | **43** | **5.18** | **35.70** |
| Share capital | 10 | 0.00 | 10 | 0.00 | 10 | 1.85 | 3.32 |
| Other reserves | 17 | -54.05 | 37 | +105.56 | 18 | 3.14 | 30.34 |
| Reserve from Profit/Loss of the year | 1 | - | -10 | - | 15 | 0.18 | 2.03 |
| **Consolidated funds and debts** | **223** | **-17.41** | **270** | **+42.11** | **190** | **41.22** | **18.89** |
| Debts towards banks | 181 | -15.81 | 215 | +50.35 | 143 | 33.46 | 8.47 |
| Medium-long-term funds and other debts | 42 | -23.64 | 55 | +17.02 | 47 | 7.76 | 10.41 |
| **Short-term liabilities** | **290** | **-7.64** | **314** | **-22.66** | **406** | **53.60** | **45.42** |
| Short-time debts towards Banks | 0 | - | 0 | -100.00 | 82 | 0.00 | 4.07 |
| Debts towards suppliers and down payments | 118 | -22.88 | 153 | +1.32 | 151 | 21.81 | 22.60 |
| Other debts | 172 | +6.83 | 161 | -6.94 | 173 | 31.79 | 18.75 |

*Figure 28. SIMIMARKET s.r.l. MILAN - financial data (continued)*

| ITEM | 31/12/2022* | 31/12/2021* | 31/12/2020* | SECTOR 2022* |
|---|---|---|---|---|
| **DEVELOPMENT RATIOS** | | | | |
| Variation % revenues | -51.80 | -21.10 | 50.40 | 3.88 |
| Variation % production | -51.80 | -21.10 | 50.40 | 3.88 |
| Variation % added value | -52.10 | -1.30 | 45.20 | 1.79 |
| Variation % assets | -12.90 | -2.80 | 6.90 | 3.03 |
| Variation % shareholders' funds | -24.30 | -14.00 | 386.70 | -1.51 |
| **PROFITABILITY INDICATORS** | | | | |
| R.O.S. (%) | 1.62 | 0.48 | 1.37 | 2.55 |
| R.O.I. (%) | 3.00 | -0.80 | 9.80 | 3.96 |
| R.O.E. (%) | 3.10 | -25.00 | 107.10 | 6.10 |
| Cash flow / Total assets % | 6.20 | 6.70 | 9.50 | 6.88 |
| Turnover (revenues/assets) | 1.92 | 3.67 | - | 1.42 |
| Financial expenses/revenues % | 0.54 | 0.35 | 0.34 | 0.37 |
| **PRODUCTIVITY INDICATORS** | | | | |
| Revenues per capita (€/000) | 92.8 | 100.4 | 225.1 | 300.85 |
| Added value per capita (€/000) | 15.6 | 17 | 30.4 | 46.39 |
| Work costs per capita (€/000) | 10.4 | 12.4 | 21.4 | 34.25 |
| **MANAGEMENT OF CURRENT ASSETS** | | | | |
| Current ratio % | 122.4 | 123.3 | 94.6 | 86.23 |
| Acid test % | 97.2 | 97.1 | 74.9 | 62.49 |
| Average days of stock rotation | 25 | 12.6 | 14.3 | 26.52 |
| Credit towards customers in days | 12.9 | 4.9 | 5 | 12.5 |
| Credit towards suppliers in days | 53.1 | 28.5 | 27.3 | 66.79 |
| Net working capital (€/000) | 65 | 73 | -22 | - |
| **FINANCIAL STRUCTURE** | | | | |
| Treasury margin (€/000) | -8 | -9 | -102 | - |
| Structure margin (€/000) | -158 | -197 | -212 | - |
| Debt ratio | 16.82 | 14.30 | 12.77 | 1.72 |
| Tangible shareholders' funds/total financial debts % | 15.50 | 17.20 | 19.10 | 106.51 |
| Short-term debts on production | 0.26 | 0.14 | 0.14 | 0.32 |

*Figure 28. SIMIMARKET s.r.l. MILAN - financial data (end)*

### *3.5.2. BYMA s.r.l. MILAN*

From the comparative analysis of financial statements of the years 2020, 2021 and 2022, which have been suitably reclassified, it stands out what follows: The balance sheet's total assets on 12/31/2022 amount to 1,058 thousand Euro, experiencing a considerable increase of 16.65% in comparison with the previous financial year. At the same date the assets show a working capital of 881 thousand Euro (+8.23%) and a fixed capital increased to 177 thousand Euro (+90.32%). Instead the liabilities show net assets of 83 thousand Euro (-53.11%) and a total of debts of 700 thousand Euro (+48.31%) , the short term debts of which amount to the 88.71%.

During the given three-year period the patrimonial structure has experienced an overall change of +14.75%.

The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 3,909 thousand Euro, decreasing of 6.62% in comparison with the one realized in the previous financial year The same financial statements have been closed with a loss of 94 thousand Euro, showing a worsening in comparison with the previous financial year, when it experienced a profit of 14 thousand Euro. The cash-flow created during the analysed financial year is negative for 40 thousand Euro.

The value of the availability index (Current ratio =141.00) indicates that the company has fairly good short term monetizable activities and therefore is able to meet its current engagements.

From the value of the debt index (8.43) it is possible to see that the situation is characterized by a great use of third parties' capital and by a very poor financial autonomy. In comparison with the previous financial year the ratio between third parties' capital and its own financial means is worsening.

In the meanwhile the financial charges weigh upon the turnover for a limited part (0.08%). The short term debts weigh upon the turnover for the 15.76%. The incidence of the result of the financial year in comparison with the turnover passed from +0.33% of 2021 to -2.40% of 2022.

Data can be seen in Figure 29 below.

| ITEM | 31/12/2022* - CHA '21 | | 31/12/2021* - CHA '20 | | 31/12/2020* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| Revenue | 3,909 | -6.62 | 4,186 | -18.35 | 5,127 | 99.19 | 99.93 |
| + Variations in stocks, semi-finished and finished products | 0 | - | 0 | - | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| + Contributions | 32 | - | 0 | - | 0 | 0.81 | 0.07 |
| = Value of production | 3,941 | -5.85 | 4,186 | -18.35 | 5,127 | 100.00 | 100.00 |
| - Purchases | 2,910 | -6.28 | 3,105 | -17.02 | 3,742 | 73.84 | 73.52 |
| + Variations in raw materials | -1 | - | 43 | - | -63 | -0.03 | 0.37 |
| - Charges for services and third-parties goods | 527 | +9.34 | 482 | -12.04 | 548 | 13.37 | 11.44 |
| Added value | 503 | -21.65 | 642 | -17.05 | 774 | 12.76 | 15.41 |
| - Staff cost | 587 | -0.51 | 590 | +2.08 | 578 | 14.89 | 11.38 |
| = Gross operating margin | -84 | - | 52 | -73.47 | 196 | -2.13 | 4.03 |
| - Depreciation tangible assets | 3 | +50.00 | 2 | -33.33 | 3 | 0.08 | 2.18 |
| - Operative provisions | 0 | - | 0 | - | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 0 | - | 0 | - | 0 | 0.00 | 0.57 |
| + Result of other income/costs | -4 | - | -26 | - | -26 | -0.10 | 1.02 |
| = Operating profit | -91 | - | 24 | -85.63 | 167 | -2.31 | 2.10 |
| Financial income and charges | -3 | - | -1 | - | -1 | -0.08 | -0.09 |
| + Net financial income | 0 | - | 0 | - | 0 | 0.00 | 0.45 |
| Financial charges | 3 | +200.00 | 1 | 0.00 | 1 | 0.08 | 0.37 |
| = Profit of the year | -94 | - | 23 | -86.14 | 166 | -2.39 | 2.19 |
| Financial assets and fixed assets adjustments | 0 | - | 0 | - | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | - | 0 | - | 0 | 0.00 | 0.24 |
| = Result before taxes | -94 | - | 23 | -86.14 | 166 | -2.39 | 2.19 |
| - Operating tax | 0 | -100.00 | 9 | -83.02 | 53 | 0.00 | 0.61 |
| = Profit after tax | -94 | - | 14 | -87.61 | 113 | -2.39 | 1.57 |
| + Other | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| = Net result/loss | -94 | - | 14 | -87.61 | 113 | -2.39 | 1.58 |
| Cash flow | -40 | - | 55 | -62.84 | 148 | -1.01 | 4.84 |
| EBITDA | -88 | - | 26 | -84.71 | 170 | -2.23 | 5.04 |

*Figure 29. BYMA s.r.l. MILAN - financial data (continues in the following pages)*

| ITEM | 31/12/2022* - CHA '21 | | 31/12/2021* - CHA '20 | | 31/12/2020* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **ASSETS** | **1,058** | **+16.65** | **907** | **-1.63** | **922** | **100.00** | **100.00** |
| **Fixed assets** | **177** | **+90.32** | **93** | **-1.06** | **94** | **16.73** | **60.83** |
| Intangible assets | 0 | - | 0 | - | 0 | 0.00 | 7.04 |
| Tangible assets | 6 | -25.00 | 8 | -11.11 | 9 | 0.57 | 39.90 |
| Financial fixed assets | 171 | +101.18 | 85 | 0.00 | 85 | 16.16 | 13.89 |
| **Short-term assets** | **881** | **+8.23** | **814** | **-1.69** | **828** | **83.27** | **39.17** |
| Stocks | 251 | 0.00 | 251 | +20.67 | 208 | 23.72 | 10.84 |
| Trade debtors | 0 | - | 0 | - | 0 | 0.00 | 4.76 |
| Other short-term assets | 351 | +48.10 | 237 | +17.33 | 202 | 33.18 | 8.21 |
| Liquidity | 279 | -14.42 | 326 | -22.01 | 418 | 26.37 | 15.36 |

| ITEM | 31/12/2022* - CHA '21 | | 31/12/2021* - CHA '20 | | 31/12/2020* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **TOTAL LIABILITIES** | **1,058** | **+16.65** | **907** | **-1.63** | **922** | **100.00** | **100.00** |
| **Shareholders' Equity** | **83** | **-53.11** | **177** | **+8.59** | **163** | **7.84** | **35.70** |
| Share capital | 10 | 0.00 | 10 | 0.00 | 10 | 0.95 | 3.32 |
| Other reserves | 167 | +9.15 | 153 | +282.50 | 40 | 15.78 | 30.34 |
| Reserve from Profit/Loss of the year | -94 | - | 14 | -87.61 | 113 | -8.88 | 2.03 |
| **Consolidated funds and debts** | **354** | **+22.92** | **288** | **-14.29** | **336** | **33.46** | **18.89** |
| Debts towards banks | 0 | - | 0 | - | 0 | 0.00 | 8.47 |
| Medium-long-term funds and other debts | 354 | +22.92 | 288 | -14.29 | 336 | 33.46 | 10.41 |
| **Short-term liabilities** | **621** | **+40.50** | **442** | **+4.49** | **423** | **58.70** | **45.42** |
| Short-time debts towards Banks | 0 | - | 0 | - | 0 | 0.00 | 4.07 |
| Debts towards suppliers and down payments | 0 | - | 0 | - | 0 | 0.00 | 22.60 |
| Other debts | 621 | +40.50 | 442 | +4.49 | 423 | 58.70 | 18.75 |

*Figure 29. BYMA s.r.l. MILAN - financial data (continued)*

| ITEM | 31/12/2022* | 31/12/2021* | 31/12/2020* | SECTOR 2022* |
|---|---|---|---|---|
| **DEVELOPMENT RATIOS** | | | | |
| Variation % revenues | -6.60 | -18.40 | 32.40 | 3.88 |
| Variation % production | -5.90 | -18.40 | 32.40 | 3.88 |
| Variation % added value | -21.70 | -17.10 | 35.60 | 1.79 |
| Variation % assets | 16.70 | -1.60 | 31.00 | 3.03 |
| Variation % shareholders' funds | -53.10 | 8.60 | 226.00 | -1.51 |
| **PROFITABILITY INDICATORS** | | | | |
| R.O.S. (%) | -2.33 | 0.57 | 3.26 | 2.55 |
| R.O.I. (%) | n.c. | n.c. | n.c. | 3.96 |
| R.O.E. (%) | -72.30 | 8.20 | 106.10 | 6.10 |
| Cash flow / Total assets % | -4.10 | 6.00 | 18.20 | 6.88 |
| Turnover (revenues/assets) | 3.98 | 4.58 | - | 1.42 |
| Financial expenses/revenues % | 0.08 | 0.02 | 0.02 | 0.37 |
| **PRODUCTIVITY INDICATORS** | | | | |
| Revenues per capita (€/000) | 186.1 | 199.3 | 284.8 | 300.85 |
| Added value per capita (€/000) | 24 | 30.6 | 43 | 46.39 |
| Work costs per capita (€/000) | 28 | 28.1 | 32.1 | 34.25 |
| **MANAGEMENT OF CURRENT ASSETS** | | | | |
| Current ratio % | 141.9 | 184.2 | 195.7 | 86.23 |
| Acid test % | 101.5 | 127.4 | 146.6 | 62.49 |
| Average days of stock rotation | 23.1 | 19.7 | 16.8 | 26.52 |
| Credit towards customers in days | n.c. | n.c. | n.c. | 12.5 |
| Credit towards suppliers in days | n.c. | n.c. | n.c. | 66.79 |
| Net working capital (€/000) | 260 | 372 | 405 | - |
| **FINANCIAL STRUCTURE** | | | | |
| Treasury margin (€/000) | 9 | 121 | 197 | - |
| Structure margin (€/000) | -94 | 84 | 69 | - |
| Debt ratio | 8.43 | 2.67 | 3.25 | 1.72 |
| Tangible shareholders' funds/total financial debts % | n.c. | n.c. | n.c. | 106.51 |
| Short-term debts on production | 0.16 | 0.11 | 0.08 | 0.32 |

*Figure 29. BYMA s.r.l. MILAN - financial data (end)*

### *3.5.3. AMBROSINI FRESCHI s.r.l. BERGAMO*

From the comparative analysis of financial statements of the years 2020, 2021 and 2022, which have been suitably reclassified, it stands out what follows: The balance sheet's total assets on 12/31/2022 amount to 17,615 thousand Euro, experiencing a strong decrease of 8.28% in comparison with the previous financial year. At the same date the assets show a working capital of 13,597 thousand Euro (-10.49%) and a fixed capital increased to 4,018 thousand Euro (+0.05%). Instead, the liabilities show net assets of 2,825 thousand Euro (-5.17%) and a total of debts of 14,453 thousand Euro (-9.44%) , the short term debts of which amount to the 95.60%.

During the given three-year period the patrimonial structure has experienced an overall change of -7.27%.

The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 43,313 thousand Euro, slightly increasing of 4.86% in comparison with the one realized in the previous financial year. The same financial statements have been closed with a loss of 153 thousand Euro, further worsening the firm financial standing (in 2021 the loss amounted to 83 thousand Euro). The cash-flow created during the analysed financial year is negative for 58 thousand Euro.

The liquidity index (Quick Ratio = 56.00) has a limited value, which therefore is insufficient to reach the short term financial balance through the immediately available resources.

The value of the availability index (Current ratio =98.00) indicates that the company has short term financial means, which do not allow it to cover the current liabilities.

From the value of the debt index (5.12) it is possible to see that the debt situation is high with poor financial autonomy. In comparison with the previous financial year the ratio between third parties' capital and its own financial means is, nevertheless, slightly improving. In the meanwhile the financial charges weigh upon the turnover for a limited part (0.37%). The short term debts weigh upon the turnover for the 31.75%.

The values, which state the average collections' and payments' delays show a gap of 62 days in the favour of the firm, that is to say the quickness with which it renews the credits overcomes the one with which it renews the debts of the same company.

The incidence of the result of the financial year in comparison with the turnover passed from -0.20% of 2021 to -0.35% of 2022. The profitability index of the owner's equity (ROE) shows a worsening (-2.80% in 2021 and -5.30% in 2022).

Financial data are available in Figure 30.

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **Revenue** | **43,313** | ▲ +4.86 | **41,306** | ▲ +4.01 | **39,713** | **99.52** | **99.90** |
| + Variations in stocks, semi-finished and finished products | 0 | - | 0 | - | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | - | 0 | - | 0 | 0.00 | 0.00 |
| + Contributions | 211 | ▼ -60.34 | 532 | - | 0 | 0.48 | 0.10 |
| **= Value of production** | **43,524** | ▲ +4.03 | **41,838** | ▲ +5.35 | **39,713** | **100.00** | **100.00** |
| - Purchases | 30,629 | ▲ +6.54 | 28,750 | ▲ +5.29 | 27,305 | 70.37 | 82.34 |
| + Variations in raw materials | -98 | - | 254 | - | -296 | -0.23 | 1.05 |
| - Charges for services and third-parties goods | 5,659 | ▲ +6.43 | 5,317 | ▲ +7.07 | 4,966 | 13.00 | 12.61 |
| **Added value** | **7,138** | ▼ **-11.05** | **8,025** | ▲ **+12.30** | **7,146** | **16.40** | **6.10** |
| - Staff cost | 7,123 | ▼ -6.34 | 7,605 | ▲ +13.30 | 6,712 | 16.37 | 3.43 |
| **= Gross operating margin** | **15** | ▼ **-96.43** | **420** | ▼ **-3.23** | **434** | **0.03** | **2.67** |
| - Depreciation tangible assets | 0 | - | 0 | - | 0 | 0.00 | 0.64 |
| - Operative provisions | 2 | - | 0 | ▼ -100.00 | 26 | 0.00 | 0.37 |
| - Depreciation intangible assets | 0 | - | 0 | - | 0 | 0.00 | 0.31 |
| + Result of other income/costs | 69 | - | -305 | - | -80 | 0.16 | 1.12 |
| **= Operating profit** | **82** | ▼ **-28.70** | **115** | ▼ **-64.94** | **328** | **0.19** | **2.47** |
| **Financial income and charges** | **-161** | - | **-154** | - | **-163** | **-0.37** | **-0.03** |
| + Net financial income | **0** | ▼ **-100.00** | **33** | ▼ **-2.94** | **34** | **0.00** | **0.26** |
| Financial charges | 161 | ▼ -13.90 | 187 | ▼ -5.08 | 197 | 0.37 | 0.22 |
| **= Profit of the year** | **-79** | - | **-39** | - | **165** | **-0.18** | **2.51** |
| Financial assets and fixed assets adjustments | 0 | - | 0 | - | 0 | 0.00 | -0.13 |
| + Extraordinary result | 0 | - | 0 | - | 0 | 0.00 | 0.04 |
| **= Result before taxes** | **-79** | - | **-39** | - | **165** | **-0.18** | **2.42** |
| - Operating tax | 74 | ▲ +68.18 | 44 | ▼ -72.67 | 161 | 0.17 | 0.71 |
| **= Profit after tax** | **-153** | - | **-83** | - | **4** | **-0.35** | **1.71** |
| + Other | 0 | - | 0 | - | 0 | 0.00 | 0.02 |
| **= Net result/loss** | **-153** | - | **-83** | - | **4** | **-0.35** | **1.72** |
| **Cash flow** | **-58** | - | **19** | ▼ **-85.38** | **130** | **-0.13** | **3.22** |
| **EBITDA** | **84** | ▼ **-26.96** | **115** | ▼ **-67.51** | **354** | **0.19** | **3.79** |

*Figure 30. AMBROSINI FRESCHI s.r.l. BERGAMO - financial data (continues on the following pages)*

| ITEM | 31/12/2022* - CHA '21 | | 31/12/2021* - CHA '20 | | 31/12/2020* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **ASSETS** | **17,615** | **-8.28** | **19,206** | **+1.10** | **18,997** | **100.00** | **100.00** |
| **Fixed assets** | **4,018** | **+0.05** | **4,016** | **+4.04** | **3,860** | **22.81** | **31.29** |
| Intangible assets | 459 | +1.55 | 452 | +10.51 | 409 | 2.61 | 5.98 |
| Tangible assets | 2,468 | +0.41 | 2,458 | +12.65 | 2,182 | 14.01 | 16.39 |
| Financial fixed assets | 1,091 | -1.36 | 1,106 | -12.84 | 1,269 | 6.19 | 8.92 |
| **Short-term assets** | **13,597** | **-10.49** | **15,190** | **+0.35** | **15,137** | **77.19** | **68.71** |
| Stocks | 5,788 | -1.68 | 5,887 | +4.53 | 5,632 | 32.86 | 14.09 |
| Trade debtors | 4,391 | -18.66 | 5,398 | +5.99 | 5,093 | 24.93 | 28.34 |
| Other short-term assets | 3,280 | -10.63 | 3,670 | -12.51 | 4,195 | 18.62 | 13.06 |
| Liquidity | 138 | -41.28 | 235 | +8.29 | 217 | 0.78 | 13.22 |

| ITEM | 31/12/2022* - CHA '21 | | 31/12/2021* - CHA '20 | | 31/12/2020* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **TOTAL LIABILITIES** | **17,615** | **-8.28** | **19,206** | **+1.10** | **18,997** | **100.00** | **100.00** |
| **Shareholders' Equity** | **2,825** | **-5.17** | **2,979** | **-2.71** | **3,062** | **16.04** | **36.61** |
| Share capital | 1,450 | 0.00 | 1,450 | 0.00 | 1,450 | 8.23 | 5.26 |
| Other reserves | 1,528 | -5.21 | 1,612 | +0.25 | 1,608 | 8.67 | 28.99 |
| Reserve from Profit/Loss of the year | -153 | - | -83 | - | 4 | -0.87 | 2.36 |
| **Consolidated funds and debts** | **973** | **-31.81** | **1,427** | **+0.42** | **1,421** | **5.52** | **13.88** |
| Debts towards banks | 636 | -44.98 | 1,156 | -7.07 | 1,244 | 3.61 | 7.82 |
| Medium-long-term funds and other debts | 337 | +24.35 | 271 | +53.11 | 177 | 1.91 | 6.05 |
| **Short-term liabilities** | **13,817** | **-6.64** | **14,800** | **+1.97** | **14,514** | **78.44** | **49.52** |
| Short-time debts towards Banks | 2,117 | +5.17 | 2,013 | +1.56 | 1,982 | 12.02 | 6.03 |
| Debts towards suppliers and down payments | 10,023 | -6.32 | 10,699 | +7.78 | 9,927 | 56.90 | 34.78 |
| Other debts | 1,677 | -19.68 | 2,088 | -19.85 | 2,605 | 9.52 | 8.70 |

*Figura 30. AMBROSINI FRESCHI s.r.l BERGAMO – financial data (continued)*

| ITEM | 31/12/2022* | 31/12/2021* | 31/12/2020* | SECTOR 2022* |
|---|---|---|---|---|
| **DEVELOPMENT RATIOS** | | | | |
| Variation % revenues | 4.90 | 4.00 | -1.80 | 9.34 |
| Variation % production | 4.00 | 5.40 | -1.80 | 9.35 |
| Variation % added value | -11.10 | 12.30 | 32.60 | 9.41 |
| Variation % assets | -8.30 | 1.10 | -1.60 | 8.56 |
| Variation % shareholders' funds | -5.20 | -2.70 | 14.60 | 5.34 |
| **PROFITABILITY INDICATORS** | | | | |
| R.O.S. (%) | 0.19 | 0.36 | 0.91 | 2.74 |
| R.O.I. (%) | 0.10 | 1.70 | 3.50 | 6.62 |
| R.O.E. (%) | -5.30 | -2.80 | 0.10 | 8.83 |
| Cash flow / Total assets % | -0.30 | 0.10 | 0.70 | 6.31 |
| Turnover (revenues/assets) | 2.35 | 2.16 | - | 1.96 |
| Financial expenses/revenues % | 0.37 | 0.45 | 0.50 | 0.22 |
| **PRODUCTIVITY INDICATORS** | | | | |
| Revenues per capita (€/000) | 189.1 | 224.5 | 242.2 | 1,272.63 |
| Added value per capita (€/000) | 31.2 | 43.6 | 43.6 | 77.75 |
| Work costs per capita (€/000) | 31.1 | 41.3 | 40.9 | 43.74 |
| **MANAGEMENT OF CURRENT ASSETS** | | | | |
| Current ratio % | 98.4 | 102.6 | 104.3 | 138.76 |
| Acid test % | 56.5 | 62.9 | 65.5 | 110.53 |
| Average days of stock rotation | 48.5 | 50.2 | 52.4 | 24.77 |
| Credit towards customers in days | 40.7 | 45.7 | 49.5 | 51.71 |
| Credit towards suppliers in days | 102.8 | 109 | 118.6 | 65.44 |
| Net working capital (€/000) | -220 | 390 | 623 | - |
| **FINANCIAL STRUCTURE** | | | | |
| Treasury margin (€/000) | -6,008 | -5,497 | -5,009 | - |
| Structure margin (€/000) | -1,193 | -1,037 | -798 | - |
| Debt ratio | 5.12 | 5.36 | 5.15 | 1.65 |
| Tangible shareholders' funds/total financial debts % | 102.60 | 94.00 | 94.90 | 193.90 |
| Short-term debts on production | 0.32 | 0.35 | 0.37 | 0.26 |

*Figura 30. AMBROSINI FRESCHI s.r.l BERGAMO – financial data (end)*

### *3.5.4. ELSI 16 s.r.l. ROME*

From the comparative analysis of financial statements of the years 2020, 2021 and 2022, which have been suitably reclassified, it stands out what follows: The balance sheet's total assets on 12/31/2022 amount to 1,456 thousand Euro, experiencing a strong decrease of

10.07% in comparison with the previous financial year. At the same date the assets show a working capital of 1,169 thousand Euro (-6.55%) and a fixed capital decreased to 287 thousand Euro (-22.01%). Instead, the liabilities show net assets of 182 thousand Euro (-0.55%) and a total of debts of 1,252 thousand Euro (-11.95%), the short term debts of which amount to the 80.03%.

During the given three-year period the patrimonial structure has experienced an overall change of +21.64%. The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 6,603 thousand Euro, increasing of 6.71% in comparison with the one realized in the previous financial year. The same financial statements have been closed with a loss of 1 thousand Euro, showing a worsening in comparison with the previous financial year, when it experienced a profit of 25 thousand Euro. The cash-flow created during the analysed financial year is positive for 99 thousand Euro.

From the financial point of view the company is characterized by a quite balanced management, with liquid means, which allow the firm to face the current engagements, as confirmed by the indexes of prompt availability (Quick Ratio = 81.00) and of availability (Current ratio =116.00). The incidence of the third parties' capital on the total of the own means shows a high debt index (6.88)with financial charges compared with the turnover, which amount to to 0.11%. The incidence of the result of the financial year in comparison with the turnover passed from +0.40% of 2021 to -0.02% of 2022. The profitability index of the owner's equity (ROE) shows a worsening (+14.70% in 2021 and -0.60% in 2022).

Financial data are shown in Figure 31.

| ITEM | 31/12/2022* - CHA '21 | | 31/12/2021* - CHA '20 | | 31/12/2020* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **Revenue** | **6,603** | +6.71 | **6,188** | +36.03 | **4,549** | **99.28** | **99.93** |
| + Variations in stocks, semi-finished and finished products | 0 | - | 0 | - | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| + Contributions | 48 | +500.00 | 8 | - | 0 | 0.72 | 0.07 |
| **= Value of production** | **6,651** | +7.34 | **6,196** | +36.21 | **4,549** | **100.00** | **100.00** |
| - Purchases | 4,578 | +7.46 | 4,260 | +28.39 | 3,318 | 68.83 | 73.52 |
| + Variations in raw materials | 71 | -29.70 | 101 | +60.32 | 63 | 1.07 | 0.37 |
| - Charges for services and third-parties goods | 1,213 | -1.22 | 1,228 | +76.69 | 695 | 18.24 | 11.44 |
| **Added value** | **931** | +15.08 | **809** | +35.06 | **599** | **14.00** | **15.41** |
| - Staff cost | 871 | +26.78 | 687 | +70.05 | 404 | 13.10 | 11.38 |
| **= Gross operating margin** | **60** | -50.82 | **122** | -37.44 | **195** | **0.90** | **4.03** |
| - Depreciation tangible assets | 27 | +92.86 | 14 | +600.00 | 2 | 0.41 | 2.18 |
| - Operative provisions | 0 | - | 0 | - | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 43 | +65.38 | 26 | - | 0 | 0.65 | 0.57 |
| + Result of other income/costs | 32 | - | -40 | - | -30 | 0.48 | 1.02 |
| **= Operating profit** | **22** | -47.62 | **42** | -74.23 | **163** | **0.33** | **2.10** |
| **Financial income and charges** | **-7** | - | **-2** | - | **-2** | **-0.11** | **-0.09** |
| + Net financial income | **0** | - | **0** | - | **0** | **0.00** | **0.45** |
| Financial charges | 7 | +250.00 | 2 | 0.00 | 2 | 0.11 | 0.37 |
| **= Profit of the year** | **15** | -62.50 | **40** | -75.16 | **161** | **0.23** | **2.19** |
| Financial assets and fixed assets adjustments | 0 | - | 0 | - | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | - | 0 | - | 0 | 0.00 | 0.24 |
| **= Result before taxes** | **15** | -62.50 | **40** | -75.16 | **161** | **0.23** | **2.19** |
| - Operating tax | 16 | +6.67 | 15 | -68.09 | 47 | 0.24 | 0.61 |
| **= Profit after tax** | **-1** | - | **25** | -78.07 | **114** | **-0.02** | **1.57** |
| + Other | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| **= Net result/loss** | **-1** | - | **25** | -78.07 | **114** | **-0.02** | **1.58** |
| **Cash flow** | **99** | +4.21 | **95** | -29.10 | **134** | **1.49** | **4.84** |
| **EBITDA** | **92** | +12.20 | **82** | -50.30 | **165** | **1.38** | **5.04** |

*Figure 31. ELSI 16 s.r.l. Rome – financial data (continues on the following pages)*

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **ASSETS** | 1,456 | -10.07 | 1,619 | +35.25 | 1,197 | 100.00 | 100.00 |
| **Fixed assets** | 287 | -22.01 | 368 | +217.24 | 116 | 19.71 | 60.83 |
| Intangible assets | 148 | +34.55 | 110 | +10,900.00 | 1 | 10.16 | 7.04 |
| Tangible assets | 138 | -11.54 | 156 | +1,100.00 | 13 | 9.48 | 39.90 |
| Financial fixed assets | 1 | -99.02 | 102 | 0.00 | 102 | 0.07 | 13.89 |
| **Short-term assets** | 1,169 | -6.55 | 1,251 | +15.73 | 1,081 | 80.29 | 39.17 |
| Stocks | 355 | +25.44 | 283 | +55.49 | 182 | 24.38 | 10.84 |
| Trade debtors | 70 | -43.09 | 123 | +296.77 | 31 | 4.81 | 4.76 |
| Other short-term assets | 391 | +20.68 | 324 | +362.86 | 70 | 26.85 | 8.21 |
| Liquidity | 353 | -32.25 | 521 | -34.71 | 798 | 24.24 | 15.36 |
| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
| **TOTAL LIABILITIES** | 1,456 | -10.07 | 1,619 | +35.25 | 1,197 | 100.00 | 100.00 |
| **Shareholders' Equity** | 182 | -0.55 | 183 | +15.82 | 158 | 12.50 | 35.70 |
| Share capital | 10 | 0.00 | 10 | 0.00 | 10 | 0.69 | 3.32 |
| Other reserves | 173 | +16.89 | 148 | +335.29 | 34 | 11.88 | 30.34 |
| Reserve from Profit/Loss of the year | -1 | - | 25 | -78.07 | 114 | -0.07 | 2.03 |
| **Consolidated funds and debts** | 272 | -14.47 | 318 | +4,442.86 | 7 | 18.68 | 18.89 |
| Debts towards banks | 0 | - | 0 | - | 0 | 0.00 | 8.47 |
| Medium-long-term funds and other debts | 272 | -14.47 | 318 | +4,442.86 | 7 | 18.68 | 10.41 |
| **Short-term liabilities** | 1,002 | -10.38 | 1,118 | +8.33 | 1,032 | 68.82 | 45.42 |
| Short-time debts towards Banks | 0 | - | 0 | - | 0 | 0.00 | 4.07 |
| Debts towards suppliers and down payments | 0 | - | 0 | - | 0 | 0.00 | 22.60 |
| Other debts | 1,002 | -10.38 | 1,118 | +8.33 | 1,032 | 68.82 | 18.75 |

*Figure 31. ELSI 16 s.r.l. Rome – financial data (continued)*

| ITEM | 31/12/2022* | 31/12/2021* | 31/12/2020* | SECTOR 2022* |
|---|---|---|---|---|
| DEVELOPMENT RATIOS | | | | |
| Variation % revenues | 6.70 | 36.00 | 114.00 | 3.88 |
| Variation % production | 7.30 | 36.20 | 114.00 | 3.88 |
| Variation % added value | 15.10 | 35.10 | 232.80 | 1.79 |
| Variation % assets | -10.10 | 35.30 | 126.70 | 3.03 |
| Variation % shareholders' funds | -0.60 | 15.80 | 236.20 | -1.51 |
| PROFITABILITY INDICATORS | | | | |
| R.O.S. (%) | 0.33 | 0.68 | 3.58 | 2.55 |
| R.O.I. (%) | n.c. | n.c. | n.c. | 3.96 |
| R.O.E. (%) | -0.60 | 14.70 | 111.20 | 6.10 |
| Cash flow / Total assets % | 6.40 | 6.80 | 15.50 | 6.88 |
| Turnover (revenues/assets) | 4.29 | 4.39 | - | 1.42 |
| Financial expenses/revenues % | 0.11 | 0.03 | 0.04 | 0.37 |
| PRODUCTIVITY INDICATORS | | | | |
| Revenues per capita (€/000) | 825.4 | 884 | 505.4 | 300.85 |
| Added value per capita (€/000) | 116.4 | 115.6 | 66.6 | 46.39 |
| Work costs per capita (€/000) | 108.9 | 98.1 | 44.9 | 34.25 |
| MANAGEMENT OF CURRENT ASSETS | | | | |
| Current ratio % | 116.7 | 111.9 | 104.8 | 86.23 |
| Acid test % | 81.2 | 86.6 | 87.1 | 62.49 |
| Average days of stock rotation | 17.4 | 13.5 | 12.3 | 26.52 |
| Credit towards customers in days | 5.3 | 4.5 | 1.7 | 12.5 |
| Credit towards suppliers in days | n.c. | n.c. | n.c. | 66.79 |
| Net working capital (€/000) | 167 | 133 | 49 | - |
| FINANCIAL STRUCTURE | | | | |
| Treasury margin (€/000) | -188 | -150 | -133 | - |
| Structure margin (€/000) | -105 | -185 | 42 | - |
| Debt ratio | 6.88 | 7.77 | 6.53 | 1.72 |
| Tangible shareholders' funds/total financial debts % | n.c. | n.c. | n.c. | 106.51 |
| Short-term debts on production | 0.15 | 0.18 | 0.23 | 0.32 |

*Figure 31. ELSI 16 s.r.l. Rome – financial data (end)*

### *3.5.5. FAMILY FOOD s.r.l. TURIN*

From the comparative analysis of financial statements of the years 2020, 2021 and 2022, which have been suitably reclassified, it stands out what follows: The balance sheet's total assets on 12/31/2022 amount to 286 thousand Euro, experiencing a moderate increase of 4.38% in comparison with the previous financial year. At the same date the assets show a working capital of 279 thousand Euro (+5.28%) and a fixed capital decreased to 7 thousand Euro (-22.22%). Instead, the liabilities show net assets of 30 thousand Euro (+20.00%) and a total of debts of 243 thousand Euro (+0.41%) , the short term debts of which amount to the 97.94%.

During the given three-year period the patrimonial structure has experienced an overall change of +13.04%.

The profit and loss account highlights that the firm in the financial year 2021 had a turnover of 1,430 thousand Euro, decreasing of 5.11% in comparison with the one realized in the previous financial year. The same financial statements have been closed with a profit of 5 thousand Euro, the 61.54% less than 2020. The cash-flow created during the analysed financial year is positive for 15 thousand Euro.

The liquidity index (Quick Ratio = 74.00) has a limited value, which therefore is insufficient to reach the short term financial balance through the immediately available resources.

The value of the availability index (Current ratio = 117.00) indicates that the company has acceptable short term monetizable activities and therefore is able to meet its current engagements.

From the value of the debt index (8.10), it is possible to see that the situation is characterized by a great use of third parties' capital and by a very poor financial autonomy. In comparison with the previous financial year, the ratio between third parties' capital and its own financial means is, nevertheless, improving.

In the meanwhile, the financial charges weigh upon the turnover for a limited part (0.07%). The short term debts weigh upon the turnover for the 16.64%.

The incidence of the result of the financial year in comparison with the turnover passed from +0.86% of 2020 to +0.35% of 2022. The profitability index of the owner's equity (ROE) shows a value positive of 18.20%, taking its place above the alternative financial investments.

Financial data are available in Figure 32.

| ITEM | 31/12/2021* | - CHA '20 | 31/12/2020* | - CHA '19 | 31/12/2019* | 2021 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **Revenue** | **1,430** | **-5.11** | **1,507** | **+43.94** | **1,047** | **100.00** | **99.93** |
| + Variations in stocks, semi-finished and finished products | 0 | - | 0 | - | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| + Contributions | 0 | - | 0 | - | 0 | 0.00 | 0.07 |
| **= Value of production** | **1,430** | **-5.11** | **1,507** | **+43.94** | **1,047** | **100.00** | **100.00** |
| - Purchases | 1,102 | -3.84 | 1,146 | +43.61 | 798 | 77.06 | 73.52 |
| + Variations in raw materials | -1 | - | -21 | - | 34 | -0.07 | 0.37 |
| - Charges for services and third-parties goods | 182 | +6.43 | 171 | +30.53 | 131 | 12.73 | 11.44 |
| **Added value** | **145** | **-14.20** | **169** | **+11.18** | **152** | **10.14** | **15.41** |
| - Staff cost | 142 | +9.23 | 130 | -7.14 | 140 | 9.93 | 11.38 |
| **= Gross operating margin** | **3** | **-92.31** | **39** | **+225.00** | **12** | **0.21** | **4.03** |
| - Depreciation tangible assets | 2 | 0.00 | 2 | +100.00 | 1 | 0.14 | 2.18 |
| - Operative provisions | 0 | - | 0 | - | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 1 | - | 0 | -100.00 | 1 | 0.07 | 0.57 |
| + Result of other income/costs | 11 | - | -14 | - | 11 | 0.77 | 1.02 |
| **= Operating profit** | **11** | **-52.17** | **23** | **+9.52** | **21** | **0.77** | **2.10** |
| **Financial income and charges** | **-1** | - | **-2** | - | **-1** | **-0.07** | **-0.09** |
| + Net financial income | **0** | - | **0** | - | **0** | **0.00** | **0.45** |
| Financial charges | 1 | -50.00 | 2 | +100.00 | 1 | 0.07 | 0.37 |
| **= Profit of the year** | **10** | **-52.38** | **21** | **+5.00** | **20** | **0.70** | **2.19** |
| Financial assets and fixed assets adjustments | 0 | - | 0 | - | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | - | 0 | - | 0 | 0.00 | 0.24 |
| **= Result before taxes** | **10** | **-52.38** | **21** | **+5.00** | **20** | **0.70** | **2.19** |
| - Operating tax | 5 | -37.50 | 8 | +100.00 | 4 | 0.35 | 0.61 |
| **= Profit after tax** | **5** | **-61.54** | **13** | **-18.75** | **16** | **0.35** | **1.57** |
| + Other | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| **= Net result/loss** | **5** | **-61.54** | **13** | **-18.75** | **16** | **0.35** | **1.58** |
| **Cash flow** | **15** | **-28.57** | **21** | **-16.00** | **25** | **1.05** | **4.84** |
| **EBITDA** | **14** | **-44.00** | **25** | **+8.70** | **23** | **0.98** | **5.04** |

*Figure 32. FAMILY FOOD s.r.l. Turin - financial data (continues on the following pages)*

| ITEM | 31/12/2021* - | CHA '20 | 31/12/2020* - | CHA '19 | 31/12/2019* | 2021 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **ASSETS** | **286** | +4.38 | **274** | +8.30 | **253** | **100.00** | **100.00** |
| **Fixed assets** | **7** | -22.22 | **9** | +50.00 | **6** | **2.45** | **60.83** |
| Intangible assets | 0 | -100.00 | 1 | 0.00 | 1 | 0.00 | 7.04 |
| Tangible assets | 7 | -12.50 | 8 | +60.00 | 5 | 2.45 | 39.90 |
| Financial fixed assets | 0 | - | 0 | - | 0 | 0.00 | 13.89 |
| **Short-term assets** | **279** | +5.28 | **265** | +7.29 | **247** | **97.55** | **39.17** |
| Stocks | 101 | -0.98 | 102 | -17.07 | 123 | 35.31 | 10.84 |
| Trade debtors | 26 | +4.00 | 25 | -21.87 | 32 | 9.09 | 4.76 |
| Other short-term assets | 79 | +21.54 | 65 | +10.17 | 59 | 27.62 | 8.21 |
| Liquidity | 73 | 0.00 | 73 | +121.21 | 33 | 25.52 | 15.36 |

| ITEM | 31/12/2021* - | CHA '20 | 31/12/2020* - | CHA '19 | 31/12/2019* | 2021 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **TOTAL LIABILITIES** | **286** | +4.38 | **274** | +8.30 | **253** | **100.00** | **100.00** |
| **Shareholders' Equity** | **30** | +20.00 | **25** | +108.33 | **12** | **10.49** | **35.70** |
| Share capital | 15 | 0.00 | 15 | 0.00 | 15 | 5.24 | 3.32 |
| Other reserves | 10 | - | -3 | - | -19 | 3.50 | 30.34 |
| Reserve from Profit/Loss of the year | 5 | -61.54 | 13 | -18.75 | 16 | 1.75 | 2.03 |
| **Consolidated funds and debts** | **18** | 0.00 | **18** | +260.00 | **5** | **6.29** | **18.89** |
| Debts towards banks | 0 | - | 0 | - | 0 | 0.00 | 8.47 |
| Medium-long-term funds and other debts | 18 | 0.00 | 18 | +260.00 | 5 | 6.29 | 10.41 |
| **Short-term liabilities** | **238** | +3.03 | **231** | -2.12 | **236** | **83.22** | **45.42** |
| Short-time debts towards Banks | 0 | - | 0 | - | 0 | 0.00 | 4.07 |
| Debts towards suppliers and down payments | 0 | - | 0 | - | 0 | 0.00 | 22.60 |
| Other debts | 238 | +3.03 | 231 | -2.12 | 236 | 83.22 | 18.75 |

*Figure 32. FAMILY FOOD s.r.l. Turin – financial data (continued)*

| ITEM | 31/12/2021* | 31/12/2020* | 31/12/2019* | SECTOR 2021* |
|---|---|---|---|---|
| DEVELOPMENT RATIOS | | | | |
| Variation % revenues | -5.10 | 43.90 | n.c. | 3.88 |
| Variation % production | -5.10 | 43.90 | n.c. | 3.88 |
| Variation % added value | -14.20 | 11.20 | n.c. | 1.79 |
| Variation % assets | 4.40 | 8.30 | n.c. | 3.03 |
| Variation % shareholders' funds | 20.00 | 108.30 | n.c. | -1.51 |
| PROFITABILITY INDICATORS | | | | |
| R.O.S. (%) | 0.77 | 1.53 | 2.01 | 2.55 |
| R.O.I. (%) | n.c. | n.c. | n.c. | 3.96 |
| R.O.E. (%) | 18.20 | 70.30 | 133.30 | 6.10 |
| Cash flow / Total assets % | 5.40 | 8.00 | 9.90 | 6.88 |
| Turnover (revenues/assets) | 5.11 | 5.72 | - | 1.42 |
| Financial expenses/revenues % | 0.07 | 0.13 | 0.10 | 0.37 |
| PRODUCTIVITY INDICATORS | | | | |
| Revenues per capita (€/000) | 357.5 | 251.2 | 174.5 | 300.85 |
| Added value per capita (€/000) | 36.3 | 28.2 | 25.3 | 46.39 |
| Work costs per capita (€/000) | 35.5 | 21.7 | 23.3 | 34.25 |
| MANAGEMENT OF CURRENT ASSETS | | | | |
| Current ratio % | 117.2 | 114.7 | 104.7 | 86.23 |
| Acid test % | 74.8 | 70.6 | 52.5 | 62.49 |
| Average days of stock rotation | 25.6 | 26.9 | 42.3 | 26.52 |
| Credit towards customers in days | 6.4 | 6.8 | 11 | 12.5 |
| Credit towards suppliers in days | n.c. | n.c. | n.c. | 66.79 |
| Net working capital (€/000) | 41 | 34 | 11 | - |
| FINANCIAL STRUCTURE | | | | |
| Treasury margin (€/000) | -60 | -68 | -112 | - |
| Structure margin (€/000) | 23 | 16 | 6 | - |
| Debt ratio | 8.10 | 9.68 | 19.67 | 1.72 |
| Tangible shareholders' funds/total financial debts % | n.c. | n.c. | n.c. | 106.51 |
| Short-term debts on production | 0.17 | 0.15 | 0.23 | 0.32 |

*Figure 32. FAMILY FOOD s.r.l. Turin – financial data (end)*

### *3.5.6. ATHENA s.r.l. GENUA*

From the comparative analysis of financial statements of the years 2020, 2021 and 2022, which have been suitably reclassified, it stands out what follows: The balance sheet's total assets on 12/31/2022 amount to 415 thousand Euro, experiencing a considerable increase of 24.25% in comparison with the previous financial year. At the same date the assets show a working capital of 329 thousand Euro (+29.53%) and a fixed capital increased to 86 thousand Euro (+7.50%). Instead the liabilities show net assets of 38 thousand Euro (-20.83%) and a total of debts of 351 thousand Euro (+29.52%) , all with short term time limit. During the given three-year period the patrimonial structure has experienced an overall change of +110.66%.

The profit and loss account highlights that the firm in the financial year 2022 had a turnover of 2,325 thousand Euro, slightly increasing of 3.47% in comparison with the one realized in the previous financial year. The same financial statements have been closed with a loss of 10 thousand Euro, further worsening the firm financial standing (in 2021 the loss amounted to 14 thousand Euro). The cash-flow created during the analysed financial year is negative for 3 thousand Euro.

The liquidity index (Quick Ratio = 54.00) has a limited value, which therefore is insufficient to reach the short term financial balance through the immediately available resources.

The value of the availability index (Current ratio = 93.00) indicates that the company has short term financial means, which do not allow it to cover the current liabilities.

From the value of the debt index (9.24), it is possible to see that the situation is characterized by a great use of third parties' capital and by a very poor financial autonomy. In comparison with the previous financial year the ratio between third parties' capital and its own financial means is worsening.

In the meanwhile the financial charges weigh upon the turnover for (0.00). The short term debts weigh upon the turnover for the 15.05%. The incidence of the result of the financial year in comparison with the turnover passed from -0.62% of 2021 to -0.43% of 2022. The profitability index of the owner's equity (ROE) shows a improve (-25.50% in 2021 and -23.30% in 2022).

Financial data are indicated in Figure 33.

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 PRODUCTION ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **Revenue** | 2,325 | +3.47 | 2,247 | +172.69 | 824 | 99.70 | 99.93 |
| + Variations in stocks, semi-finished and finished products | 0 | - | 0 | - | 0 | 0.00 | - |
| + Tangible assets increase for internal works | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| + Contributions | 7 | - | 0 | -100.00 | 13 | 0.30 | 0.07 |
| **= Value of production** | 2,332 | +3.78 | 2,247 | +168.46 | 837 | 100.00 | 100.00 |
| - Purchases | 1,770 | -0.11 | 1,772 | +193.86 | 603 | 75.90 | 73.52 |
| + Variations in raw materials | -3 | - | 98 | - | 0 | -0.13 | 0.37 |
| - Charges for services and third-parties goods | 303 | +3.06 | 294 | +180.00 | 105 | 12.99 | 11.44 |
| **Added value** | 256 | -8.24 | 279 | +116.28 | 129 | 10.98 | 15.41 |
| - Staff cost | 266 | -5.00 | 280 | +428.30 | 53 | 11.41 | 11.38 |
| **= Gross operating margin** | -10 | - | -1 | - | 76 | -0.43 | 4.03 |
| - Depreciation tangible assets | 0 | -100.00 | 26 | +23.81 | 21 | 0.00 | 2.18 |
| - Operative provisions | 0 | - | 0 | - | 0 | 0.00 | 0.20 |
| - Depreciation intangible assets | 0 | -100.00 | 6 | +20.00 | 5 | 0.00 | 0.57 |
| + Result of other income/costs | -6 | - | 19 | 0.00 | 19 | -0.26 | 1.02 |
| **= Operating profit** | -16 | - | -14 | - | 69 | -0.69 | 2.10 |
| **Financial income and charges** | 0 | - | -3 | - | -3 | 0.00 | -0.09 |
| + Net financial income | 0 | - | 0 | - | 0 | 0.00 | 0.45 |
| Financial charges | 0 | -100.00 | 3 | 0.00 | 3 | 0.00 | 0.37 |
| **= Profit of the year** | -16 | - | -17 | - | 66 | -0.69 | 2.19 |
| Financial assets and fixed assets adjustments | 0 | - | 0 | - | 0 | 0.00 | -0.23 |
| + Extraordinary result | 0 | - | 0 | - | 0 | 0.00 | 0.24 |
| **= Result before taxes** | -16 | - | -17 | - | 66 | -0.69 | 2.19 |
| - Operating tax | -6 | - | -3 | - | 11 | -0.26 | 0.61 |
| **= Profit after tax** | -10 | - | -14 | - | 55 | -0.43 | 1.57 |
| + Other | 0 | - | 0 | - | 0 | 0.00 | 0.01 |
| **= Net result/loss** | -10 | - | -14 | - | 55 | -0.43 | 1.58 |
| **Cash flow** | -3 | - | 26 | -72.63 | 95 | -0.13 | 4.84 |
| **EBITDA** | -16 | - | 18 | -81.05 | 95 | -0.69 | 5.04 |

*Figure 33. ATHENA s.r.l. GENUA – financial data (continues on the following page)*

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 ASSETS ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **ASSETS** | **415** | ▲ +24.25 | **334** | ▲ +69.54 | **197** | **100.00** | **100.00** |
| **Fixed assets** | **86** | ▲ +7.50 | **80** | ▼ -17.53 | **97** | **20.72** | **60.83** |
| Intangible assets | 32 | ▲ +3.23 | 31 | ▼ -8.82 | 34 | 7.71 | 7.04 |
| Tangible assets | 54 | ▲ +10.20 | 49 | ▼ -22.22 | 63 | 13.01 | 39.90 |
| Financial fixed assets | 0 | - | 0 | - | 0 | 0.00 | 13.89 |
| **Short-term assets** | **329** | ▲ +29.53 | **254** | ▲ +154.00 | **100** | **79.28** | **39.17** |
| Stocks | 137 | ▼ -2.14 | 140 | ▲ +233.33 | 42 | 33.01 | 10.84 |
| Trade debtors | 0 | - | 0 | - | 0 | 0.00 | 4.76 |
| Other short-term assets | 101 | ▲ +68.33 | 60 | ▲ +46.34 | 41 | 24.34 | 8.21 |
| Liquidity | 91 | ▲ +68.52 | 54 | ▲ +217.65 | 17 | 21.93 | 15.36 |

| ITEM | 31/12/2022* | - CHA '21 | 31/12/2021* | - CHA '20 | 31/12/2020* | 2022 TOTAL LIABILITIES ON VALUE ENTERPRISE (%) | SECTOR (%) |
|---|---|---|---|---|---|---|---|
| **TOTAL LIABILITIES** | **415** | ▲ +24.25 | **334** | ▲ +69.54 | **197** | **100.00** | **100.00** |
| **Shareholders' Equity** | **38** | ▼ -20.83 | **48** | ▼ -22.58 | **62** | **9.16** | **35.70** |
| Share capital | 5 | ● 0.00 | 5 | ● 0.00 | 5 | 1.20 | 3.32 |
| Other reserves | 43 | ▼ -24.56 | 57 | ▲ +2,750.00 | 2 | 10.36 | 30.34 |
| Reserve from Profit/Loss of the year | -10 | - | -14 | - | 55 | -2.41 | 2.03 |
| **Consolidated funds and debts** | **26** | ▼ -83.44 | **157** | ▲ +2,516.67 | **6** | **6.27** | **18.89** |
| Debts towards banks | 0 | - | 0 | - | 0 | 0.00 | 8.47 |
| Medium-long-term funds and other debts | 26 | ▼ -83.44 | 157 | ▲ +2,516.67 | 6 | 6.27 | 10.41 |
| **Short-term liabilities** | **351** | ▲ +172.09 | **129** | ● 0.00 | **129** | **84.58** | **45.42** |
| Short-time debts towards Banks | 0 | - | 0 | - | 0 | 0.00 | 4.07 |
| Debts towards suppliers and down payments | 0 | - | 0 | - | 0 | 0.00 | 22.60 |
| Other debts | 351 | ▲ +172.09 | 129 | ● 0.00 | 129 | 84.58 | 18.75 |

*Figure 33. ATHENA s.r.l. GENUA – financial data (continued)*

| ITEM | 31/12/2022* | 31/12/2021* | 31/12/2020* | SECTOR 2022* |
|---|---|---|---|---|
| DEVELOPMENT RATIOS | | | | |
| Variation % revenues | 3.50 | 172.70 | 0.40 | 3.88 |
| Variation % production | 3.80 | 168.50 | 2.00 | 3.88 |
| Variation % added value | -8.20 | 116.30 | 25.20 | 1.79 |
| Variation % assets | 24.30 | 69.50 | 0.00 | 3.03 |
| Variation % shareholders' funds | -20.80 | -22.60 | 785.70 | -1.51 |
| PROFITABILITY INDICATORS | | | | |
| R.O.S. (%) | -0.69 | -0.62 | 8.37 | 2.55 |
| R.O.I. (%) | n.c. | n.c. | n.c. | 3.96 |
| R.O.E. (%) | -23.30 | -25.50 | 159.40 | 6.10 |
| Cash flow / Total assets % | -0.80 | 9.80 | 48.20 | 6.88 |
| Turnover (revenues/assets) | 6.21 | 8.46 | - | 1.42 |
| Financial expenses/revenues % | 0.00 | 0.13 | 0.36 | 0.37 |
| PRODUCTIVITY INDICATORS | | | | |
| Revenues per capita (€/000) | 290.6 | 280.9 | 91.6 | 300.85 |
| Added value per capita (€/000) | 32 | 34.9 | 14.3 | 46.39 |
| Work costs per capita (€/000) | 33.3 | 35 | 5.9 | 34.25 |
| MANAGEMENT OF CURRENT ASSETS | | | | |
| Current ratio % | 93.7 | 196.9 | 77.5 | 86.23 |
| Acid test % | 54.7 | 88.4 | 45 | 62.49 |
| Average days of stock rotation | 21.5 | 14.6 | 18.4 | 26.52 |
| Credit towards customers in days | n.c. | n.c. | n.c. | 12.5 |
| Credit towards suppliers in days | n.c. | n.c. | n.c. | 66.79 |
| Net working capital (€/000) | -22 | 125 | -29 | - |
| FINANCIAL STRUCTURE | | | | |
| Treasury margin (€/000) | -159 | -15 | -71 | - |
| Structure margin (€/000) | -48 | -32 | -35 | - |
| Debt ratio | 9.24 | 5.65 | 2.08 | 1.72 |
| Tangible shareholders' funds/total financial debts % | n.c. | n.c. | n.c. | 106.51 |
| Short-term debts on production | 0.15 | 0.06 | 0.15 | 0.32 |

*Figure 33. ATHENA s.r.l. GENUA – financial data (end)*

## 3.6 Carrefour's Data and Financial Analysis: A Recap

The examination of the income statements and balance sheets of the firms provided above and summarized in Table 21 below is an overview of the Cash Flow analysis that will be covered in the following section. All 15 companies are operated through franchising, but those involved in the Tuscany operation perform better.

| TUSCANY 2022 Financial Statement | Balance sheet | Income statment | Ratios | Comments |
|---|---|---|---|---|
| **CARTER SRL** | Total Assets: €2,617K<br>Working Capital: €2,436K<br>Fixed Capital: €181K<br>Net Assets: €217K<br>Total Debts: €2,097K | Turnover: €12,928K<br>Profit: €89K | Liquidity Ratios: Quick (92.00), Current (117.00)<br>Debt Index: 9.66<br>Financial Charges: 0.12% of Turnover<br>ROE: 38.30% | Solid growth in assets and turnover, maintaining positive cash flow. While facing short-term debts, Carter srl sustains a robust financial structure with high liquidity.However, the high debt index suggests a significant debt burden affecting financial autonomy. The profitability index (ROE) remains strong, outperforming alternative investments. |
| **PORTA AL PRATO SUPERMERCATI SRL** | Total Assets: €372K<br>Working Capital: €366K<br>Fixed Capital: €6K<br>Net Assets: €78K<br>Total Debts: €293K (all short-term) | Turnover: €2,068K<br>Profit: €68K | Quick Ratio: 97.3%<br>Current Ratio: 124.9%<br>Debt Index: 3.76%<br>ROE: 104.6% | Overall, Porta al prato supermercati SRL demonstrates a balanced financial management with positive cash flow, adequate liquidity to meet current obligations, and a limited debt index. |
| **MAGU' SRL** | Total Assets: €289K<br>Working Capital: €281K<br>Fixed Capital: €8K<br>Net Assets: €43K<br>Total Debts: €245K (86.53% short-term) | Turnover: €1,586K<br>Profit: €33K | Quick Ratio: 92.00<br>Current Ratio: 132.00<br>Debt Index: 5.70<br>ROE: 92.1% | Magu srl exhibits a balanced financial standing with positive cash flow and sufficient means to meet short-term obligations. However, the debt index is relatively high, and the profitability index indicates that the profit constitutes 2.08% of the turnover. |
| **GINORI 22 S.R.L.** | Total Assets: €267K<br>Working Capital: €259k<br>Fixed Capital: €8k<br>Net Assets: €6k<br>Total Debts: €202k (100% short-term) | Turnover: €1,354k<br>Profit: €53k | Quick Ratio: 81%<br>Current Ratio: 128%<br>Debt Index: 3.21%<br>ROE: 112,2% | Ginori 22 s.r.l. demonstrates a sound financial position with positive cash flow and ample liquidity to fulfill short-term commitments. The elevated debt index suggests a degree of financial leveraging that warrants attention. Additionally, the profitability index, with the profit accounting for 3.91% of turnover, reflects a reasonably effective operational performance. |
| **ERREGI S.R.L.** | Total Assets: €555K<br>Working Capital: €335K<br>Fixed Capital: €220K<br>Net Assets: €74K<br>Total Debts: €418K | Turnover: €1,958K<br>Profit: €6k | Quick Ratio: 78.00%<br>Current Ratio: 153.00%<br>Debt Index: 5.65%<br>Profit as a percentage of Turnover: +0.05%<br>ROE: +1.40% | ERREGI s.r.l. demonstrates a stable financial position with a positive cash flow and increased turnover. The liquidity indexes, Quick Ratio and Current Ratio, suggest acceptable liquidity to meet short-term obligations. However, the relatively high debt index indicates a substantial debt burden, impacting financial autonomy. |
| **DAILY S.R.L.** | Total Assets: €1,507K<br>Working Capital: €1,146K<br>Fixed Capital: €361K<br>Net Assets: €219K<br>Total Debts: €1,241K | Turnover: €4,727K<br>Profit: €41K | Quick Ratio: 94.00%<br>Current Ratio: 109.00%<br>Debt Index: 5.67%<br>Profit as a percentage of Turnover: +0.87%<br>ROE: +18.00% | DAILY s.r.l. displays robust financial performance with substantial growth in total assets and turnover. The liquidity indexes, Quick Ratio and Current Ratio, indicate satisfactory liquidity for meeting short-term obligations. However, the high debt index suggests a significant debt burden affecting financial autonomy. |
| **CARPE DIEM S.R.L.** | Total Assets: €725K<br>Working Capital: €709K<br>Fixed Capital: €16K<br>Net Assets: -€6K<br>Total Debts: €728K | Turnover: €4,786K<br>Loss: -€14K | Quick Ratio: 52%<br>Current Ratio: 110$<br>Debt Index: Not provided<br>Loss as a percentage of Turnover: -0.29% | CARPE DIEM s.r.l. experienced significant growth in turnover but incurred a loss, indicating potential operational challenges. The positive cash flow suggests effective cash management despite the loss. The liquidity indexes, Quick Ratio and Current Ratio, reflect a mixed financial position. While the company has sufficient short-term monetizable activities, attention to the limited Quick Ratio is crucial for short-term financial balance. |
| **BELDI' SRL** | Total Assets: €308k<br>Working Capital: €302k<br>Fixed Capital: €6k<br>Net Assets: €46k<br>Total Debts: €258k (short-term) | Turnover: €1,666k<br>Profit: €36k | Quick Ratio: 78%<br>Current Ratio: 117%<br>Debt Index: 5.61%<br>Profit as a percentage of Turnover: 2.16% | BELDÌ s.r.l. demonstrates a positive financial performance in FY 2022. The company achieved a healthy profit and generated positive cash flow. The liquidity indexes, Quick Ratio and Current Ratio, indicate good short-term financial health, with sufficient resources to meet current obligations. |
| **AURORA DISTRIBUZIONE S.R.L.** | Total Assets: €414K<br>Working Capital: €351K<br>Fixed Capital: €63K<br>Net Assets: €34K<br>Total Debts: €351K (64.67% short-term) | Turnover: €1,672K<br>Profit: €1K | Quick Ratio: 110.00%<br>Current Ratio: 154.00%<br>Debt Index: 10.32%<br>Profit as a percentage of Turnover: 0.06% | AURORA DISTRIBUZIONE s.r.l. experienced a significant increase in total assets, working capital, and turnover in FY 2022. However, the profit declined, and the ROE worsened, indicating challenges in maintaining profitability relative to the increased turnover. The positive cash flow and satisfactory liquidity ratios (Quick Ratio and Current Ratio) provide financial stability |

*Table 21. Recap (continues on the following page)*

| ITALY 2022 Financial Statement | Balance sheet | Income statment | Ratios | Comments |
|---|---|---|---|---|
| SIMIMARKET s.r.l. MILAN | Total Assets: €541K<br>Working Capital: €355K<br>Fixed Capital: €186K<br>Net Assets: €28K<br>Total Debts: €471K(61.57% short-term) | Turnover: €1,114K<br>Profit: €1K | Quick Ratio: 97.00%<br>Current Ratio: 122.00%<br>Debt Index: 16.82% | SIMIMARKET s.r.l. MILAN faced a substantial decrease in total assets, working capital, and turnover, indicating challenging market conditions. The high debt index raises concerns about heavy reliance on third-party capital. The company managed to improve profitability and ROE from the previous year but still lags behind alternative financial investments. Strategic efforts to reduce debt, enhance turnover, and optimize resources are crucial for sustained financial recovery. |
| BYMA s.r.l. MILAN | Total Assets: €1,058K<br>Working Capital: €881K<br>Fixed Capital: €177K<br>Net Assets: €83K<br>Total Debts: €700K(88.71% short-term) | Turnover: €3,909K<br>Loss: €94K | Current Ratio: 141.00%<br>Debt Index: 8.43%<br>Loss as a percentage of Turnover: -2.40% | BYMA s.r.l. MILAN faced challenges in FY 2022 with a considerable loss, negative cash flow, and decreased turnover. The increased total assets and working capital may not be translating into profitability, raising concerns about operational efficiency. The high debt index reflects heavy reliance on external capital, and the worsening ratio between third parties' capital and financial autonomy signals financial instability. |
| AMBROSINI FRESCHI s.r.l. BERGAMO | Total Assets: €17,615K<br>Working Capital: €13,597K<br>Fixed Capital: €4,018K<br>Net Assets: €2,825K<br>Total Debts: €14,453K (95.60% short-term) | Turnover: €43,313K<br>Loss: €153K | Quick Ratio: 56.00%<br>Current Ratio: 98.00%<br>Debt Index: 5.12%<br>Loss as a percentage of Turnover: -0.35% | AMBROSINI FRESCHI s.r.l. BERGAMO faced challenges in FY 2022 with a considerable loss, negative cash flow, and a decline in total assets. The decreased working capital and liquidity ratios indicate potential difficulties in meeting short-term obligations. The high debt index and short-term debts affecting turnover highlight financial strain and the need for effective debt management. The negative ROE reflects a worsening financial performance |
| ELSI 16 s.r.l. ROME | Total Assets: €1,456K<br>Working Capital: €1,169K<br>Fixed Capital: €287K<br>Net Assets: €182K<br>Total Debts: €1,252K (80.03% short-term) | Turnover: €6,603K<br>Loss: €1K | Quick Ratio: 81.00%<br>Current Ratio: 116.00%<br>Debt Index: 6.88%<br>Loss as a percentage of Turnover: -0.02% | ELSI 16 s.r.l. ROME faced challenges in FY 2022 with a notable decrease in total assets, a slight loss, and a decrease in profitability. The decrease in fixed capital and worsening ROE indicate potential financial strain. Despite positive cash flow, high short-term debts and a relatively high debt index signal the need for effective debt management. |
| FAMILY FOOD s.r.l. TURIN | Total Assets: €286K<br>Working Capital: €279K<br>Fixed Capital: €7K<br>Net Assets: €30K<br>Total Debts: €243K (97.94% short-term) | Turnover: €1,430K<br>Profit: €5K | Quick Ratio: 74.00%<br>Current Ratio: 117.00%<br>Debt Index: 8.10%<br>Profit as a percentage of Turnover: 0.35% | FAMILY FOOD s.r.l. TURIN exhibited a mixed financial performance in FY 2022. The moderate increase in total assets and positive cash flow are positive signs. However, the decrease in fixed capital and limited liquidity ratios raise concerns about short-term financial stability. The high short-term debts and debt index indicate heavy reliance on external capital, affecting financial autonomy. |
| ATHENA s.r.l. GENOA | Total Assets: €415K<br>Working Capital: €329K<br>Fixed Capital: €86K<br>Net Assets: €38K<br>Total Debts: €351K (All short-term) | Turnover: €2,325K<br>Loss: €10K | Quick Ratio: 54.00%<br>Current Ratio: 93.00%<br>Debt Index: 9.24%<br>Loss as a percentage of Turnover: -0.43%<br>ROE: -23.30% | ATHENA s.r.l. GENUA faced financial challenges in FY 2022, with a considerable increase in total assets but negative cash flow and a loss. The substantial rise in short-term debts and the debt index reflect a heavy reliance on external capital, contributing to poor financial autonomy. The negative cash flow and limited liquidity ratios (Quick Ratio and Current Ratio) raise concerns about the company's ability to meet short-term obligations. The worsening ROE and profitability underscore the need for strategic adjustments to enhance financial performance. |

*Table 21. Recap (end)*

According to Alicandro's opinion (section 3.3.1), capital budgeting processes and efficient application of the franchising model, in addition to advantageous circumstances, were responsible for Carrefour Toscana's success in Florence, which was largely due to the decision to include local historical businesses who were familiar with the ins and outs of the industry.

Subjects such as Carter srl, Porta al Prato Supermarkets SRL, Magu srl, Ginori 22 s.r.l., ERREGI s.r.l., DAILY s.r.l., CARPE DIEM s.r.l., BELDÌ s.r.l., and AURORA DISTRIBUZIONE s.r.l. display commendable financial acumen. Their ability to address short-term debt while sustaining positive cash flow and achieving solid profitability outlines strategic financial management.

Analyzing the adversities faced by SIMIMARKET s.r.l. MILAN, BYMA s.r.l. MILAN, AMBROSINI FRESCHI s.r.l. BERGAMO, ELSI 16 s.r.l. ROME, FAMILY FOOD s.r.l. TURIN, and ATHENA s.r.l. GENUA, it is clear that market conditions posed formidable obstacles to these firms, manifesting in declining assets, negative cash flows and losses. Dependence on external capital underlines financial strain.

This can be seen from the contrasting results of companies operating in the same sector, in franchising, but without this type of management.

### 3.7 Cash Flow analysis

For dealing with limited historical data, choosing the cash flow analysis approach might be a prudent decision for evaluating the returns on Carrefour's investment in the nine Tuscany-based businesses. In this specific scenario, the cash flow analysis strategy is superior to other traditional approaches based on several parameters, such as the Profitability Index (PI), Internal Rate of Return (IRR), Net Present Value (NPV), and Period Payback (PP). As it was explained in chapter 1.2, an effective technique for calculating the change in the value of a company from an investment is cash flow analysis, which takes into account both the overall cash flows deriving from operations, which are usually positive, and the cash flows deriving from investments, which they are often negative. Free cash flow is a crucial indicator of a company's operational health and development potential, as well as its ability to generate cash efficiently. It is the result of the meeting of different aspects. Carrefour's strategic investments in the franchising sector make this study more relevant, as the company's ability to achieve positive cash flows is a sign of its ability to grow successfully and sustainably.. The theory in chapter 1.3 suggests that the different analysis methods related to Capital Budgeting are limited and do not exactly describe the effect of the investment, and the decision whether one method is even preferable to another depends on the contextual cases. On the other hand, Cash flow analysis provides real-time information on a company's ability to generate positive value. This is particularly advantageous when historical data is limited or unavailable, allowing for a more up-to-date assessment of the impact of the investment. NPV, IRR and PI involve discounting future cash flows to the present value, which is largely based on historical data. The absence of pre-2013 and 2013-2019 data - due to the unavailability of data relating to the years prior to 2013 (purchase of the sales points in Tuscany), and the absence of the financial statements for later years in the management software of Cerved and Carrefour Italia (besides issues of confidentiality in the Contracts between Bacerfour and those firms) – may compromise the accuracy and reliability of these methods. Additionally, methods such as PI and IRR may not capture the nuances of cash flow dynamics as effectively as cash flow analysis, potentially providing a less detailed understanding of investment impact. In Tuscany business case scenario, to evaluate the effect of Carrefour's core business, i.e. the investment in franchising, we deemed as the wisest method that of carrying out an analysis of the balance sheet and income statement. In this way, an immediate "snapshot" of the companies is obtained. Subsequently, the free cash flow of individual companies is highlighted, which helps understand their historical trends (if available) to see if they are positive. Indeed, a positive free cash flow (FCF) is crucial for sustaining and expanding business operations. It provides the company with the financial flexibility to invest in strategic projects, and generates operational cash, contributing to the overall financial sustainability of the company. In order to measure the firm’s value, the analysis takes into consideration the sum between the total amount of cash flows from operating activity and cash flows from investing activities (negative). The cash flows from operating activities, expressed as a present value, corresponds to funds from operations minus changes in net working capital, which is the difference between current assets and current liabilities.

All the cash flows from asset sales, together with the expenditures associated with buying those assets, installing them, and disposing of them, must be considered when calculating the cash flow from investment operations. If the company decides to replace an existing asset, the cash flow generated from selling the old asset must be considered because it is related to the purchase of the new asset. It is the sum between net fixed and intangible assets and net investment in financial assets.

To conclude, all the nine companies taken into consideration present stable situations, looking at both the balance sheet and profits and losses situations. Furthermore, Carrefour has indicated its willingness to share data exclusively from the last year's financial statements for contractual reasons regarding the companies Porta al Prato srl, Magu srl, Ginori srl, Carpe diem srl and Beldi srl. Focusing on the FCF they generate, all companies present positive FCF, highlighting the company's ability to generate cash surplus after covering operating expenses and capital expenditures. Carrefour's ability to create liquidity and sustain healthy operations is demonstrated by the consistently positive cash flows found in a quantitative examination of the company's financial performance from 2020 to 2022, which had gone bankrupt in 2013. This trend of consistently positive cash flows over time demonstrates Carrefour's ability to develop strongly and sustainably in the franchising sector. The empirical evidence, therefore, confirms the positive impact of franchising as Carrefour's core business, in the implementation of franchising as a winning strategy in Tuscany.

With reference to the cash flow that we have calculated for the 2020-2022 years of the companies in Rome, Milan, Bergamo, Turin and Genoa, it is clear that there are different results compared to the business case of Tuscany.

FCFs of each company are computed and summarized in Table 23 below.

| TUSCANY | FREE CASH FLOW k€ 2020 | 2021 | 2022 |
|---|---|---|---|
| CARTER SRL | 247 | 259 | 244 |
| PORTA AL PRATO SUPERMERCATI SRL | / | / | 74 |
| MAGU' SRL | / | / | 39 |
| GINORI 22 S.R.L. | / | / | 54 |
| ERREGI S.R.L. | 42 | 32 | 23 |
| DAILY S.R.L. | 218 | 62 | 112 |
| CARPE DIEM S.R.L. | / | / | 16 |
| BELDI' SRL | / | / | 44 |
| AURORA DISTRIBUZIONE S.R.L. | 13 | 18 | 13 |
| **Total** | | | **619** |
| **Mean Value** | | | **68,78** |
| **ITALY** | **2020** | **2021** | **2022** |
| SIMIMARKET s.r.l. MILAN | 59 | 42 | 36 |
| BYMA s.r.l. MILAN | 148 | 55 | -40 |
| AMBROSINI FRESCHI s.r.l. BERGAMO | 130 | 19 | -58 |
| ELSI 16 s.r.l. ROME | 134 | 95 | 99 |
| FAMILY FOOD s.r.l. TURIN | 25 | 21 | 15 |
| ATHENA s.r.l. GENOA | 95 | 26 | -3 |
| **Total** | | | **49** |
| **Mean Value** | | | **8,17** |

*Table 22. Italian Firms' free cash-flows – own elaboration*

Cash Flows of Simimarket (Milan), Elsi 16 (Rome) and Family Food (Turin) are in line with those of the franchising collaborations in Tuscany mentioned in the previous sections of this chapter: the Cash Flows are positive, but the trend is not growing. Byma (Milan), Ambrosini Freschi (Bergamo) and Athena (Genoa), on the other hand, present very negative cash flow trends. In them, the management of neighborhood sales points creates little value, despite being located in very central and apparently favorable areas of the city. In the latter, Covid-19 probably had a much greater effect: the 2020 data are very important, compared to the closures of subsequent years. If we consider the arithmetic average of the cash flows of the sales points in Tuscany as the average of the Cash Flows,

the result is approximately €68.8k which, compared with the average value of the Cash flows of the other six companies representing the Italian market which corresponds to €8,2k is much higher.
It seems, therefore, that although Carrefour always uses this method, comparing the Cash Flows is complex, since each store has different characteristics related to management, costs, leasing, etc. The data we have here analysed suggest that Carrefour manages each investment in a franchise with the same methods applied to different contexts. Similarly, the process of monitoring and evaluating investments in Capital Budgeting theory depends on countless variables, as cited by Pasquale Alicandro in the Interview section.

# IV. Conclusion

This thesis conducts a thorough analysis that combines the strategic subtleties of franchising with the fundamental concepts of capital budgeting in the dynamic world of corporate finance.

One of the most important processes in financial decision-making is capital budgeting, which involves carefully assessing anticipated capital expenditures and gives businesses a road map for handling investments and returns over long periods of time. The main objective of this study was to identify possible overlap areas between the theoretical frameworks that control capital budgeting, which are defined by risk assessment, strategic adaptability, and quantitative analysis, and the unique operational dynamics associated with franchising. Understanding how franchising may be viewed as a strategic investment in the context of capital budgeting is the primary goal of the thesis. In actuality, this cooperative management agreement between the franchisor and the franchisee is similar to an investment in that it requires an initial capital movement in order to generate profits at the conclusion of the fiscal year that would allow the franchisee to recover the initial investment and maybe grow its value. Following the exposition of this theoretical framework, the last section of the thesis will go further, focusing on the Interview of Pasquale Alicandro and the Cash flow Analysis of nine companies involved in the strategic investment in Tuscany.

Pasquale Alicandro's interview served to present the modus operandi of a structured multinational that operates in the retail context. Carrefour's core business, as highlighted by Alicandro, is franchising and the evaluations of possible franchisors have been explained in paragraph 3.3. The focus on the behavioral biases that affected the evaluation of the possible results and the consequences of Carrefour's investment in the Tuscany case are valuable information that allow for greater knowledge of the Capital Budgeting process. As highlighted in the first chapter of the thesis, there is no method of evaluating strategic investments that is regarded to be better than another, because such evaluation depends on the contingency. In this case, having only the economic data for the financial years from 2020 to 2022 available, without being able to make assessments with pre-acquisition data (before the bankruptcy in 2013), the only usable model is the cash flow analysis, to avoid bias in the results. Furthermore, when examining the Free Cash Flow (FCF) generated by these nine companies, it becomes evident that they all have a positive

FCF, as reported in Table 21. This highlights the company's ability to produce a cash surplus after covering operating costs and capital expenditures. Quantitatively analyzing Carrefour's financial performance in Tuscany from 2020 to 2022, positive cash flows emerge. Compared with the results from the analysis of the sales points in Rome, Bergamo, Turin, Milan and Genoa reported in table 22, the FCFs of Tuscany are always higher than zero and they underline a positive trend. Alicandro's insights, as summarized in section 3.3.1 (see also the interview in the *Appendix*), shed light on the central role played by capital budgeting processes and the effective application of the franchising model in Carrefour's succesfull venture in Florence. The success achieved was not merely fortuitous but strategically orchestrated, characterized in particular by the inclusion of historic local businesses. This deliberate choice, which integrated people versed in the nuances of the industry, distinguished Carrefour from its counterparts within the same industry operating under different management structures. The mixed results of these companies in the franchising sector highlight the importance of strategic decision making, underlining that Carrefour's success in Florence was not based solely on market conditions but was closely linked to the effective deployment of capital and a judicious approach to franchising. model.

These results suggest that in the capital budgeting framework, the strategic investment in franchising for neighborhood stores in Tuscany was a success for the Carrefour Italia group.

## V. References


Alein, Alessandro. "Misurazione delle performance logistiche nella Grande Distribuzione Organizzata in Italia: il caso Carrefour." Open Access thesis of the Politecnico di Torino, Corso di laurea magistrale in Ingegneria Gestionale (2020). Available at: http://webthesis.biblio.polito.it/id/eprint/14078

Aliouche, E. Hachemi, and Udo Schlentrich. "Does franchising create value? An analysis of the financial performance of US public restaurant firms." *International journal of hospitality & tourism administration* 10.2 (2009): 93-108.

Andrews, William D. "A consumption-type or cash flow personal income tax." *Harvard Law Review* (1974): 1113-1188.

Baker, H. Kent, and Philip English. "Capital budgeting: an overview." *Capital Budgeting Valuation: Financial Analysis for Todays Investment Projects* (2011): 1-16.

Bečić, Edita and Lahovnik Matej . "Agency theory and franchising: a literature review." In: Kandžija, Vinko and Kumar, Andrej (eds.) *Economic Integrations, Competition and Cooperation*, University of Rijeka (2013), 258-267.

Beere, Rosalind. *Role of Franchising on Industry Evolution*. Palgrave Macmillan, 2017.

Beshel, Barbara. "An introduction to franchising." (2000).

Bibi, Lailo. *Effect of Overconfidence Bias on Investment Decisions: Mediating Role of Risk Perception and Moderating Role of Self-Attribution Bias and Illusion of Control*. Diss. CAPITAL UNIVERSITY, 2021.

Bierman Jr, Harold, and Seymour Smidt. The capital budgeting decision: economic analysis of investment projects. Routledge, 2012.

Biondi, Yuri, and Guiseppe Marzo. "Decision making using behavioral finance for capital budgeting." *Capital budgeting valuation: Financial analysis for today'sinvestment projects*(2011): 421-444.

Blair, Roger D., and Francine Lafontaine. The economics of franchising. Cambridge University Press, 2005.

Bodie, Zvi, Alex Kane, and Alan Marcus. *Ebook: Essentials of investments: Global edition*. McGraw Hill, 2013.

Brown, James R., and Chekitan S. Dev. "The franchisor—franchisee relationship: a key to franchise performance." *Cornell hotel and restaurant administration quarterly* 38.6 (1997): 30-38.

Caselli, Stefano, Gimede Gigante, and Andrea Tortoroglio. *Corporate and investment banking: a hands-on approach*. Bocconi University Press, 2021.

Chaoxin, Li. "The Research on Company's Investment: An Empirical Study of Marks & Spencer." (2012). IN: Duysters, Geert, de Hoyos, Arnoldo, and Kaminishi, Ken (eds), *Proceedings of the 9th International Conference on Innovation and Management* (2012) 1288-1292.

Damodaran, Aswath. *Applied corporate finance*. John Wiley & Sons, 2014.

Dean, Joel. Capital budgeting: top-management policy on plant, equipment, and product development. Columbia University Press, 1951.

De Bondt, Werner, Rosa M. Mayoral, and Eleuterio Vallelado. "Behavioral decision-making in finance: An overview and assessment of selected research." *Spanish Journal of Finance and Accounting/Revista Española de Financiación y Contabilidad* 42.157 (2013): 99-118.

Digan, Shaun Paul, et al. "The roles of knowledge and organizational form on opportunity evaluation." *Journal of Small Business Strategy (archive only)* 27.2 (2017): 65-89.

Evanschitzky, Heiner, et al. "How employer and employee satisfaction affect customer satisfaction: An application to franchise services." Journal of service research 14.2 (2011): 136-148.

Fabozzi, Frank J., and Pamela Peterson Drake. *Finance: capital markets, financial management, and investment management*. Vol. 178. John Wiley & Sons, 2009.

Fairchild, Richard. "Behavioral finance in a principal-agent model of capital budgeting." *Icfai Journal of Behavioral Finance* 2.1 (2005): 34-44.

Farragher, Edward J., Robert T. Kleiman, and Anandi P. Sahu. "Current capital investment practices." The Engineering Economist 44.2 (1999): 137-150.

Fratalocchi, Roberta. "Lo sviluppo del marketing relazionale nelle imprese della GDO: il caso Conad Adriatico." Politecnico delle Marche, Corso di laurea triennale in Economia e Commercio (2019). Available at: https://tesi.univpm.it/handle/20.500.12075/2203.

Gaul, Christine. "What makes a franchisee successful: attitudes and pre-requisites of profitable franchise partners." *International Business & Economics Research Journal (IBER)* 14.2 (2015): 387-394.

Gervais, Simon, James B. Heaton, and Terrance Odean. "Overconfidence, compensation contracts, and capital budgeting." The Journal of Finance 66.5 (2011): 1735-1777.

Graham, John R., and Campbell R. Harvey. "The theory and practice of corporate finance: Evidence from the field." *Journal of financial economics* 60.2-3 (2001): 187-243.

Guilloux, Veronique, et al. "How franchiser and franchisee relationships affect franchisees' satisfaction? The importance of fairness, communication and trust as ethical bases of relationship marketing." *International Journal of Entrepreneurship and Small Business* 6.1 (2008): 155-172.

Gurnani, Chandan. "Capital budgeting: theory and practice." *The Engineering Economist* 30.1 (1984): 19-46.

Haka, Susan F. "A review of the literature on capital budgeting and investment appraisal: Past, present, and future musings." *Handbooks of management accounting research* 2 (2006): 697-728.

Hall, John Henry. "Investigating aspects of the capital budgeting process used in the evaluation of investment projects." *South African Journal of Economic and Management Sciences* 3.3 (2000): 353-368.

Hamada, Robert S. "Portfolio analysis, market equilibrium and corporation finance." *The Journal of Finance* 24.1 (1969): 13-31.

Hameli, Kujtim. "A literature review of retailing sector and business retailing types." *ILIRIA International Review* 8.1 (2018): 67-87.

Harris, Milton, and Artur Raviv. "The capital budgeting process: Incentives and information." *The Journal of Finance* 51.4 (1996): 1139-1174.

Hillier, David, Iain Clacher, and Stephen Ross. *Fundamentals of corporate finance*. McGraw-Hill, 2017.

Imegi, John C., and Gladys A. Nwokoye. "The Effectiveness of capital budgeting techniques in evaluating projects' profitability." *African Research Review* 9.2 (2015): 166-188.

Kalkan, Yusuf. "An Overview of Capital Budgeting Methods." *New Frontiers in Social, Human and Administrative Sciences* (2023): 579-598.

Karanovic, Goran, Suzana Baresa, and Sinisa Bogdan. "Techniques for managing projects risk in capital budgeting process." *UTMS Journal of Economics* 1.2 (2010): 55-66.

Kaufmann, Patrick J., and Sevgin Eroglu. "Standardization and adaptation in business format franchising." *Journal of Business Venturing* 14.1 (1999): 69-85.

Klein, Benjamin. "The economics of franchise contracts." Journal of corporate finance 2.1-2 (1995): 9-37.

Kostritsa, Maria. *Applying investment appraisal techniques to assess profitability of franchise purchases as major capital budgeting expenditures*. BA thesis, Haaga-Helia University of Applied Sciences (2014).

Lavonen, Riikka. *Franchising as a potential growth strategy for a small enterprise*. MA thesis in Business Management, Mikkeli University of Applied sciences (2010).

Lee, Soo Bum. *An investigation of factors affecting the quality of the relationship between franchisee and franchisor and its impact of franchisee's performance, satisfaction, and commitment: A study of the restaurant franchise system*. Diss. Virginia Polytechnic Institute and State University, 1999.

Levy, Haim, and Marshall Sarnat. Capital investment and financial decisions. Pearson Education, 1994.

Lim, Steve C., Antonio J. Macias, and Thomas Moeller. "Intangible assets and capital structure." Journal of Banking & Finance 118 (2020): 105873.

Marshall, David H., Wayne W. McManus, and Daniel F. Viele. *Accounting: What the numbers mean*. McGraw-Hill, 2020.

McDermott, Martin J., and David Butler. "Applying Resource Scarcity Theory to Franchising: The Effect of Industry Choice and Age on Franchise Success and Satisfaction." *Small Business Institute Journal* 19.1 (2023): 14-24.

Meier, Iwan, and Vefa Tarhan. *Cash flow practices in capital budgeting decisions*. Working paper, 2009.

MLA Schönbohm, Avo, and Anastasia Zahn. Corporate capital budgeting: Success factors from a behavioral perspective. No. 21. Beiträge zur Controlling-Forschung, 2012.

Mukherjee, Tarun K., and Glenn V. Henderson. "The capital budgeting process: theory and practice." *Interfaces* 17.2 (1987): 78-90.

Myers, Stewart C. *Procedures for capital budgeting under uncertainty* (1967), Massachusset Institute of Technology.

Payne, J. D., Heath, W. C., & Gale, L. R.. Comparative financial practice in the US and Canada: Capital budgeting and risk assessment techniques. *Financial Practice and Education*, 9(1) (1999): 16–24.

Peterson, Pamela P., and Frank J. Fabozzi. *Capital budgeting: theory and practice*. Vol. 10. John Wiley & Sons, 2002.

Piana, Manuela. "Private label nella Gdo: il caso Coop Italia." Consumatori, diritti e mercato 1 (2009): 134-145

Prosad, Jaya M., Sujata Kapoor, and Jhumur Sengupta. "Theory of behavioral finance." *Handbook of research on behavioral finance and investment strategies: decision making in the financial industry*. IGI Global, 2015. 1-24.

Quinn, Barry, and Nicholas Alexander. "International retail franchising: a conceptual framework." *International journal of retail & distribution management* 30.5 (2002): 264-276.

Ren, Liqin, Guangya Xie, and Koos Krabbendam. "Sustainable competitive advantage and marketing innovation within firms: A pragmatic approach for Chinese firms." Management research review 33.1 (2009): 79-89.

Robichek, Alexander A., and James C. Van Horne. "Abandonment value and capital budgeting." *The Journal of Finance* 22.4 (1967): 577-589.

Rosado-Serrano, Alexander, and Antonio Navarro-García. "Alternative modes of entry in franchising." *Journal of Business Research* 157 (2023): 113599.

Saxena, Atul K. "Capital budgeting principles: bridging theory and practice." *Academy of Accounting and Financial Studies Journal* 19.3 (2015): 283.

Salar, Menekse, and Orkide Salar. "Determining pros and cons of franchising by using swot analysis." *Procedia-Social and Behavioral Sciences* 122 (2014): 515-519.

Schönbohm, Avo, and Anastasia Zahn. Corporate capital budgeting: Success factors from a behavioral perspective. No. 21. Beiträge zur Controlling-Forschung, 2012.

Sivakumar, A., and Schoormans, Jan PL. "Franchisee selection for social franchising success." *Journal of Nonprofit & Public Sector Marketing* 23.3 (2011): 213-225.

Sinclair, David R. "Capital budgeting decisions using the discounted cash flow method." *Canadian Journal of Anesthesia/Journal canadien d'anesthésie* 57 (2010): 704-705.

Sorescu, Alina, et al. "Innovations in retail business models." *Journal of retailing* 87 (2011): S3-S16.

Squarcina, Elisa. "GDO E OMNICANALITA': un'analisi dello stato dell'arte e del comportamento dei consumatori." Unpublished thesis of Ca Foscari, University of Venice, Corso di laurea magistrale in Marketing e Comunicazione (2020). Available at: http://hdl.handle.net/10579/17509

Steiss, Alan W. Strategic management for public and nonprofit organizations. Routledge, 2019.

Tsai-Yueh, Lien. *Discounted Cash Flow Valuation Of Domino's Pizza, Inc.* Ma In Management Dissertation, Mahidol University (2021).

Umma, Ianna, and R. R. Sri Handayani. "The Effect of Attribute Framing and Justification on Capital Budgeting Decisions." *Jema*16.2 (2019): 117-132.

Vergara-Fernández, Melissa , Heilmann, Conrad, Szymanowska, Marta, Describing model relations: The case of the capital asset pricing model (CAPM) family in financial economics, *Studies in History and Philosophy of Science,* 97, (2023), 91-100.

Viviano, Eliana. "L'affermarsi della grande distribuzione commerciale in Italia."(2014). Available at: https://www.bancaditalia.it/pubblicazioni/altri-atti-convegni/2014-concorrenza-mercato-crescita/VIVIANO_t.pdf

Welsh, Dianne HB, Ilan Alon, and Cecilia M. Falbe. "An examination of international retail franchising in emerging markets." *Journal of small Business management* 44.1 (2006): 130-149.

Wong, Yvonne, Rabeatul Husna Abdull Rahman, and Choi Sang Long. "Research Article Employee Job Satisfaction and Job Performance: A Case Study in a Franchised Retail-Chain Organization." *Research Journal of Applied Sciences, Engineering and Technology* 8.17 (2014): 1875-1883.

Yasotharalingam, Lingesiya. *Capital budgeting theory and practices*. Diss. Kingston University, 2016.

*Websites*

https://www.conad.it/

https://www.esselunga.it/cms/homepage.html

https://www.coop.it/

https://www.carrefour.com/en

https://www.carrefour.it

https://www.carrefour.com/en/group/history

https://www.cerved.com

# Appendix.

## An interview with Pasquale Alicandro

**Good morning Pasquale. Thank you for granting me this interview, which is useful for my Master's thesis in Finance: Franchising as an Investment Strategy in the Capital Budgeting Framework. I would first ask you to introduce yourself, to break the ice.**
**How did your experience at Carrefour Italy begin? What is your role and what are your main responsibilities?**

Good morning, Andrea. My name is Alicandro Pasquale and my experience at *Carrefour* began 32 years ago. I started with a part-time job of 20 hours and over the years I took on increasingly responsible roles, from store manager to fresh inspector to area manager. Since 2013, I have been Director of the Centre-North region at *Carrefour Italy*. As you can see, this was an important path that allowed me to gain a lot of experience in a retail shop and to radically understand its mechanisms. The chance to start from the bottom and get to my current role has given me a professional experience that other people could hardly get in other ways. If I had to summarise my role, I would say that I have commercial, administrative and reputational responsibility for the 200 or so retail shops, both direct and franchised, in the north central region, which includes Liguria and Tuscany.

**May I ask you to speak about franchising in Carrefour, please. Are there specific country peculiarities or do you think the franchise business model is the same wherever Carrefour operates?**

As reiterated by our President and CEO Alexandre Bompard, franchising is at the heart of *Carrefour Italy*'s strategy for the coming years.

Recently, this business geared up thanks to 'employee-entrepreneur' project, whereby the economic concessions granted by Carrefour have stimulated many employees to take the entrepreneurial route, going on to manage a direct point of sale on a company lease.
Business leasing means that the licence and equipment remain the property of *Carrefour*, while the management of the shop is entrusted to the entrepreneur.
In my opinion, this project has raised the quality level of our entrepreneurs because, coming from an important path within the retail shops, they have acquired all the entrepreneurial skills that they can use and improve in their future management.
In a direct shop, information comes top down. In a franchise business, on the other hand, many more elements are considered, such as the specifics of the territory and certain characteristics that only entrepreneurs who have direct contact with the customer can understand: There is a much greater interest in listening, because the best information comes from the network. Of course, this also happens in a direct business, but in franchising it is certainly a little stronger and more incisive.
As far as the differences between the countries are concerned, the franchise model is based on common foundations.
At *Carrefour Italy*, there are two forms of franchising: pure franchising and business leasing. In business leasing, as already explained, the licence and equipment remain with Carrefour, while in pure franchising the licence and equipment are the responsibility of the franchisees.
However, there is a certain 'promiscuity' in several countries around the world. In fact, there are realities in which both the characteristics of pure franchising and a significant involvement of the franchisor, typical of business leasing, coincide. *Conad*, to quote an Italian player, gains an advantage precisely through the presence just described.
*Carrefour* is certainly closer to the franchisees with its business leasing and its 'employee-entrepreneur' business. By implementing this mixed business, one would be able to monitor the slightly more critical situations, offering more guarantees and control to both the franchisee and the franchisor.

**In line with your role, what do you think the advantages and limitations of the franchise model for *Carrefour* are, compared to its competitors (*Conad*, *Esselunga*, *Coop*)?**

I believe that a globally recognised brand is a major advantage over the competition, and I would add that *Carrefour* is number one in the sector in terms of expertise and presence in the sector. The plus is the support you can give to the franchisee, creating the conditions for optimal work and facilitating the monitoring of the business relationship.
On the other hand, the rigour and excessive bureaucracy necessary to avoid problems for both the franchisee and the franchisor can also be perceived as a constraint. For example, if we want to buy a supermarket or a chain, a particularly careful due diligence is required, which is time-consuming and involves several functions. It is a very complex form of analysis and control that includes the tax part, the legal part and the human resource part. In this respect, competitors have historically been more agile. For example, in your own company you take the risk of making an investment, whereas with *Carrefour* you must be careful, both because of the complexity of the corporate structure and the implementation of the franchise, which requires careful analysis.
For this reason, it can often happen that some negotiations fail, even if they are interesting. There are different types of shops: the neighbourhood shop, the supermarket and the hypermarket. So, when you talk about competition, you need to be clear about the context you are in and what the goal is.
A neighbourhood shop, for example, cannot have the prices of a hypermarket. So when you mention other competitors in the sector such as *Conad*, *Esselunga* and *Coop* in comparison to *Carrefour*, you need to pay attention to the format, because it makes no sense to compare a hypermarket with a *Carrefour Express*, for example. To the customer, *Conad*, *Esselunga* and *Coop* are perceived in the same way as *Carrefour*, but, in reality, they are completely different shops. Of course, they are all city shops and therefore direct competitors, but the comparison would not be entirely fair because they are different companies.

**What are the criteria and processes guiding Carrefour in the selection of partners for new franchising opportunities?**

There are two cases: The first is when a new shop is opened from scratch, and the second is when a shop with a different brand is taken over.
When the decision is made to open a new shop, analyses are carried out to understand the potential of the location. This potential is measured in terms of the social fabric of the

location, to understand whether it is a poor or rich area, to understand how large the catchment area is within a certain radius and, of course, the presence of other competitors. In our company, we use a tool that, by entering all these parameters, gives an indication of what the turnover, EBIDTA and cash flow will be at that point in time.
The reliability of this tool is 60-70% of the time. Then history teaches us that there are 30% of cases that have deviated from the forecasts: I say this because it is always easy to talk only about successes, but it is also fair to consider the times when projects have not gone as we actually expected for many reasons.
The first step is to find out about the potential franchisee's activities to get a clear profile. So, when selecting franchisees, you must measure the commercial capacity of the franchisee, his willingness to walk the path together and, of course, you have to make sure of the moral control of the management company. On the other hand, if the franchisee comes from another business, s/he must be involved in a training plan that leads her/him to knowledge of the sector, because a certain level of experience in the sector is necessary to solve more complex situations. At this point, *Carrefour* defines a preliminary profit and loss statement, declined in all its facets, which serves as a guide.
The reference KPIs are turnover, labour costs and inventory discrepancy, for which constant monitoring takes place to be able to intervene and make corrections 'on the fly'.
To date, it is undoubtedly better to franchise than to open a new shop from scratch, because there are already old profit and loss accounts that can be used as a tool to assess in advance whether investing in a franchise shop with the Carrefour sign could be an effective strategy.

**If there is a discrepancy between the original plan and the profit and loss account at the end of the year, how does Carrefour intervene in the management of the relationship with the franchisee?**

It is not easy to answer this question, because the variables that influence a result that is below expectations can be manifold.
When we are dealing with an entrepreneur who adheres to the company's guidelines, who is prepared to challenge her/himself and shows a willingness to sacrifice her/himself when necessary, *Carrefour* fully supports the entrepreneur and tries to intervene to find a solution to the moment of difficulty.

The result of running a shop also depends on the relationship between franchisor and franchisee and the quality of management in difficult times. These two aspects depend very much on the selection process of the entrepreneurs and then on the monitoring.
It is in *Carrefour*'s interest that this relationship works well because the entrepreneur could manage more shops in the future to make money and thus increase *Carrefour*'s revenue. Fortunately, *Carrefour* has such a historical background that it is possible to develop clear business ideas according to the different situations and to have several concrete examples that can be used to solve the critical issues that often arise, which are essential to maintain the relationship with the franchisees and increase the likelihood of success and the creation of new businesses in the future.

**You directly followed the acquisition of the shops in Tuscany. Can you tell us the highlights and the reasons why *Carrefour* decided to make this investment?**

I always talk about it with great pleasure, because it was a good investment decision and I still say that now, about 10 years later. I became aware of the bankruptcy of a group that was mainly active in Tuscany rather by chance. I was working in Milan at the time and those were successful years for *Carrefour*, because at the time they were working a lot on the neighbourhood shop business, which was fantastic in Milan.
I had received this information and personally lobbied my boss to participate in the auction to acquire 19 shops in Tuscany, because I thought there were several features that were perfect for what we could do. I'm not going to lie to you, but my vision was somewhat influenced by the success of the shops in Milan, and I thought that we could replicate that success in Tuscany for a few reasons. Quite simply, entering a new region, the fact that many shops were in Florence, which is not only one of the most beautiful cities in Italy but also has the right characteristics for the neighbourhood shop business model, and many tourists who were certainly already familiar with Carrefour as a brand, were all features that convinced me.
Of course, we were supported by turnovers that were not far from a sustainable break-even even at the beginning, and so, with an enormous amount of work on the part of the entire Carrefour, it was decided to divide the shops between direct management and franchising. For the latter investment, we relied on historical entrepreneurs in the region with whom we perfectly matched our modus operandi. We achieved important results right from the start and we can still report this great success today.

**What do you expect from the situation in Tuscany in the future? Do you think this model can influence other investment decisions?**

In 2014-2015, Carrefour was one of the few players interested in neighbourhood shops, because until then people thought that the neighbourhood shop was going a bit the way of the old shop. You are very young and may not remember 'Mrs Maria's shop', which sold a bit of everything but then disappeared. Forty years ago it was common to find thegrocery shop under your house, a type of shops which then disappeared over the years, and for this reason the general idea was that with the advent of hypermarkets or supermarkets, the neighbourhood shop would also come to an end.

Being from Genoa, for example, I can tell you that there are no large spaces there due to the geographical nature of the town, so the neighbourhood shop was and still is 'the supermarket', and this it has always been the only option for us, but because nothing else was possible. After this experience, we decided to expand this business in Piedmont and Lombardy. We had enormous success and achieved positive results quickly, without any familiarisation period, because it was a business that other players were not interested in, and franchising made it possible to rely on entrepreneurs who perhaps knew the characteristics of the area and the needs of the customers better.

Today it is becoming increasingly difficult to repeat and replicate what we did then, because Covid-19 has given great value to neighbourhood shops, which have therefore experienced and are experiencing an important moment. From that moment on, the other players in large-scale distribution also began to think that proximity has an important value and great potential; therefore, today it is much more complicated than before to seize the opportunities for other such profitable investments from the beginning. Today, the shops in Tuscany have all switched to franchising and are still growing strongly; so my optimism at the time was, let us say, sensible in hindsight. Every year, the network in Tuscany grows by around ten branches. In my opinion, that's the best litmus test to say that we have done a good job and are continuing to do so.