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Leveraged Buyouts:

Notable Cases in the Italian Financial Distress Landscape

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Abstract

This master's degree thesis is aimed at investigating a notable financial technique in M&A operations, i.e., Leveraged Buyout. This kind of deals caught on in the USA in the 1980's, where they gained a bad reputation, due to the excessive debt used to finance the acquisition and the anecdotal greed that guided their sponsors, who were frequently more interested in asset stripping than in value creation for the overall entity. In recent years, the new legislation introduced to regulate these transactions and the consolidation of a less risky common *modus operandi* have allowed a conduct aimed at improving the acquired companies and reselling them for a profit, seeking, when possible, a win-win exit among all stakeholders, including employees, shareholders and creditors. However, the highly debt-financed nature of these deals still puts their business continuity at risk in some cases. This research identified 160 Italian LBO targets acquired and still participated by reputed Private Equity firms. Through an analytical selection process, three cases were brought to light, where the ongoing operational capacity appears uncertain. A clinical analysis of each of these companies was conducted to identify the causes of financial distress and potential ways out. As a final result, it can be asserted that the incompatibility of the level of debt contracted with (albeit not expected *ex ante*) *de facto* limited profitability and cash generation stands as a common and determining factor for distress.

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Introduction

The purpose of this paperwork is to investigate the relationship between private equity, leveraged buyouts (LBOs) and financial distress. Taking inspiration from the past literature produced on this topic, an empirical analysis is conducted on three selected LBO targets operating in Italy, to seek correspondences and divergences between theory, previous studies and the real cases identified.

A leveraged buyout is the takeover of a target company, usually public-to-private or private-to-private, using a limited amount of own funds and a large quantity of borrowed money. The assets of the investee are used to secure the contracted debt and meet its services. The sponsors of these operations are generally private equity firms, groups of expert professionals who create limited partnership funds to invest in different asset classes.

Leveraged buyouts caught on in the USA in the 1980's, even if the first case can be traced back to 1919, when Henry Ford took private Ford Motor Company buying the company's shares from the shareholders for 106 m$, of which 75 m$ was borrowed from a group of banks. During the 80's, the diffusion of high yield bonds and excessive speculation has led to a boom in LBOs, with extremely risky financing structures and overpriced deals. The most famous transaction in this period is the takeover of RJR Nabisco by the private equity fund KKR in 1989 for 31.1 billion $. While in the 1990's a more conservative approach was adopted, a second wave of LBOs has taken place in the 2000's, also known as "the age of mega-buyouts", which extinguished with the financial crisis in 2008. In recent years, state legislations have introduced new regulations concerning LBO transactions to prevent excessively opportunistic behaviors. This helped the arising of a modus operandi focused on value creation rather than asset stripping. Nonetheless, extremely low interest rates made up an incentive to increase leverage ratio in recent LBO deals which has led in the end to significant financial difficulties.

The initiation of this study was inspired by (Leveraged Buyouts and Financial Distress, 2019), a research paper analyzing 484 LBOs from 1980 to 2006. The main findings show an 18% higher probability for LBO targets to go bankrupt than non-LBO firms. The regression analysis reveals that this higher bankruptcy rate cannot be explained by macroeconomic or industry factors alone, while the highly leveraged capital structure results to be decisive in increased financial distress costs and bankruptcy risk, as suggested by corporate finance theory. Our study fits along this line but adopting a clinical method rather than a statistical approach. The research here is limited to Italian LBO targets which were taken over by worldwide private equity funds and they are still under their management. After a quick financial analysis of 160 portfolio companies and a selection process based on performance and financial metrics, such as revenues, Debt-to-Equity and Net Debt/EBITDA ratios, three cases were identified to be of significant interest for the purpose of this work: Celli S.p.A, La Galvanina S.p.A and Pibiplast S.p.A. Thereafter, a thorough analysis was conducted on each company's history, operations, strategy and financial statements to investigate the firm specific reasons behind the emergence of financial distress.

This research contributes to the wide literature on LBOs, focusing on financial distress determinants and how it is managed from private equity investors. The method adopted allows to link what corporate finance theory predicts to real cases, enriching the general understanding of these transactions by case specific items, and it provides exit solutions adopted by investors to cope with financial distress.

The first chapter of this paper provides a theoretical framework of LBO deals, how they are originated, financed, managed and exited. The second chapter, Literature Review, displays the main findings of previous studies on this subject, focusing on how debt is involved, what determines its level in the capital structure and how it affects financial performance. Papers investigating the management of financial distress by private equity groups are presented. In the third chapter, the method employed for this research is explained step-by-step. The fourth chapter is divided in three sections, each dedicated to a target company. The background of the firm and the PE are presented, and the financial statements are analyzed to assess the operating and financial actions undertaken by the management. The final chapter sums up the main results of the analysis work.

1. Theoretical Background

A Leveraged Buyout, or LBO, is defined as the acquisition of a company using a substantial portion of borrowed funds, i.e. debt, in addition to a relatively small portion of own equity. The assets of the acquired company are usually used to secure the involved debt and generate cashflows to meet its service obligation.

Depending on the bidder, Leveraged Buyouts can assume different acronyms:

- LMBO (Leveraged Management Buy-Out): the top management of the same target company takes the initiative to purchase it, using a combination of own funds and debt. They usually occur to take companies private, change operations and improve profitability.
- LMBI (Leveraged Management Buy-In): The management of an external company sets up the takeover of the target firm and substitutes the existing management team.
- BIMBO (Buy-In Management Buy-Out): this case is a combination of the two above, i.e. managers from outside and inside the target are the actors of the bid.
- EBO (Employees Buy-Out): the employees pool their resources to buy a majority share of the company they work for.

More commonly, the operation is initiated by a Private Equity firm, a group of investment professionals that leverage their expertise to acquire, manage and resell target companies. PE firms invest through funds, pools of capital with a fixed time horizon, from four up to ten years, and dedicated to specific asset strategies: Expansion, Buyouts, Turnaround, Growth….

PE funds are organized under the legal entity of Limited Liability Partnership (LLP), with two types of partners: General Partners, or GPs, and Limited Partners, or LPs. Limited Partners are the investors who put the largest percentage of the money in the fund (96-99%) and they are commonly high net worth individuals or financial institutions such as banks, insurance companies or pension funds. After committing their capital and signing the Limited Partnership Agreement (LPA), they have no right to intervene in the investment decisions nor any responsibility deriving from them. General Partners are normally represented by the PE firm itself and they are required to commit a minimum percentage to the fund's capital (1-4%). They are entitled to undertake investments that respect the Limited Partnership Agreement, and they take legal responsibility for their decisions.

Alignment of incentive between GPs and LPs is achieved through a well-structured remuneration system. LPs have priority in receiving the reimbursement of their invested capital plus a predetermined hurdle rate and 80% of the Exit proceeds. GPs receive a Management Fee of 1.5-2% of the committed capital or Assets Under Management (AUM), plus a Carried Interest of 20% of the Exit proceeds. The mechanism may differ depending on catch-up closes.

Given the financing structure of LBOs, relying in large part on debt, which involves periodic services in term of interest expenses and principal repayment, the target investees must satisfy certain criteria to allow a successful investment. Therefore, a strong cash generation capacity is fundamental alongside minimal Capex and Working Capital requirements. These characteristics can be achieved through large and recurring sales revenue, an efficient cost structure and a sustainable competitive advantage. Low debt in the pre-takeover capital structure is favorable since the acquisition itself needs to significantly increase leverage. To execute the post-buyout strategic plan, it is also required a strong and trustful management team. Foor these reasons, most of the target companies operate in mature industries, with non-cyclical revenues, low growth, prone to synergistic integrations and they are well-positioned to benefit from long-term industry trends.

The investment process of an LBO starts from the signing of an NDA with the potential target company to receive information on the business, the industry and the financials. Then the PE firm's investment team builds an LBO model, a business plan based on reasonable forecasts of the main financial parameters, which determines the right amount to pay for the deal and how to structure the financing, in order to credibly achieve target rate of return. If it emerges a possibility of value creation and capture, the process goes on with full due diligence, with the help of specialized consulting firms. The company's financial documents are analyzed to ensure they reflect the real economics of the business, contracts with third parties are reviewed to avoid any pending litigations and the tax position of the company is also checked. Thereafter the PE firm reaches out the market in search of debt financing from banks and private debt providers. Negotiations are carried out to achieve a final financing agreement. The last step involves the signing of a Sales and Purchase Agreement (SPA) with the vendors.

The acquisition process usually implies the creation of a Holding Company (HoldCo) or Special Purpose Vehicle (SPV). This company has the purpose to "gather" the financing sources, in term of debt provided by banks and equity provided by the PE firm, under a unique balance sheet and carry out the takeover of the target investee. The debt provided is indeed conditional on the execution of this operation and it is secured by the target's assets. Once the Vehicle Company purchases the target's equity, a forward or reverse merger occurs, depending on the State Law benefits, and the assets and liabilities of both companies end up under the surviving company's balance sheet, i.e. the target company.

The sources of financing of the operation include different forms of equity and debt in a variable proportion that may range from a more conservative structure of 40%-60% up to a riskier combination of 20%-80%, depending on firm specific factors and credit market conditions. Some of the most frequent debt facilities involved are:

- Senior Bank Debt: this is the most senior and the largest constituent of the capital structure of an LBO, and it is typically given on a long term maturity base, from 5 to 10 years. It is secured by the company's assets through a pledge on its Share Capital, therefore it has a low cost in terms of interest payments. The latter are typically structured as floating interest rates based on LIBOR plus premium bps. Nonetheless, Senior Bank Debt involves a series of stringent covenants and limitations, regarding raising additional debt, dividend payments to shareholders, and quarterly performance metrics. It is divided into a Term Loan A, an amortizing debt loan that involves periodic repayments of principal and interests, generally given at a lower interest rate, and Term Loan B, a bullet debt loan that involves only interest payments during the holding period, while the principal is repaid at maturity. It is given at a slightly higher interest rate.

The destination of use of this facility is in large part for the acquisition of target company, but a portion may be destined for refinancing of existing debt, transaction fees, capital expenditures or working capital needs.

- Revolving Credit Facility: it is a form of bank debt which allows the company to have access to a predetermined amount of cash each time it is necessary without formally reapplying for it. The company withdraws money up to the Revolver Limit and repays it when cash is available. It allows flexibility in case of liquidity needs fluctuations, but it entails two different costs: interest expenses, based on LIBOR plus a premium, and a fixed commitment fee.
- Subordinated Notes: it is a form of unsecured, junior debt, mostly raised in the private institutional market. It involves no amortization, but a bullet repayment at maturity, which goes generally from 8 to 10 years. Given its riskiness, it is characterized by high interest rates to compensate investors. Interests can be either paid in cash or paid in kind (PIK), thus increasing the face value of debt, or a combination of the two.
- Mezzanine: it is a hybrid form of financing between debt and equity. It ranks last in term of debt seniority; therefore, it entails higher interest payments, in cash or PIK. It is usually a bullet loan, but it includes a warrant, the so called "Equity Kicker", in the debtholder's hand, to convert the face value into equity shares at a predetermined price. It is used to achieve leverage levels that are not allowed just with bank debt, but it may cost, in addition to interest payments, also an equity dilution in case the warrant is exercised.

The use of a large quantity of debt in these acquisitions can be partially justified by its lower cost with respect to equity. Furthermore, the notable leverage effect boosts return on equity: using fewer own funds and more borrowed money, the proceeds at Exit allow to repay the initial debt, which should have been progressively reduced, and achieve a satisfying return on the capital invested. The metrics taken in consideration to measure this effect are:

$$Money - On - Money = \frac{Equity\ Out}{Equity\ In}$$

And

$$IRR = r\% \mid NPV = 0$$

PE investors usually target an IRR of at least 25%, to remunerate the different risks involved in the investment: risk of default, in case the company cannot meet its financials commitments, creditors have priority claim on its assets; operational risk, the business plan forecasts may differ from the realized values; risk of liquidity, since the investment cannot be monetized before at least 4-5 years. The realized return constitutes the reputational factor which allows the PE firm to initiate new funds and raise more capitals from investors. The key elements to succeed in this objective are EBITDA growth during the holding period, Net Debt reduction and Multiple Expansion.

There are different Exit Strategies PE investors pursue to monetize their investment:

- Secondary Buy-Out: this option has become the most popular in recent years, covering more than one third of PE exits in Europe. It entails the selling of the investee to another private equity firm. The valuation of the target company is crucial for the deal, and it is enhanced when more than one bidder is interested.
- Strategic Sale: the asset is sold to a Strategic Buyer, i.e. another company which is in the same or in a similar industry as the investee. It can be a lucrative option since the buyer identifies a strategic fit with its business and is willing to pay a premium for the synergies that arise from the acquisition.
- Initial Public Offering (IPO): this way entails the sale of the company's shares on the public market. It usually results in higher valuations and PE funds can maintain a minimum participation, benefiting from any post-IPO value increase. The auction-like process of public listing allows to potentially extract the maximum value from the investment, even if transaction costs involved are not negligible. Timing is particularly important in this case because market conditions can have a significant impact on valuation.
- Liquidation: when an investment does not go as planned, investors can decide, or may be forced, to liquidate and distribute the firm's assets. Usually, a fire sale occurs, and the cash generated is used to pay off the outstanding debts and liabilities. In case anything is left over, shareholders are remunerated pro quota.

2. Literature Review

This section is aimed to present the most relevant literature that has been produced regarding the theme of this paperwork, i.e., leveraged buyouts. Since the focus here is on companies that are coping with financial distress, previous research studies related to this subject will be introduced, and their main findings will be discussed. Financial distress is originated from two relatively independent factors, high debt level and low operating margins, which generally entail poor cash generation to meet debt services. Therefore, the first part is dedicated to how debt is involved in these kind of acquisitions, what determines its level and how it affects the company's performance. Thereafter, the relationship between Private Equity and the incurred financial distress by portfolio companies will be investigated, focusing on the tools that PE usually adopt to cope with such difficulties.

According to Modigliani-Miller's Theory of Perfect Markets, the way a firm is financed does not affect the cashflow it produces. In reality a series of frictions, such as interest tax benefits, agency costs and transaction costs, make the capital structure relevant for cashflow and firm value. The classical theory predicts that the optimal capital structure, and therefore the optimal leverage level, must be determined as the amount of debt that boosts firm value, i.e. it minimizes Financial Distress Costs (FDCs) and Agency Costs of Debt while maximizing debt benefits such as Interest Tax Shields (ITS). One of the first papers covering this topic in LBOs, (Agency Cost of Free Cash Flow, Corporate Finance, and Takeovers, 1986), fits along this line. It discusses the agency costs associated with free cash flow, i.e. cash flows above what is needed to fund all positive NPV projects. Managers, indeed, may have an incentive to waste this free cash flow on low-return projects rather than paying it out to shareholders ("Over-investment" and "Empire Building"). Debt can help reduce these agency costs by bonding managers' promise to pay out future cash flows, as missing debt payments allows debtholders to intervene in diverse ways, in extreme cases by taking over the company and substituting the management itself. Mature industries characterized by stable cash flows but limited growth, like oil, tobacco and broadcasting industry, are particularly prone to these agency problems. The paper argues that leveraged buyouts and takeovers in such industries can create value by conducting cuts in expansion programs, selling worthless divisions, forcing payouts and efficiency. The proceeds from these sales are then used to reduce debt to a more normal or permanent level. These features explain the high number of mergers and restructurings in declining industries.

Agency problems in leveraged buyouts are also analyzed, on a different stage, by (Why are Buyouts Levered? The Financial Structure of Private Equity Funds, 2009). Here the actors considered are at fund level, i.e. General Partners and Limited Partners. The providing of debt by LPs may be on a deal-by-deal basis or committted to a set of projects. In the second case, GPs are compensated based on the overall performance of the fund, so they have little incentive to undertake bad investments, unless no good projects are available. But from the research conducted by the authors, a mix of the two solutions results as the optimal choice: giving some capital ex-ante and add some ex-post, only in case discipline is shown.

Besides the positive effect of debt on governance and capital budgeting decisions, how much leverage to use is a much debated topic by academics and various factors are identified as debt level determinants. In (Leverage and pricing of debt in LBOs, 2011), pre-LBO profitability is found to have a significant impact on the leverage and pricing of debt in leveraged buyouts. Firms with higher profitability are more likely to take on higher levels of debt during LBO transactions. Additionally, also the pricing of debt in LBOs is influenced by pre-LBO profitability. The cost of debt, including the spread over the base rate, is affected by pre-LBO profitability, which may lead to more favorable debt pricing terms, reflecting the lower perceived risk associated with a profitable target firm.

But the amount of debt used in LBOs usually seems to go beyond what is necessary to reduce agency costs and discipline management’s opportunistic behavior. More frequently it reaches levels where it can put the company’s operating continuity at risk. It is thought that PE firms take advantage of an option-like payoff to over-lever their portfolio companies. In a research study entitled (Does Private Equity Over-Lever Portfolio Companies?, 2023), this doubt is answered in a surprising way. The Federal Reserve economist Sharjil M. Haque employs a structural model of optimal capital structure developed by Leland (1994) on a large sample of private equity-backed companies. This model is based on a trade-off between key parameters such as tax benefits of debt, asset volatility, the expected cost of financial distress and asset returns. The paper finds that post-buyout, companies experience a reduction in asset volatility, defined as standard deviation of historical returns data, and increase in asset return, consistent with lower expected financial distress costs. The mean estimated asset volatility declines from 0.303 pre-buyout to 0.203 post-buyout., while the median value reduces by almost 50%, going from 0.309 down to 0.177. When estimated on the sample of PE-backed companies considered, the model predicts higher optimal leverage ratios post-buyout that result close to actual observed leverage levels. The reduction in estimated asset volatility is a primary driver of the model predicting higher optimal leverage ratios post-buyout. Lower asset volatility reduces default probability and expected bankruptcy costs, allowing for more leverage. The paper also finds a marginal increase in estimated asset return post-buyout based on the data, though asset volatility reduction is the main factor in the model predicting higher optimal leverage post-buyout. Through counterfactual analysis, firms that maintain a post-acquisition leverage level below the optimal one face on average a 4% loss in their value. These results show that the high leverage brought by PE in LBOs is consistent with firm value maximization.

Nonetheless, several studies, such as *(Brinkhuis & Maeseneire, 2009)*, *(Demiroglu & James, 2010) and (Shivdasani & Wang, 2011)*, state that the classical endogenous factors, such as pre-LBO profitability and asset volatility considered above, are not suited to explain debt level in LBOs. They identify exogenous elements, like credit market conditions or PE group reputation as decisive components in how these acquisitions are financed and how much debt is used.

(Brinkhuis & Maeseneire, 2009) analyze a dataset of 126 European private equity-sponsored buyouts completed between June 2000 and June 2007 and compare the determinants of leverage in LBOs to those in public firms. The findings reveal that classical capital structure determinants, which drive leverage in public firms, do not explain leverage in LBOs. However, the study demonstrates that leverage levels in LBOs are influenced by the prevailing conditions in the debt market. Specifically, LBO leverage is higher when debt market liquidity is stronger, indicating that debt market conditions significantly impact the leverage decisions in LBOs. Moreover, the reputation of the private equity sponsor involved in the buyout is positively related to the

leverage, with buyouts involving reputable sponsors, top-50 size private equity funds, exhibiting higher leverage ratios. The analysis also shows that secondary LBO deals are associated with significantly higher leverage levels compared to primary deals.

Credit market conditions influence is investigated more in detail by *(Shivdasani & Wang, 2011)*. This research focuses on the relationship between securitization of bank debt, particularly issuance of collateralized debt obligations (CDOs), and the LBO boom of 2004-2007. The researchers found that banks actively involved in structured credit underwriting played a crucial role in providing financing for LBO transactions, indicating a linkage between the LBO and CDO markets through bank lending policies. The banks securitized corporate loans in CDOs allowing institutional investors to indirectly invest in LBO loans. Doing so they decreased capital requirements, since CDOs were not kept on the balance sheet but sold to a vehicle or a client, so they were able to lend more. Therefore, the growth in the CDOs market provided a source of funding for LBOs. LBO loans originated by major CDO underwriters were associated with lower spreads, weaker covenants, and a higher utilization of bank debt in deal financing. Despite these characteristics, the study did not find evidence suggesting that loans financed through the structured credit market resulted in worse LBO deals, overpayment, or riskier deal structures.

In (Borrow Cheap, Buy High? The Determinants of Leverage and Pricing in Buyouts, 2010), a linkage between credit market conditions and debt level in LBOs is once again identified. Furthermore, the easy access to credit is found to be responsible also for higher prices paid for acquisitions, for a waterfall effect where the more funding is available the more bidders are willing to pay. Indeed, the study based on a comprehensive analysis of over 1000 buyouts over nearly three decades, reveals that market interest rates play a crucial role in determining buyout pricing, with lower interest rates associated with higher pricing in buyout transactions. The analysis also uncovers a strong correlation between leverage levels and pricing multiples in buyouts over time, emphasizing the interconnected nature of these two factors. Overall, the paper underscores the importance of considering market conditions, interest rates, and common unobserved factors when analyzing the linkage between leverage and pricing in buyouts.

Relationship between leverage and pricing of buyouts is also investingated, from a different perspectiv by *(Jenkinson & Stucke, 2011)*. The focus here is on how the cashflows deriving from debt interest tax shield are discounted and included in the takeover premium, contributing to increase the buyout price. The document examines the largest 100 public-to-private leveraged buyouts that took place in the U.S. between 2003-2008. It analyzes how the anticipated tax savings from increased leverage in these LBOs relate to the takeover premium paid by private equity sponsors. Specifically, it compares the estimated Net Present Value (NPV) of incremental tax shields to the observed enterprise value and premium through a regression analysis. Results suggest that about half of the tax benefits were captured by target shareholders in the form of higher takeover premia. This findings look coherent assuming leverage is equally available to all bidders and sale is auction-like structured. Therefore, any attempts by policy makers to limit leverage or tax-deductibility of debt by law, a trend that has taken holden in many legislations in recent years, would only have an impact on existing shareholders and not on buyout sponsors.

A factor linking the leverage level in LBOs and financial distress management is the influence of PE firms as investors. Several studies, such as *(Demiroglu & James, 2010)*, *(Tykvová & Borell, 2012) and (Hotchkiss, Smith, & Strömberg, 2021)*, have investigated the role that PE's reputation plays in raising debt, in reducing information asymmetry with creditors and negotiating better conditions. In (The Role of Private Equity Group Reputation in LBO Financing, 2010), auhtors found that the reputation of the acquiring private equity group was potentially related to more favorable loan terms in several ways: 1) Buyouts sponsored by high reputation PE were found to have lower bank and institutional loan spreads, after controlling for other factors like target firm characteristics and credit market conditions. This suggests that PE reputation lowered perceived credit risk, 2) Loans sponsored by reputable PE were found to have longer maturities, suggesting PE reputation served as a substitute for bank monitoring and control, 3) Buyouts of reputable PE were financed with less traditional bank debt and more institutional loans. This is consistent with a reduction in the need for bank monitoring and control, 4) PE reputation was related to higher buyout leverage, nonetheless no direct relation between PE reputation and buyout valuations was found. Overall PE reputation has loosend constraints on debt, raising leverage levels with respect to non-PE backed LBOs.

The increase in leverage level is correlated, by different studies and theory itself, to higher financial distress costs, leading to a larger probability of default. The insipiring paper for this work, (Leveraged Buyouts and Financial Distress, 2019), confirms this theory. The document analyzes the long-term outcomes of 484 leveraged buyouts from 1980 to 2006. Using propensity score matching, the paper compares bankruptcy outcomes over 10 years for LBO target firms versus similar non-LBO control firms. It finds that the bankruptcy rate for the LBO sample is around 20% (92 out of 467 firms went bankrupt) over the 10-year period. In contrast, the bankruptcy rate for the control sample of non-LBO firms is only about 2% (11 out of 467 firms went bankrupt). This is an order of magnitude difference in bankruptcy rates between the LBO target firms and control firms over the 10-year period. Even after controlling for factors like firm size, leverage, profitability, investment intensity etc. using regression models, the LBO firms were found to be 18% more likely to go bankrupt than the control firms. This shows that the much higher bankruptcy rate for LBO firms cannot be explained by macroeconomic or industry factors alone, and rather points to the highly leveraged capital structure of LBOs increasing the financial distress costs and bankruptcy risk, as corporate finance theory predicts.

On the same line, *(Tykvová & Borell, 2012)* investigate bankruptcy rate of European buyout targets of private equity investors. The results show an increase in financial distress, but bankruptcy rates are not much affected: the reputation and expertise of PE results fundamental in mitigating the financial distress effect of high leverage. The study employs financial distress measures, like the Z-score, which indicate that buyout targets initially had lower distress levels compared to non-buyout firms. However, after the buyout transactions, the distress levels for the buyout targets increased significantly, while the distress levels for the non-buyout firms decreased as they grew older. Experienced PE investors were found to increase the distress risk in their portfolio companies more than inexperienced investors. However, they were also better able to manage these risks, ultimately decreasing the probability of bankruptcy compared to inexperienced investors. The study indicated that PE investors decreased the likelihood of bankruptcy relative to non-buyout control companies. This suggests that their expertise in managing risks and adding value to portfolio companies contributed to a lower probability of bankruptcy. They reduce bankruptcy likelyhood thanks to easier loan terms from financial institutions due to their reputation and past record. They have a higher stake of reputational capital to protect, which makes them more eager to avoid bankruptcies within their portfolio companies than inexperienced investors. They also have superior company selection abilities, identifying companies that are less likely to run into financial distress.

The positive effect of PE investors management of financial distress is highlighted also by (Private Equity and the Resolution of Financial Distress, 2021), emphasizing the ability of PE to quickly restructure companies and avoid liquidation. The paper shows that PE-backed firms are more likely to restructure out of court or through a pre-packaged bankruptcy filing, rather than a traditional Chapter 11 bankruptcy procedure. About 52% of PE-backed firms in the sample considered restructure out of court or through a pre-pack, compared to 36% of non-PE backed firms. They also resolve financial distress much more quickly on average. The median time to complete a restructuring is about 4 months faster for PE-backed firms. This is true both for out-of-court restructurings and filings under Chapter 11. Target companies are more likely to survive the restructuring process as an independent going concern, either through reorganization or sale to a financial buyer, reducing the probability of liquidation. Furthermore, the study links the faster resolution of distress for PE-backed companies to the propensity of PE sponsors to provide new capital to distressed portfolio companies. Specifically, PE-backed firms are 14,6 percentage points more likely to receive a capital injection prior to default than non-PE-backed firms. This propensity of PE sponsors to provide new capital to distressed portfolio companies is a significant factor contributing to the faster resolution of distress and a more successful restructuring.

The overall picture arising from the reaserch papers presented shows a clear link between LBO transactions and increased financial distress. The roots of such laison are found mainly in the level of debt incurred for the acquisitions. While theory suggests that capital structure should be designed in order to maximize firm's value, considering primarily firm specific factors, such as profitability, cash generation ability or volatility of sales , the drivers of this decision in LBOs seem to be different. In particular, debt market favourable conditions, PE reputation and their ability to better manage financial distress, providing own funds, are associated with higher debt levels.

3. Methodology

The purpose of this work is to investigate target companies of PE-backed LBOs which are currently in financial distress. The approach adopted involves a clinical method, i.e. a deep analysis of LBO firms' financial statements, in order to draw a wide picture of the different reasons causing a financially distressed situation and suggest possible solutions. The research was limited geographically to Italy and timewise from the acquisition year up to the last available financial documents, which in most cases refer to the accounting year 2022.

The work started from a mapping of the main PE firms that operate LBOs in Italy. Among the list presented on AIFI (Associazione Italiana del Private Equity, Venture Capital e Private Debt) website, the firms that include leveraged buyouts as asset class were selected. The list was integrated from articles by respectable economic journals such as IlSole24Ore and reported among references. Thus, a list of 28 PE firms that have operated LBOs in Italy in the last 5 years has been drawn.

The next step involved the extraction, from each PE firm's website, portfolio companies that were declared to be purchased with use of leverage. Here the selection entailed further research to understand how each deal was financed and if the investments were not exited yet. For the purpose of this work, only companies that are still under the participation of the PE funds are considered, to better understand the reasons that led to such situation and how PE could (or are already trying to) manage to solve it. A total of 160 assets were in line with these conditions (*Appendix A*).

Thereafter, this list was searched on AIDA (*Bureau Van Dijk Database*), a database of financial information for Italian private and public companies. The main financial data of the last available 4 years were extracted from each company's consolidated financial statements, including Revenues, Net Debt, EBITDA and Net Profit. Relevant ratios, such as Debt-to-Equity, Net Debt/EBITDA or Interest Coverage ratio were computed. The aim was to conduct a relatively quick financial analysis in order to identify the most suitable cases for the purpose of this work, i.e.

portfolio companies whose parameters show a considerable situation of financial distress. Before moving on to this, a minimum Turnover threshold was established, eliminating firms that used to make less than 30 m€ per year in revenues. Small companies would be of little concern for PE firms and the financial distress they may face would be easily solvable using own funds to recapitalize the investee. This first step produced a still large list of 110 companies.

The second step in the selection process was aimed to identify among this 110 companies those that show features of financial distress. Here focus is put on debt level in the capital structure and on firm's operating profitability measured by EBITDA. The ratio Net Debt/EBITDA is largely considered a good indicator for the company's ability to meet its debt obligations. It considers the total financial debt, net of cash availability, that the company has contracted, and it relates it to its operating margin, which is a good proxy for operating cashflows without taxes. The ratio can be interpreted as the number of years it would take the firm to repay its debt if it were to use all the cash generated from operations. Any value below 3.5 is considered acceptable and not of concern. Values above 6 signal a riskier position. By setting this value, for at least one of the last three years, the number of firms satisfying this criterion felt down to thirty companies, 27% of the last subsample (*Appendix B*).

Further consideration was done regarding the debt level in the capital structure. Beside the firms operating profitability and cash generation, which have a certain volatility depending on the industry and strategic positioning of the firm, the amount of debt contracted is a crucial factor in determining potential distress also in the future and it is a key peculiarity of leveraged buyouts by definition. Therefore, a third selection criterion was employed, setting a minimum debt percentage of 55% in the source of financing of the remaining firms. This is equivalent to a minimum Debt-to-Equity ratio of 1.2. Most of the firms in the last updated subsample were in line with this requirement, while only eight companies were excluded.

The final consideration regarded the ownership stake of the PE funds in those portfolio companies. Majority ownership was established as a further requirement for multiple reasons. The aim of this work is to investigate how the assets evolve after buyout and how PE funds manage them when they fall in a difficult financial situation. In this sense, the operating and strategic decisions are fundamental. A minority stake would leave less power or none at all in the hands of PE, which should not then be taken accountable for any resolution made by the controlling shareholders. Furthermore, a below 50% participation would create a source of inhomogeneity inside the sample, resulting in different considerations based on the participation stake of each PE fund. The final result of this selection produced a list of twelve assets *(Table 1)*, which satisfied all the requirements mentioned so far.

Table 1: Set of firms satisfying all requirements

Private Equity Firm	Portfolio Company	Revenue (m€)	Net Debt/EBITDA			
		Last Available	2022	2021	2020	2019
ARDIAN	ALGO S.P.A.	38,0	-	7,0	17,4	14,0
	CELLI S.P.A.	166,3	(12,1)	14,5	11,2	4,3
	JAKALA S.P.A.	434,3	4,8	10,1	2,2	3,1
BC PARTNERS	CIGIERRE S.P.A.	386,5	5,2	13,2	26,5	4,1
CVC CAPITAL PARTNERS	RGI SPA	112,9	-	5,8	14,4	5,6
GREEN ARROW CAPITAL SGR	TFM S.P.A.	69,5	4,1	4,7	8,7	5,5
H.I.G. EUROPE DGS	CADICAGROUP S.R.L.	105,7	3,0	3,0	7,0	6,8
INVESTINDUSTRIAL	EATALY S.P.A.	588,4	7,7	40,3	(3,9)	3,6
L CATTERTON	PIBIPLAST S.P.A.	66,6	16,1	62,0	28,3	6,7
MINDFUL CAPITAL PARTNERS	CROCI S.P.A.	31,9	14,1	5,5	2,1	3,6
RIVERSIDE	LA GALVANINA S.P.A.	75,9	57,2	6,4	6,7	34,7
WISE EQUITY SGR	WAYCAP S.P.A.	36,6	2,7	3,0	6,5	3,1

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Nonetheless, this set of companies included cases that showed a partial recovery from a previously disastrous situation. Considering as a key metric Net Debt/EBITDA, companies like Jakala S.p.A., Cigierre S.p.A., RGI S.p.A., TFM Automotive & Industry S.p.A., CadicaGroup S.r.l., Waycap S.p.A., passed from values above 10x in at least one of the last 4 years to a value below 6x in the last accounting period. Therefore, the “switch on” of this parameter on these firms was considered mostly due to an exception in one or more periods, which is not coherent with a consistent and lasting situation of financial distress. For this reason, they were not considered in line with the overall purpose of this research.

The case of Eataly S.p.A. was excluded due to the nature of debt in its capital structure. The company, under the guidance of previous shareholders, started a worldwide expansion plan mostly financed with debt. Therefore, the acquisition by Investindustrial was not per se the main source of leverage, if not for the refinancing of the pre-existing debt.

Furthermore, it is noticed that Algo S.p.A. and Croci S.p.A. barely exceed the minimum turnover requirement of 30 m€ set up above, with the first reaching 38 m€ (2021) and the last making 31 m€ (2022). For the same reasons mentioned when this criterion was introduced, these assets were ruled out.

Finally, the remaining assets were Celli S.p.A., La Galvanina S.p.A. and Pibiplast S.p.A. The selection process is not unique, and a variation of the adopted criteria may have led to a completely different set of cases. Moreover, a selection bias may have been risen from the nature of the approach a priori established for studying the LBO targets. A clinical method, unlike pure statistical research, involves a deep analysis into the financial statements and reports of each company, which cannot be done on an excessively large number of cases.

In the following chapters, each of these companies will receive a dedicated section describing the firm's history, operations, products and strategy. The acquiring PE firm will be introduced to have a better view of its previous investments and how the target company in consideration fits within its asset strategies. Afterwards a thorough review of the deposited financial statements of each portfolio company is conducted, starting from the year preceding the takeover up to the last available documents. The main objective is to highlight the factors that led these assets into a financially distressed position and suggest possible revitalizing actions.

4. Analysis and Discussion: Case Studies

4.1. CELLI S.P.A

4.1.1. Company Overview

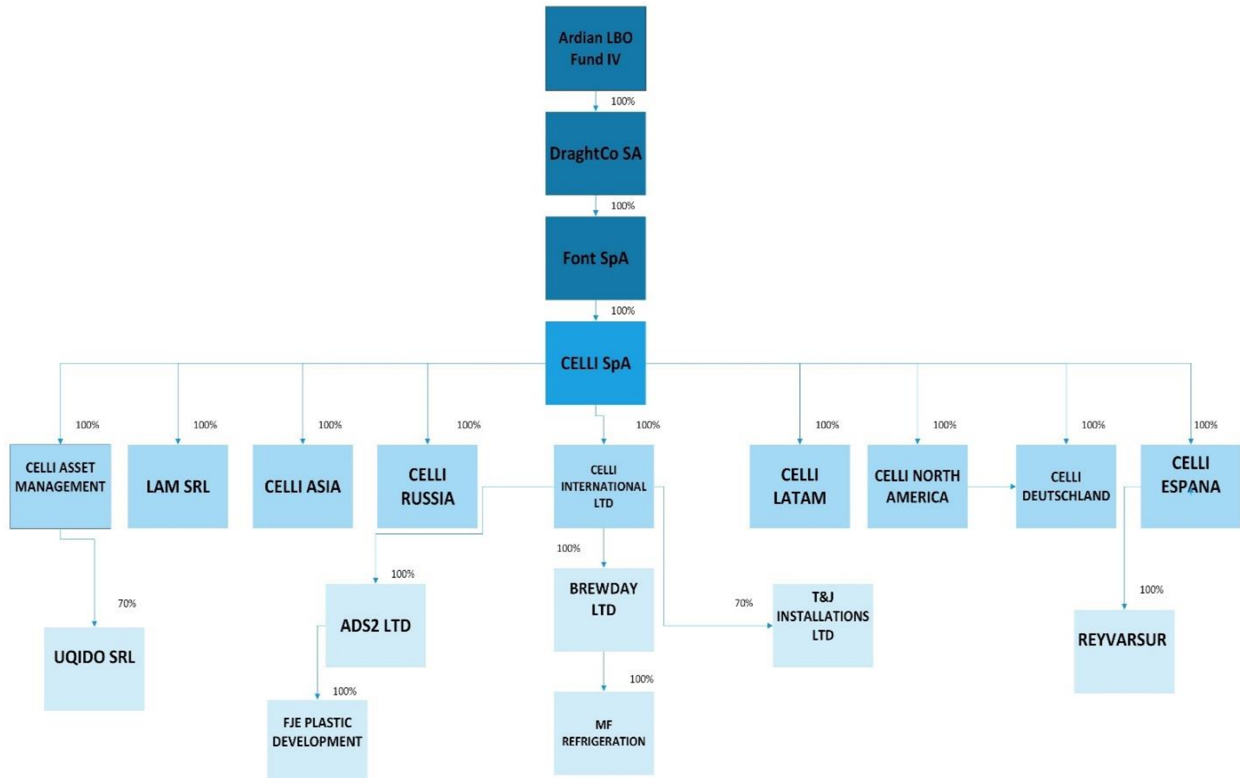
CELLI S.p.A was founded in 1974 in Rimini, by Mr. Goffredo Celli, under the name of Frigotecnica Celli S.p.A. It was specialized in beverage spilling and cooling. Even if the region in which it is located, Emilia-Romagna, is well known for its wine industry, the great demand for draught beer by tourists rose the idea to build and commercialize machineries for beer dispensing. The Italian reference market, though, was too small for a business to develop properly, therefore the company, since its beginnings, tried to target wider and global markets, arriving to the point of making 70% of its revenue abroad and reaching a strong position both in Asia and South America. In 2009, the company moved its headquarters in its current location, San Giovanni in Marignano.

In 2013, the private equity fund Consilium SGR took control of the company, acquiring 70% of shares, while the Celli family kept the remaining 30%. Under the management of Consilium, the company conducted several strategic acquisitions in Italy and abroad, with the aim to consolidate its national leadership and expand in Europe. In 2015, they acquired the English firm ADS2 (Applied Design Solutions), specialized in the design of beer dispensing equipment, merchandising and branding solutions. This allowed the company to become a key player in industry for the largest brewing companies, like Heineken, AB InBev and SABMiller. In 2016, Celli acquired Cosmetal, an Italian manufacturer of drinking water dispensing machines, water coolers and other drinking solutions, with a turnover of 13,5 m€ in 2015, mostly realized abroad. In 2017, through ADS2 Holding Limited, they took control of Angram Ltd, a Yorkshire company active in the production of systems for the traditional pump dispensing of beer. In 2018, it was the time of FJE Plastic Development Ltd, a British family business specialized in plastic molding injection, a key process in the production of components for dispensing equipment. Thanks to these acquisitions *(Figure 1)*, the Celli Group succeeded in reaching a consolidated turnover of more than 100 m€ already in 2017.

In 2019, Ardian, a French world-leading private investment firm, announced a binding agreement for the acquisition of 100 % of shares of Celli Group. The top management of Celli reinvested alongside the private equity firm. The terms of the transaction were not disclosed, but according to some estimates (BeBeez), the company was valued around 200 m€, having closed the 2018 accounting period with an EBITDA of 11 m€. Ardian was advised by Mediobanca in the acquisition, by BCG for the commercial due diligence and by KPMG for the financial due diligence.

Under the control of Ardian, the group kept its expansion through strategic acquisitions: in the same year they announced the takeover of MF Refrigeration, the main manufacturer of refrigeration systems for draft beer in the UK market. The company operated with two manufacturing plants for a total production capacity of 20 000 coolers per year. In 2022, they bought 100 % of the capital of Reyvarsur, a Spanish family business specialized in the design and manufacturing of beverage dispensing equipment, components and accessories. In the same year they announced the acquisition of 70 % of the capital of Uqido, an Italian ICT company, specialized in Extended Reality, Artificial Intelligence, Internet of Things and ERP.

Figure 1: Graphical representation of the CELLI Group



Since its beginning, the company was driven by two factors in its business decisions, technological innovation and environmental impact. The group provides beverage dispensing solutions that are by definition environment-friendly, since they cut the use of plastic packaging, and they reduce transportation and distribution costs. Furthermore, they have focused on the development of sustainable materials for the components of equipment, prioritizing ecological refrigerant gases, such as R290, energy saving systems and materials from circular economy.

To keep up with technological progress, Celli constantly invested in research and development and partnered with academic and research institutions, and IT companies. The commitment to R&D has led to increasingly efficient and performing products and has produced more than 30 patents in the last 20 years, which allowed the group to hold a relevant competitive advantage in its market. Collaborations with global digital players, such as PTC, have fostered the development of IoT solutions for better management of machines. In particular the company developed an IoT platform, IntelliDraught Telemetry system, that can be connected to all its dispensers. Thus, clients have always real time control over their products, monitoring their status, preventing and quickly reporting malfunctions, promptly providing maintenance services, collecting data about products consumption levels and enhancing marketing initiatives.

The beer dispensing experience is regarded as an art, therefore besides technical functions, external design is a key differentiation factor. The best international designers are indeed employed to create sophisticated products, that become icons of style and allow the company brand to stand out.

The Celli group today provides end-to-end solutions taking care of the whole process for their clients and customizing their products with the required features. They are able to do so thanks to an international vertical integration they have achieved in the last years, acquiring top companies in their sectors and filling strategic gaps in the supply chain, including Design, Manufacturing, Commercial and Customer services.

4.1.2. Ardian and the Transaction Deal

Ardian was founded in 1996 by Dominique Senequier in France, as a private equity arm for AXA. In 2013 AXA Private Equity become a totally independent company, mostly owned by its employees, under the name of Ardian. Their talented team allowed the private equity house to become nowadays a leader in Europe and globally.

Since its foundation, the firm was characterized by its international approach to investments, starting from New York and London, and expanding its offices in the most important European financial centers, such as Frankfurt, Madrid, Milan and Zurich. In Asia the firm is present in Beijing, Seoul and Tokyo, and with a new office in Abu Dhabi. Today it counts 19 offices worldwide, more than 1000 employees and 160 billion $ of assets under management or advised (Figure 2). The group investment activities can be gathered into three broad categories: Private Equity (119 billion $), Real Assets (31 billion $) and Credit (10 billion $).

The Private Equity asset class includes Secondaries and Primaries, Expansion, Buyout and Growth investments. The team takes direct ownership stakes in entrepreneurial companies on behalf of their clients or in funds managed by other sponsors. Leveraging their operational and financial expertise, they help portfolio targets to achieve durable value creation, accelerate their growth, expand internationally and include ESG in their investment approach. The Secondaries and Primaries platform is the biggest player in the global secondary market, with more than 91 billion $ under management or advised. It acquires stakes in infrastructure funds and private equity funds from institutional investors before they reach maturity and provides them with a wide network for fundraising. The Growth team look for promising and profitable companies in Europe, that have potential for value chain disruption and digital transformation.

The Real Asset class includes Infrastructure, with an experience of more than 15 years in Europe and Americas, Real estate, where Ardian is a Leading European player, with office properties in major cities, and Real Assets Debt, where they provide loans to fund projects particularly attentive to climate transition.

Figure 2: Ardian's AUM growth

Source: Ardian Corporate Brochure (Updated to 2022)

The Credit Asset class includes private credit and NAV financing. The group provides small and medium size companies with non-bank credit to finance buyouts and add-on acquisitions. They are among European leaders in providing Unitranche facilities that combine senior and junior debt in a single package. Furthermore, Ardian's fifth private debt fund is certified by EU for ESG regulation, implying it has to incorporate specific ESG factors into each process of the investment and include ESG ratchet that reduces interest rates for borrowers when these criteria are met.

Ardian arrived in Italy between 2007 and 2008, and it started its operations guided by its diversified nature, investing more than 3 billion $ in over 30 operations, in different sectors, including healthcare, chemistry, real estate and infrastructure, and in companies of all size. The diversification approach allowed the fund to reach the same weight for each asset class within their portfolio.

The buyout activity in Italy is led by Mr. Nicolò Saidelli and Mr. Yann Chareton and the companies currently hold in the portfolio are Jakala, Celli group, Neopharmed Gentili and Dedalus. The last takeover occurred in January 2022, when the group announced the acquisition of a majority stake in Biofarma from White Bridge Investments. The company is specialized in the development, production and packaging of food supplements, medical devices and cosmetics. The founding family reinvested alongside Ardian. Biofarma has become a leader in Europe, in its reference market, through an intensive M&A activity which aggregated complementary companies and allowed the firm to reach over 230 million in turnover. The Ardian approach to buyouts is to invest alongside the entrepreneur itself in a sort of partnership that can benefit the company from talent and creativity and help it in its growth.

In the infrastructure sector in Italy, Ardian counts names such as 2i Aeroporti, Autovia Padana, Tolve Windfarms, 3New, Inwit and Astm. The latter was acquired in February 2021, when Ardian and the Galvio family launched a takeover bid for the company listed on Piazza Affari. The declared aim was to delist the motorway infrastructure group to carry out a reorganization of the company.

The Expansion segment portfolio in Italy includes Corob, a company acquired in 2018 from Wise Equity, specialized in dosing and dispensing solutions for the chemical industry, F2A, specialized in outsourcing solutions and Assist Digital, which provides digital services and CRM technology.

The buyout of Celli was carried out on 27 March 2019. As reported on the *Notes to the 2019 Consolidated Financial Statements*, all of the company's share capital was acquired by a Special Purpose Vehicle Font BidCo S.p.A, controlled by Font Holding S.p.A, which in turn was controlled by DraughtCo S.A., a company under Luxembourg law, indirectly and wholly owned by the Ardian LBO Fund VI B, SLP S.A., managed by Ardian France S.A.

The purchase of the entire share capital was carried out using own means and via a credit line of acquisition finance, reported as Senior Facility Loan. This is a medium-long term financing contract that provided liquidity both for the acquisition of the share capital, the charges related to the acquisition, the financing of current needs of the Group and refinancing of debt positions. It was subscribed by Font BidCo S.p.A with a pool of Financing Banks: Banca IFIS S.p.A., BNP Paribas, Natixis SA, Crédit Agricole Corporate and Investment Bank, Mediobanca S.p.A. and UniCredit S.p.A., which also acted as Agent Bank. The total amount of the loan was 100 m€, of which 75 m€ as a bullet credit line (divided into two tranches) and the remaining 25 m€ as a revolving credit line. The Senior Facility Loan was subject to compliance with specific covenants on financial parameters, and to specific guarantees which entailed, among other things, the pledging of the shares corresponding to the entire amount of share capital held in Celli S.p.A. in favor of the Financing Banks.

In November of the same year the operation was concluded through a reverse merger by incorporation of Font BidCo S.p.A in Celli S.p.A, thus concentrating in a single legal entity both the debt positions originated from the acquisition and the cashflows that will be necessary for their repayment.

4.1.3. Financial Analysis

The aim of this section is to investigate the determinants of financial distress of the company, starting from the *Financial Statements* of the year 2018 up to the last deposited reports in 2021, available on *Bureau Van Dijk Database (AIDA).*

A wide overview of the financials is given to allow the reader to understand the operations, the change in management approach after the acquisition and the strategy of the Group.

A reclassification, based on a business analyst perspective, of the Balance sheet (*Table 1*), the Income Statement (*Table 2*) and the Cashflow Statement (*Table 3*) was made in order to facilitate the reading and understanding of the main items. The most important financial ratios are also reported (*Table 4*).

The analysis is carried out on relevant Financial Statement items which are considered to be representative of the management performance of the firm since its acquisition by the fund and that were highlighted in the *Notes to the Consolidated Balance Sheet* produced by the company.

Finally, a comment on the reasons that are responsible for the current situation of the firm and possible resolving actions are provided.

Table 2: Reclassified Balance Sheet of Celli S.p.A

Reclassified Balance Sheet	2017	2018	2019	2020	2021	2022
€m						
Property, plant & equipment	2,7	3,6	5,2	7,2	8,6	9,4
Intangible assets	27,3	26,1	169,5	180,4	186,6	141,1
Financial assets	0,1	0,1	0,1	0,3	0,4	0,5
Fixed assets	**30,1**	**29,7**	**174,8**	**187,9**	**195,6**	**150,9**
Inventory	17,8	20,7	22,9	28,0	41,1	40,5
Receivables	27,6	32,6	34,8	24,5	32,6	35,8
Payables	(21,1)	(22,5)	(27,2)	(24,5)	(36,4)	(39,4)
Pre-payments	(0,0)	(0,1)	(0,1)	(0,1)	(0,1)	(0,7)
Operating working capital	**24,2**	**30,8**	**30,5**	**27,9**	**37,3**	**36,1**
Other assets	1,9	2,7	5,4	6,2	9,4	17,4
Other liabilities	(5,7)	(5,4)	(6,4)	(5,3)	(6,6)	(14,9)
Other current assets / (liabilities)	**(3,7)**	**(2,6)**	**(1,0)**	**1,0**	**2,8**	**2,4**
Net working capital	**20,5**	**28,2**	**29,5**	**28,9**	**40,1**	**38,5**
Severance pay fund	(1,6)	(1,6)	(1,9)	(1,7)	(2,0)	(2,9)
Other funds	(0,5)	(1,0)	(0,2)	(1,0)	(5,8)	(5,7)
Other non current assets / (liabilities)	(0,5)	(0,1)	0,5	(0,3)	0,0	0,3
Total other non current	**(2,5)**	**(2,7)**	**(1,6)**	**(3,0)**	**(7,7)**	**(8,4)**
Net invested capital	48,1	55,3	202,7	213,8	228,0	181,1
Cash	6,1	4,2	13,8	24,5	13,3	18,3
Bank debt (<12 months)	(16,7)	(40,2)	(77,7)	(6,1)	(9,8)	(9,8)
Bank debt (>12 months)	(21,1)	-	(7,8)	(97,1)	(101,9)	(105,2)
Other debt (<12 months)	(0,1)	(4,0)	(0,5)	(0,2)	(0,1)	(2,3)
Other debt(>12 months)	(2,9)	(0,5)	(0,4)	(0,2)	-	-
Net Debt	(34,7)	(40,5)	(72,6)	(79,2)	(98,6)	(99,1)
NetDebt/EBITDA	2,7	3,4	4,2	11,2	14,5	(12,1)
Equity (including shareholders' loan)	(13,3)	(14,7)	(130,1)	(134,6)	(129,4)	(82,0)
Total sources	(48,1)	(55,3)	(202,7)	(213,8)	(228,0)	(181,1)

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Table 3: Profit and Loss of Celli S.p.A

Profit & Loss	2017	2018	2019	2020	2021	2022
€m						
Value of production	**104,6**	**110,4**	**124,8**	**107,7**	**132,6**	**167,6**
Raw materials	(50,9)	(54,3)	(59,2)	(49,1)	(66,4)	(92,9)
First margin	**53,6**	**56,1**	**65,6**	**58,5**	**66,2**	**74,8**
Personnel	(17,4)	(20,3)	(22,3)	(26,2)	(31,2)	(43,3)
Services	(22,7)	(23,1)	(25,1)	(24,1)	(26,4)	(36,8)
Other costs	(0,5)	(0,9)	(1,0)	(1,1)	(1,8)	(2,9)
EBITDA	**13,1**	**11,8**	**17,2**	**7,1**	**6,8**	**(8,2)**
Impairment losses on receivables	(0,0)	(0,0)	(0,0)	(0,0)	(0,0)	(0,9)
EBITDA Adj	**13,1**	**11,8**	**17,2**	**7,1**	**6,8**	**(9,1)**
D&A	(5,9)	(6,1)	(19,0)	(5,1)	(3,7)	(58,7)
EBIT	**7,2**	**5,7**	**(1,8)**	**1,9**	**3,1**	**(67,8)**
Provisions	(0,3)	(0,8)	(0,2)	(0,0)	-	-
Financial income	0,0	0,0	0,0	0,0	0,0	0,1
Financial expenses	(1,1)	(1,0)	(4,0)	(5,0)	(5,1)	(5,8)
Net income / (loss) on exchange rates	(0,5)	(0,3)	0,2	(1,0)	1,0	(0,1)
Capital gains / (write downs)	-	-	-	-	-	(0,0)
Extraordinary income / (costs)	0,0	0,0	-	(0,0)	-	-
EBT	**5,4**	**3,6**	**(5,7)**	**(4,0)**	**(1,0)**	**(73,7)**
Taxes	(2,5)	(2,2)	(2,7)	(1,5)	(1,9)	(0,4)
Net Profit	**2,9**	**1,4**	**(8,4)**	**(5,5)**	**(2,9)**	**(74,1)**

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Table 4: Reclassified Cashflow Statement of Celli S.p.A

Cash Flow (Indirect Method)	2018	2019	2020	2021	2022
€m					
EBITDA Adj	**11,8**	**17,2**	**7,1**	**6,8**	**(9,1)**
Taxes	(2,2)	(2,7)	(1,5)	(1,9)	(0,4)
Delta inventory	(3,0)	(2,1)	(5,1)	(13,1)	0,6
Delta receivables	(5,0)	(2,2)	10,3	(8,1)	(3,2)
Delta payables	1,4	4,7	(2,6)	11,9	3,0
Delta pre-payments	0,0	(0,0)	0,0	(0,0)	0,7
Delta Net Working Capital	**(6,6)**	**0,3**	**2,6**	**(9,4)**	**1,1**
Delta other current assets / liabilities	(1,1)	(1,6)	(2,0)	(1,8)	0,4
Provisions	(0,8)	(0,2)	(0,0)	-	-
Operating Cash Flow	**1,1**	**13,0**	**6,2**	**(6,4)**	**(8,0)**
Net Capex (tangible assets)	(6,9)	(20,7)	(7,2)	(5,1)	(59,5)
Delta other non current assets / liabilities	1,4	(144,5)	(9,6)	(1,6)	46,1
Extraordinary Items	0,0	-	(0,0)	-	-
Cash available for debt service (FCFF)	**(4,5)**	**(152,2)**	**(10,6)**	**(13,1)**	**(21,4)**
Delta bank debt	2,3	45,4	17,7	8,5	3,3
Delta other debt	1,6	(3,7)	(0,4)	(0,3)	2,2
Net financial gain / (expense)	(1,3)	(3,7)	(6,0)	(4,1)	(5,9)
Free Cash Flow to Equity	**(1,9)**	**(114,2)**	**0,7**	**(8,9)**	**(21,8)**
Delta equity	(0,0)	123,8	10,0	(2,3)	26,8
Delta Cash	**(1,9)**	**9,6**	**10,8**	**(11,2)**	**5,0**
Cash at end of period	**4,2**	**13,8**	**24,5**	**13,3**	**18,3**

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Table 5: Ratios of Celli S.p.A

Ratios	2017	2018	2019	2020	2021	2022
Profitability Ratios						
Return On Investment	12,8	8,3	(0,9)	0,8	1,3	-
Return On Total Assets	8,3	5,4	(0,8)	0,7	1,1	(25,7)
Return On Sales	6,8	4,5	(1,6)	1,8	2,4	(40,2)
Return On Equity	21,5	9,5	(6,5)	(4,1)	(2,3)	(96,6)
Asset Turnover	1,2	1,2	0,5	0,4	0,4	0,6
Liquidity Ratios						
Current Ratio	1,3	0,9	0,7	2,3	1,8	1,6
Quick Ratio	0,8	0,6	0,5	1,5	1,0	1,0
DPO	102	102	117	119	141	113
DSO	99	108	103	84	92	77
DIO	127	140	141	208	224	154
Net Working Capital (days)	125	146	127	173	175	118
Financial Ratios						
Intererest Coverage	11,7	10,5	4,3	1,4	1,3	-
Debt to Equity	3,1	3,0	0,7	0,8	0,9	1,5
Net Debt/EBITDA	2,7	3,4	4,2	11,2	14,5	(12,1)
Cash Convershion Ratio	(0,3)	(12,9)	(0,6)	(1,8)	(3,1)	-
Cost Of Debt	2,9	2,6	4,6	4,8	4,5	5,1

Source: Bureau Van Dijk Database (AIDA)

Balance Sheet

Intangible Assets

In the years preceding the acquisition of Celli by Ardian, this balance sheet item was mostly composed of goodwill, which amounted equal to 21.9 m€ in 2018, and it was amortized at 10% per year. The company was always involved in R&D projects and development of new patents that used to increase the asset value each year. But the "real jump" is recorded in 2019: a goodwill amount of 152,6 m€ is recorded upon the buyout of the company, given from the difference between the purchase price and the net asset value of the firm. The value was intended to be amortized over 10 years, but a new legislation enacted during the pandemic allowed the firm to modify this plan and interrupted its amortization at least for the years 2020 and 2021.

In the following years, the Group continued its expansion through acquisitions, which furtherly increased this item. Moreover, in 2020, a positive revaluation of the registered Trademarks in the portfolio of Celli, Angram and Cosmetal gave a contribution of more than 10 m€ increase in the intangibles, thus enhancing consequently also the Revaluation Reserve on the Shareholders' Equity side by the same amount. The operation was carried out after experts' estimate on the real value of the trademarks held.

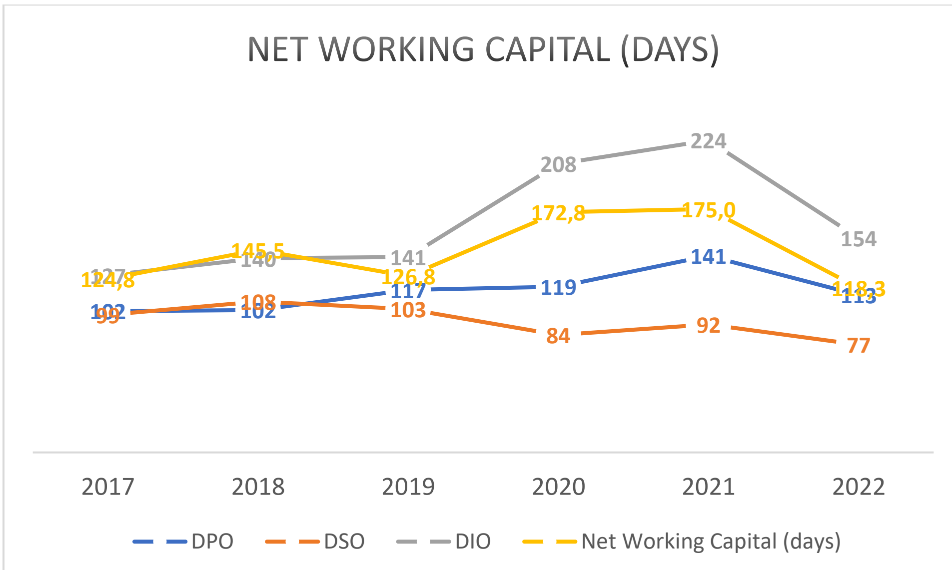
In 2022, the company had to record the previous year's amortization of goodwill and a write-down of the same by an amount of 30 m€, following an impairment test. This operation resulted in a drop in intangibles down to 141 m€ from the previous value of 186 m€.

The intangible assets section is important for the D&A item in the Income Statement, which will have significant effects both on the Tax Expenses and the Net Profitability of the company.

Net Working Capital

The components of the working capital have substantially changed after the buyout of Celli. It is easily explained by the higher volume in sales and therefore in raw materials involved and the inventory held. Furthermore, there is another factor that is reputed to be responsible: the pandemic has forced businesses to extend payment times which benefited DPOs, but the higher level of inventory and the rising prices due to the war in Ukraine, had a negative impact on DIOs (*Figure 6*). Therefore, the Working Capital required by the company has increased by 10 m€ from 2019, absorbing liquidity and entailing factoring agreements. The 2022 values in days are improved, mostly due to better inventory management.

Figure 3: Net Working Capital in days



Bank Debt

Upon the acquisition of Celli, the entire bank debt, amounting to 40 m€, was classified as "*Due within 12 months*", since the managers considered it will be repaid by the acquirers in order to open new credit lines. In fact, Ardian financed the acquisition of Celli through a bank debt that was subscribed with a pool of Financing Banks: Banca IFIS S.p.A., BNP Paribas, Natixis SA, Crédit Agricole Corporate and Investment Bank, Mediobanca S.p.A. and UniCredit S.p.A., which also acted as Agent Bank. The total amount of the loan was 100 m€, of which 75 m€ as a bullet credit line (divided into two tranches) and the remaining 25 m€ as a revolving credit line (*Table 5*). The Senior Facility Loan was subject to compliance with specific covenants on financial parameters, and to specific guarantees which entailed, among other things, the pledging of the shares corresponding to the entire amount of share capital held in Celli S.p.A. in favor of the Financing Banks. In the following year, the totality of the revolving credit line is provided, raising the balance sheet amount up to 97,1 m€. In 2021 the group signed two new financing loans with Banca Popolare Emilia-Romagna for 1 m€ and with Banca UniCredit for 4 m€.

Table 6: Pool Financing Facility Loan, 2019

Medium-Long term Bank Debt Pool Financing m€	Nominal value	Issuance Date	Due Date	Interest Rate	Provided at Amortized Cost	To be Porovided
Senior Facility B1 Loan	34,6	27/03/2019	27/03/2026	4,25%	34,6	-
Senior Facility B2 Loan	40,4	27/03/2019	27/03/2026	4,25%	40,4	-
Senior Revolving Facility	25,0	27/03/2019	27/03/2025	3,75%	6,0	19,0
Fianacial Charges on B1 Loan					(3,6)	
Total	100,0				77,4	19,0

Source: Notes to the Financial Statements of CELLI S.p.A, 2019

During the pandemic, the company has submitted multiple times an "*Amendment and Waiver Request*" regarding the covenants on financial parameters that are present in the financing contract with the banks. The last updated negotiated term in 2021, predicted a "covenant holiday" up to December 31, 2022.

The total bank debt amount has reached more than 105 m€ in 2022, which puts the company in a difficult position, due to the high amount of financial expenses and the fluctuations of interest rates. The firm is not endowed with any interest rate derivative, even if the loans contracted are based on floating interest rates, depending on EURIBOR plus a spread.

Shareholders' Equity

The share capital of Celli is made of 40 080 shares of nominal value 100 € each. The paid-in capital had a constant level around 4.6 m€ before the acquisition and reached a level of 128 m€ after the merger. From 2019 onwards, the group has always been facing Net Losses, which gave a negative contribution to the total shareholders' equity. These losses were partially counterbalanced by a positive revaluation of Trademarks (10 m€) in 2020, which increased the intangible assets and the reserve for revaluation on the other side.

In 2021, Celli received an *Equity Commitment Letter* from the parent company DraughtCo S.A. for a maximum amount of 5 m€, to be activated upon request of Celli, under the formula of unsecured shareholder financing, with a yearly interest rate of 10 %.

The 2022 Net Loss of 74,1 m€ had a large negative impact on equity, reducing it down to 82 m€. The effect could have been worse, but it was mitigated through the rising of Other Reserves item, which was increased by 20 m€, reaching a final value of 28,9 m€.

Income Statement

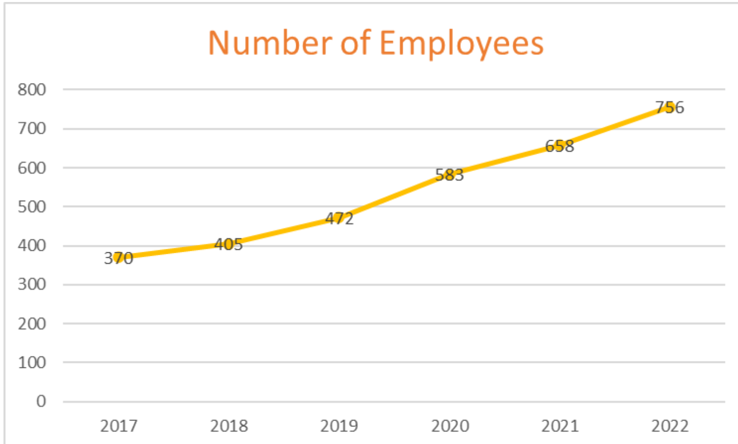
Value of Production & Personnel Costs

The value of production is in large part made of revenues from sales and services, since contributions from change in inventory or fixed assets are marginal through the years. The prevalent trend is positive, starting from the 2017 value of 104,6 m€ it reaches the highest level in 2022 with a value of 167,6 m€. The only year presenting a slight decrease is 2020, a drop in sales that can be attributable to the pandemic.

The M&A activity carried out by the group allowed the company to expand its core business in terms of products and services. With the acquisition of Cosmetal, the water business reached more than 20% weight on sales. The "geographical" composition of sales also changed, pushing the company towards international markets where it made more than 80% of its revenue in 2022.

For the same reasons, a positive trend in number of employees is noticed, reaching the highest level of 756 units in 2022 (*Figure 4*). As a consequent result on the Income Statement, the personnel costs have more than doubled in the last five years, reaching 43,3 m€ in 2022.

Figure 4: Number of employees 2017-2022



D&A

Most of the fixed assets on balance sheet are intangible, composed of Goodwill from previous acquisitions, Trademarks and Patents. The group is always involved in R&D projects that raise the amount of the latter, but the highest impact on D&A is given by the amortization of Goodwill, which is carried out over 10 years.

The first year post acquisition the group registered an amortization cost for the goodwill of 12,2 m€. In the following two years it benefited from new legislation enacted during the pandemic, which allowed to postpone up to 100% the amortization of fixed assets. The parent company took advantage of this opportunity, therefore the low D&A in 2020 and 2021 is largely allocable to its subsidiaries.

In 2022, this Income Statement item had a significant impact on the firm profitability, recording a cost for D&A of 58,7 m€. The amount mainly originated from the amortization of fixed intangibles for 25,8 m€ and a write-down of Goodwill for 30 m€. Even if it is a non-cash event, it has pushed the firm to activate the *Equity Commitment* mentioned above, raising 5 m€ as Shareholders' Loan. The firm also implemented an equity recapitalization raising 20 m€. The write-down of Goodwill might be due to an overevaluation of the company at its acquisition and can have a significant impact for Ardian at Exit.

Financial Expenses

The financial expenses faced by the company are mainly due to the Senior Facility Loan provided by the pool of banks during its acquisition by Ardian. A jump in this item is indeed noticed in 2019, going from 1 m€ to 4 m€. During the following years, the value keeps stable around 5 m€, increasing in 2022, due to the new loan contracted with shareholders, at 10 % yearly interest rate.

The high level of debt in the capital structure forces the company to face large amounts of debt services which require immediate liquidity. The lack of cash generation from operations will push the company to recapitalize its equity to tackle such expenses.

Cash Flow Statement

The reclassified cashflow statement provided was obtained using the indirect method. The company has always shown a positive EBITDA, except for the last accounting period, where an increase in raw material costs have pushed down First Margin and the already discussed rise in personnel costs has produced a negative EBTDA of 8,2 m€.

Working capital is not absorbing large amounts of liquidity, except for 2021, where a large increase in inventory and delayed payments by clients have had a negative impact on cash generation.

The Operating Cashflow has been positive up to the year 2021 and afterwards it dropped negative for the reasons mentioned above. But the group has always been involved in investments in tangible and intangible assets, which have produced a negative FCFF for the entire period considered. The raising of debt and equity in the years has allowed the company to meet its financial commitments.

4.1.4. Final Comment

After having taken a wide overview of the company's organization, operations and financials, the focus turns to what has determined financial distress. The key measure proxy of this item is Net Debt/ EBITDA ratio *(Table 6).*

Table 7: Net Debt/EBITDA Ratio, 2017-2022

	2017	2018	2019	2020	2021	2022
Net Debt	(34,7)	(40,5)	(72,6)	(79,2)	(98,6)	(99,1)
EBITDA	13,1	11,8	17,2	7,1	6,8	(8,2)
Net Debt/EBITDA	2,7	3,4	4,2	11,2	14,5	(12,1)

Source: Analysis based on Bureau Van Dijk Database (AIDA)

As has been shown in the sections above, during the acquisition of the company by the fund, a large amount of long term debt was utilized. This operation entails a strategy for revenue increase and margin improvement, in order to generate enough cashflow to meet financial expenses and principal repayment. During the first year of management, the firm succeeded in increasing its EBITDA, up to a record level of 17,2 m€, through sales expansion and cost control. The expansion in sales continued during the following years, but the increase in raw materials costs reduced the margin percentage. Furthermore, the rise in number of employees has more than doubled the personnel costs, leading to a negative EBITDA in 2022.

The cash generated from operations has always been reinvested in R&D and expansion projects, leading to negative values of FCFF for the entire period in consideration. Debt and Equity raisings have allowed to bring the final cash balance to a positive value.

Most of the debt is due on December 31, 2026, and given the current financial situation it is hard to imagine a repayment of total principal with the company generated cashflows. The strategy that seems to have been adopted is that of an aggressive expansion, which would allow the group to hold a dominant position worldwide in its sector. Thereafter, a price premium on a higher sales volume would allow to reach a wide first margin that translates in a large EBITDA and cashflows. The fund seems to support this approach by providing more liquidity, under the formula of

Shareholders' Loan or Equity Recapitalization, and continuing M&A activity even under a bad financial situation. The role of the private equity firm in this case is fundamental as already stated by the literature presented. In (Private Equity and the Resolution of Financial Distress, 2021) and (Do private equity owners increase risk of financial distress and bankruptcy?, 2012) the authors highlight a higher risk of financial distress of PE backed LBOs but at the same time, experienced PE investors show a better management of this risk providing own funds to the portfolio companies (14% more likely than non-PE backed firms) and carrying out a faster restructuring (4 months less than non-PE backed). Nonetheless, as shown by (What drives leverage in leveraged buyouts? An analysis of European LBOs' capital structure, 2009), cheap debt and the high reputation of the private equity firm, Ardian in this case, had a significant role in the financing of the operation, allowing a debt raising of 100 m€ from banks, which is incompatible with the pre-takeover profitability of the firm.

The crucial point for the Group, at this point, is given by the covenant contract on financial parameters signed with the pool of financing banks. The current ratios seem to have exceeded any forecastable limits and a legal intervention by the creditors would mean a bankruptcy filing for the company. Further intervention by the PE firm through own funds is likely in order to cope with financial expenses and principal reductions.

4.2. LA GALVANINA S.P.A

4.2.1. Company Overview

The company takes its name from the eponymous mineral water spring located on the hills near Rimini. For almost a century, Galvanina has been operating as an artisanal mineral water bottling company. Recognizing the growing demand, the company embraced industrialization in 1928 by establishing its first production facility, paving the way for wider distribution and a growing customer base. The water is sourced from pristine springs in Emilia Romagna and the Marche regions. Each spring, Galvanina, San Giuliano, and Val di Meti, possesses unique characteristics and mineral compositions, contributing to the company's reputation. Throughout its growth, the company has remained constant in its dedication to craftsmanship and quality, employing rigorous control measures, and involving in each step in the production process a deep respect for tradition and commitment to excellence.

Recognizing the evolving consumer landscape and the growing demand for healthier and more sustainable options, the company ventured into the market of organic beverages. This led to the creation of a diverse range of organic soft drinks, mixers, iced teas, and flavored mineral waters. Each product is made using premium ingredients, free from artificial flavors and sweeteners, targeting the health-conscious consumer. Galvanina's beverages are now sold in over 50 countries, with USA and Canada representing the majority of sales markets, going beyond geographical boundaries and cultural preferences, underscoring the universal appeal of Galvanina's products and reflecting the company's ability to adapt and thrive in different markets. Nonetheless, a deep connection to its Italian heritage lies at the heart of Galvanina's success. The company's iconic glass bottle designs, featuring the coat of arms of the noble family that once owned the spring, serve as a constant reminder of its rich history and enduring legacy. This commitment to authenticity and the exclusive right of use of the mineral water springs, stand as fundamental factors of competitive advantage and allow the company to operate in premium market segments, applying adequate prices and satisfactory profit margins.

4.2.2. The Riverside Company and the Transaction Deal

The Riverside Company is a global investment firm specializing in private equity deals within the smaller end of the middle market, a strategic niche they've occupied for over three decades. Their mission focuses on fostering long-term growth in portfolio companies through a combination of operational improvements, strategic acquisitions, and market expansion initiatives, leveraging their global network of talent, financial resources, and industry expertise. Established in 1988 by Béla Szigethy, the company has since cultivated a distinguished reputation within the industry, completing over 1000 investments across a diverse range of sectors. Riverside’s dedicated operating team collaborates closely with portfolio companies throughout the investment lifecycle, offering a spectrum of services like initial screening, ongoing support and exit strategies. They empower portfolio company management teams to implement growth initiatives, streamline operational processes, and explore strategic add-on acquisitions. Riverside actively seeks to foster market growth, introducing new product offerings, strategically entering new markets, and optimizing international operations. Furthermore, the firm acknowledges the importance of responsible investing practices, considering environmental, social, and governance (ESG) factors throughout the investment decision-making process. Their recent signing of the UN PRI (Principles for Responsible Investment) initiative underscores their dedication to sustainable and impactful investment practices.

A particular area of expertise for Riverside is the consumer goods sector. They collaborate extensively with management teams in these companies, leveraging their global resources and consumer goods know-how to cultivate targeted growth strategies. Along this line lies the acquisition of La Galvanina S.p.A in June 2019 from the Mini family, who kept a minority stake. Several contenders were interested in the purchase of the company, including the mineral water producer Ferrarelle and the private equity firms Alto Partners SGR and DeA Capital Alternative Funds SGR. The company was valued around 80 m€ (BeBeez), equal to 8x the EBITDA of 2018, which was around 10 m€ while revenues were about 50 m€. The transaction was financed by Goldman Sachs Private Capital, while EY served for debt advisory, fiscal and financial due diligence. Today Riverside owns 100% of shares of La Galvanina through REF V Sparkling S.à.r.l.

4.2.3. Financial Analysis

In this section, the relevant events that occurred during the holding period of the La Galvanina by the Riverside Company are presented and their impact on balance sheet items are discussed. The aim is to investigate the factors that limited the firm's profitability, hindered cashflow generation and led to a distressed financial position. Deposited *Financial Statements* on *Bureau Van Dijk Database (AIDA)* are used as source for this analysis, starting from the year preceding the acquisition, 2018, to the last available documents of 2022.

A reclassification, based on a business analyst perspective, of the Balance sheet (*Table 1*), the Income Statement (*Table 2*) and the Cashflow Statement (*Table 3*) was carried out, in order to facilitate the reading and understanding of the main items. The most important financial ratios are also reported (*Table 4*).

Table 8: Reclassified Balance Sheet of La Galvanina S.p.A

Reclassified Balance Sheet	2018	2019	2020	2021	2022
€m					
Property, plant & equipment	37,0	41,8	38,9	45,8	44,8
Intangible assets	4,1	73,2	67,2	68,8	69,1
Financial assets	0,0	0,7	0,9	0,5	0,5
Fixed assets	**41,1**	**115,7**	**107,0**	**115,1**	**114,4**
Inventory	9,9	7,4	10,3	14,8	13,8
Receivables	11,8	11,6	14,6	15,8	15,3
Payables	(18,7)	(16,4)	(18,8)	(20,6)	(22,4)
Pre-payments	-	-	-	-	-
Operating working capital	**3,0**	**2,6**	**6,1**	**10,0**	**6,6**
Other assets	1,4	2,6	2,4	3,0	5,9
Other liabilities	(2,3)	(2,1)	(2,6)	(2,6)	(1,8)
Other current assets / (liabilities)	**(0,9)**	**0,4**	**(0,1)**	**0,3**	**4,1**
Net working capital	**2,1**	**3,0**	**6,0**	**10,3**	**10,7**
Severance pay fund	(0,9)	(1,0)	(1,1)	(1,5)	(1,4)
Other funds	(0,8)	(3,5)	(2,6)	(3,1)	(0,5)
Other non current assets / (liabilities)	(2,9)	(3,4)	(6,3)	(7,3)	(3,8)
Total other non current	**(4,7)**	**(7,9)**	**(10,0)**	**(11,9)**	**(5,7)**
Net invested capital	38,5	110,8	103,0	113,5	119,4
Cash	5,1	1,1	2,4	2,9	3,3
Bank debt (<12 months)	(7,0)	(3,4)	(7,2)	(7,3)	(71,8)
Bank debt (>12 months)	(25,0)	(59,6)	(58,8)	(59,1)	-
Other debt (<12 months)	-	-	-	(0,9)	(1,0)
Other debt(>12 months)	-	-	-	(3,1)	(2,4)
Net Debt	(26,9)	(61,8)	(63,5)	(67,4)	(71,8)
NetDebt/EBITDA	3,1	7,9	6,2	6,3	61,1
Equity (including shareholders' loan)	(11,7)	(48,9)	(39,4)	(46,1)	(47,6)
Total sources	(38,5)	(110,8)	(103,0)	(113,5)	(119,4)

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Table 9: Profit and Loss of La Galvanina S.p.A

Profit & Loss	**2018**	**2019**	**2020**	**2021**	**2022**
€m					
Value of production	**60,7**	**62,5**	**69,3**	**70,5**	**78,3**
Yoy growth (%)	9,4%	3,0%	10,8%	1,7%	11,1%
Raw materials	(24,4)	(25,3)	(25,5)	(25,4)	(30,8)
First margin	**36,3**	**37,2**	**43,8**	**45,0**	**47,5**
Margin (% Value of production)	59,8%	59,6%	63,2%	63,9%	60,7%
Personnel	(4,8)	(6,0)	(6,8)	(7,2)	(5,6)
Services	(21,7)	(22,2)	(25,5)	(26,8)	(40,8)
Other costs	(1,0)	(1,2)	(1,2)	(0,3)	-
EBITDA	**8,8**	**7,8**	**10,3**	**10,8**	**1,2**
Margin (% Value of production)	14,4%	12,5%	14,8%	15,3%	1,5%
Impairment losses on receivables	(0,1)	(0,1)	(0,1)	(0,1)	(0,3)
EBITDA Adj	**8,7**	**7,7**	**10,2**	**10,7**	**0,9**
Margin (% Value of production)	14,3%	12,4%	14,7%	15,2%	1,1%
D&A	(2,8)	(7,5)	(14,1)	(6,1)	(7,5)
EBIT	**5,9**	**0,2**	**(3,9)**	**4,6**	**(6,7)**
Margin (% Value of production)	9,8%	0,4%	-5,6%	6,6%	-8,5%
Provisions	-	(5,8)	(0,5)	-	-
Financial income	0,0	0,0	0,0	-	-
Financial expenses	(0,7)	(2,8)	(4,5)	(3,8)	(2,3)
Net income / (loss) on exchange rates	0,1	(0,1)	(0,8)	-	-
Capital gains / (write downs)	-	(0,3)	0,0	-	-
Extraordinary income / (costs)	-	-	-	-	1,5
EBT	**5,4**	**(8,9)**	**(9,7)**	**0,9**	**(7,4)**
Margin (% Value of production)	8,8%	-14,2%	-13,9%	1,2%	-9,5%
Taxes	(1,6)	1,1	0,1	(0,5)	-
Net Profit	**3,8**	**(7,7)**	**(9,6)**	**0,4**	**(7,4)**
Margin (% Value of production)	6,3%	-12,3%	-13,8%	0,6%	-9,5%

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Table 10: Reclassified Cashflow Statement of La Galvanina S.p.A

Cash Flow (Indirect Method)	**2018**	**2019**	**2020**	**2021**	**2022**
€m					
EBITDA Adj	**8,7**	**7,7**	**10,2**	**10,7**	**0,9**
Taxes	(1,6)	1,1	0,1	(0,5)	-
Delta inventory	(1,3)	2,5	(2,9)	(4,5)	1,0
Delta receivables	(0,2)	0,3	(3,0)	(1,2)	0,5
Delta payables	5,5	(2,3)	2,4	1,8	1,8
Delta pre-payments	-	-	-	-	-
Delta Net Working Capital	**4,0**	**0,5**	**(3,5)**	**(3,9)**	**3,3**
Delta other current assets / liabilities	(1,3)	(1,4)	0,5	(0,5)	(3,7)
Provisions	-	(5,8)	(0,5)	-	-
Operating Cash Flow	**9,8**	**2,2**	**6,9**	**5,9**	**0,5**
Net Capex (tangible assets)	(14,9)	(12,3)	(11,2)	(13,0)	(6,5)
Delta other non current assets / liabilities	(2,5)	(66,6)	7,9	0,7	(6,5)
Extraordinary Items	-	-	-	-	1,5
Cash available for debt service (FCFF)	**(7,7)**	**(76,7)**	**3,5**	**(6,4)**	**(11,1)**
Delta bank debt	10,0	31,0	3,0	0,3	5,4
Delta other debt	-	-	-	3,9	(0,6)
Net financial gain / (expense)	(0,6)	(3,3)	(5,3)	(3,8)	(2,3)
Free Cash Flow to Equity	**1,6**	**(49,0)**	**1,2**	**(5,8)**	**(8,5)**
Delta equity	(2,2)	45,0	0,1	6,2	8,9
Delta Cash	**(0,6)**	**(3,9)**	**1,3**	**0,4**	**0,4**
Cash at end of period	**5,1**	**1,1**	**2,4**	**2,9**	**3,3**

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Table 11: Ratios of La Galvanina S.p.A

Ratios	2018	2019	2020	2021	2022
Profitability Ratios					
Return On Investment	13,6	(5,0)	(4,1)	4,0	(5,4)
Return On Total Assets	8,5	(4,0)	(3,2)	3,1	(4,4)
Return On Sales	9,9	(9,1)	(6,4)	6,6	(8,5)
Return On Equity	32,6	(15,8)	(24,3)	0,9	(15,6)
Asset Turnover	0,8	0,4	0,5	0,5	0,5
Liquidity Ratios					
Current Ratio	1,0	1,1	1,0	1,2	0,4
Quick Ratio	0,7	0,7	0,7	0,7	0,3
DPO	145	125	129	144	114
DSO	72	68	78	82	71
DIO	148	106	147	213	164
Net Working Capital (days)	75	49	96	150	121
Financial Ratios					
Intererest Coverage	13,0	0,7	2,2	2,9	0,5
Debt to Equity	2,7	1,3	1,7	1,5	1,6
Net Debt/EBITDA	3,1	7,9	6,2	6,3	61,1
Cash Convershion Ratio	(8,8)	0,4	(0,6)	(1,0)	-
Cost Of Debt	2,1	4,5	6,8	5,7	3,2

Source: Bureau Van Dijk Database (AIDA)

Balance Sheet

Intangible Assets

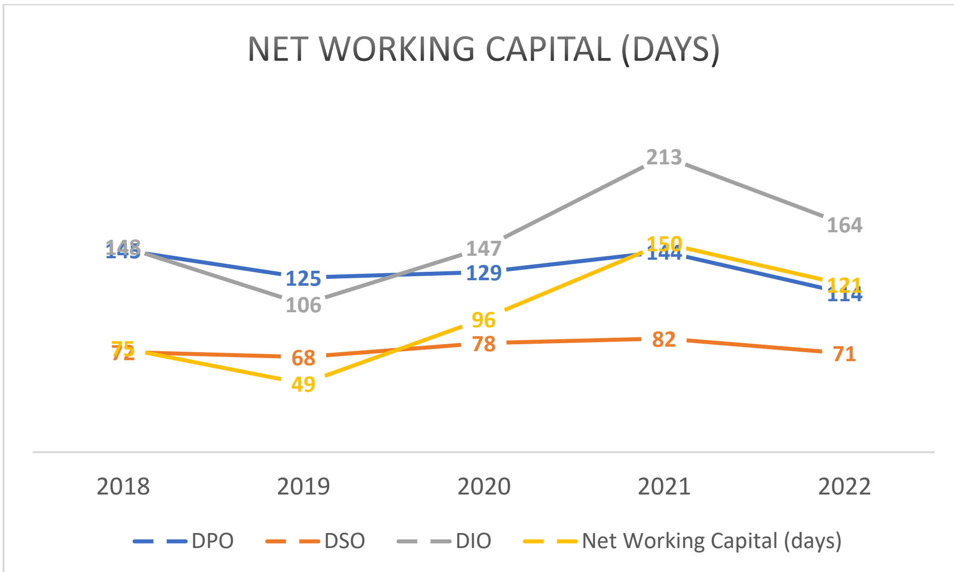
Before the buyout, intangible assets were mostly composed of capitalized expenses regarding packaging design, counting for less than 4 m€. Thereafter, upon the acquisition and the reverse merger with the controlling HoldCo, the difference between the paid price and the net asset value, amounting to 70,8 m€, is recorded as Goodwill. It was meant to be amortized over 10 years but after a change in reporting system in 2021 and the adoption of the IFRS, Goodwill is considered to have unlimited lifetime and therefore it is not amortized but impairment tests are conducted yearly to report any devaluation. The balance sheet value remains equal to 67,8 from then on and no decrease in value is detected.

Goodwill is a key factor in LBOs, and M&As in general, since, if it is amortized, it reduces EBIT with a consequent tax shield effect. In case EBITDA is not large enough though, it may contribute to a Net Loss, thus leading to Shareholders' Equity reduction. In the case in consideration, the introduction of the new reporting system neutralized this Goodwill effect, avoiding amortization and leaving it only susceptible to impairments.

Net Working Capital

In 2020 receivables showed a significant jump, increasing by 3 m€ due to a rise in turnover, while inventory increased by 2 m€ due to finished products in transit (DDP Agreement). In the following years receivables level remained almost stable, while in 2021 inventory showed a 4,2 m€ increase, largely allocable to the high volume of finished products in transit, which also pushed DIO metric (Days Inventory Outstanding) to 213 days. In 2022 this lag effect is reduced, decreasing inventory monetary value by 2,2 m€. The long delivery times hindered the firm from recording revenues until the finished products reached the clients, thus inflating working capital. Payables, instead, took an increasing trend after acquisition, going from 16,4 m€ to 22,4 m€ and limiting cash outflows. Overall, working capital increased due to sales expansion and the consequent larger inventory level (which also passed from LIFO to FIFO evaluation method), in terms of both raw materials and finished products. The long delivery times resulted fundamental in delaying sales recording and inflating inventory, furtherly contributing to working capital absorptions.

Figure 5: Net Working Capital (Days)



Bank Debt

Upon the takeover, all the pre-existing bank debt was repaid, and a new Long Term financing loan was initiated with Goldman Sachs International Bank, for 60 m€, and Credit Agricole, for a 1 m€ RCF. The banks imposed a pledge on the entire Share Capital of the firm. The loan is due in December 2025, and it is subject to quarterly compliance with a financial covenant (Net Debt/EBITDA). In 2022, a large and extraordinary upturn in logistic costs, which will be discussed later, has flattened EBITDA down to 1,2 m€, leading to a breach of the financial covenant mentioned above. The financing contract has been restated leading to a total balance sheet amount of 72,7 m€ due to renegotiated PIK and including a RCF for 5,5 m€. A covenant holiday has been granted until April 2023 and financial parameters have been modified for the entire duration of the contract.

In 2023, the shareholder REF V Sparkling repaid 11,5 m€ of Facility A and Facility B loans, including interests accrued, and committed 1,5 m€ repayment for RCF.

Shareholders' Equity

In 2019, upon the acquisition, Shareholders' Equity displayed a raise of 45 m€ due to the merger surplus. In the following years, the continuous accounting losses decreased its value until 2022, when the shareholder operated an equity raise, paying-in 8 m€ and reaching a final amount of 47,6 m€. In March 2023, the Shareholder committed for an additional equity increase for 2,3 m€.

The Net Losses faced by the firm, due to the amortization of Goodwill and extraordinary upsurge in service costs, have pushed down the equity book value, but the additional contribution by the Shareholder and the suspension of Goodwill amortization had a positive effect on its final balance.

Income Statement

Value of Production & Operating Costs

The firm's turnover has been constantly increasing, going from 60,7 m€ in 2018 up to 78,3 m€ in 2022. Most of sales are realized abroad, especially in the USA (85,5% in 2022), while Italy only counts for 5% of revenue. The company follows an expansion strategy both in terms of geography and range of products.

The positive trend in revenue did not benefit the profitability of the firm, due to a correspondent, non-linear, increase in costs. A significant rise in energy costs and in raw material prices, due to global inflation, had a large repercussion on the cost structure. Nonetheless, the most impactful item is represented by transportation costs: the maritime supply chain to the USA and Canada has seen a cost increase for 10 m€ in 2022, inflating services costs up to a total of 40 m€ and reducing EBITDA to 1,2 m€. This led to a Net Debt/EBITDA ratio equal to 61 causing the breach of the financial covenant on bank debt. Hence the restatement of the financing contract and the recapitalization of equity.

This unforeseen and extraordinary event is likely to cease in the following years, allowing a return to the previous years' profitability level. Nonetheless, the "heavy" structure of operating monetary costs, especially cost of services, and the exposition to price fluctuations of primary resources does not neutralize the risk of further shrinkages in EBITDA.

D&A

This item was mostly composed of Goodwill amortization during the post-acquisition years, but after the already mentioned change in reporting system, it reduced from 14 m€ in 2020 to 6 m€ in 2021, counting almost only for tangible assets depreciation. The ceasing of Goodwill amortization had a positive effect on EBIT in 2021 reaching 4,6 m€, but the cost increases discussed above pushed it to a negative value in the following year.

Financial Expenses

The bank debt incurred upon the acquisition entailed interest and principal repayments, based on Euribor 6M plus a spread. The firm did not hedge against interest rates fluctuations regarding this bank debt. Nonetheless it holds a portfolio of derivative contracts, mostly IRS, deriving from financing operations preceding the buyout. These are recorded with the MTM method, thus contributing as financial income to partially offset financial expenses. The 4,5 m€ financial expense in 2020 is reduced to 3,8 m€ and 2,3 m€ in the following years thanks to the positive contributions of these contracts, thus limiting the impact of debt financing on EBT.

Cash Flow Statement

The firm's operating cashflows have always been positive due to decent operating margins and an overall good working capital management policy. The logistic delays already mentioned have increased inventory and receivables in 2020 and 2021, but the ceasing of this extraordinary event and the increase of payables towards suppliers have led to working capital cash generation in 2022 for 3,3 m€. The cash generated was invested in production sites leading to negative FCFFs for the entire period, except for the year 2020, when the dismission of a business unit helped in reaching a 3,5 m€ balance.

The acquisition bank debt and the RCF used in 2022 benefited cash availability, while equity raisings in 2021 and 2022 were necessary to cope with financial expenses and restore the cash balance at the beginning of the period, leaving it almost steady at around 3 m€.

4.2.4. Final Comment

During the holding period, the firm's management succeeded in expanding sales revenue by targeting international markets and increasing product prices. Nonetheless, this positive trend did not benefit the operating profitability of the company, since the cost levels have correspondingly grown in a nonlinear way, due to different factors. Global inflation had a significant impact on the rise of raw material prices, shrinking first margin percentage and enlarging cash absorptions by inventory. The maritime supply chain has faced trade restrictions and cost increases, notably boosting cost of services up to 40 m€ in 2022. Furthermore, the long delivery times and the current DDP agreement with international clients have inflated finished products in transit and hindered revenue registration. These elements were crucial to the catastrophic EBITDA result in 2022, which fell down to 1,2 m€. Given the contracted bank debt upon the buyout operation and its constant rise during the holding period, the ratio of Net Debt/EBITDA has reached a record level of 61,1 in 2022 (*Table 5*), leading to breach of the financial covenant and restatement of the financing contract with creditors.

Table 12: Net Debt/EBITDA Ratio, 2018-2022

			2018	2019	2020	2021	2022
Net Debt			(26,9)	(61,8)	(63,5)	(67,4)	(71,8)
EBITDA			8,8	7,8	10,3	10,8	1,2
Net Debt/EBITDA			3,1	7,9	6,2	6,3	61,1

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Beside from the firm's profitability, which may fluctuate due to extraordinary events, emphasis should be placed on the amount of debt contracted for the acquisition. The initial book value of 61 m€ was meant to be reduced through time, using the cash generated from the operating activities to repay interests and principal. On the contrary an opposite trend has taken hold, bringing the total value to 71,8 m€ in 2022 due to renegotiated PIK. Easy access to credit can push PE firm to over-leverage target companies far beyond their expected operating profitability. As it has already been shown in (Borrow Cheap, Buy High? The Determinants of Leverage and Pricing in Buyouts, 2010), credit market conditions, both in terms of funding availability and low interest rates, are crucial determinants of debt level in LBO transactions. Furthermore, a waterfall effect is identified, where the more funding is available the more the bidders are willing to pay for the acquisition, thus inflating the buyout price. This effect is also investigated by (Who Benefits from the Leverage in LBOs?, 2011), where the anticipated tax savings from leverage are discounted and included in the acquisition price as takeover premia. The more a deal is competitive the more is likely to include the entire amount of tax savings. In the case in consideration, a goodwill amount of 70,8 m€ is recorded upon the takeover, corresponding to the difference between the paid price and the net asset value of the company. The presence of multiple bidders, such as the mineral water producer Ferrarelle and the private equity firms Alto Partners SGR and DeA Capital Alternative Funds SGR, interested in the takeover, has probably pushed the buyout price up, leading the PE firm to over-lever the acquisition beyond the realistic repayment capacity of the target company. On the other side, the PE firm has shown prompt and adequate assistance to the investee: as reported in the *2022 Notes on Financial Statements*, the Shareholder REF V Sparkling repaid 11,5 m€ of bank debt and 1,5 m€ of RCF, including the accrued interests up to May 2023. This operation will clearly lighten the burden of debt on balance sheet and likely lead to previous years covenant parameters. This initiative is coherent with the role that PE play in financial distress resolution as demonstrated by (Private Equity and the Resolution of Financial Distress, 2021), where PE-backed LBOs result to be 14,6% more likely to receive capital injections prior to default than non-PE-backed firms. Furthermore, the decreasing costs of transportation will bring back operating profitability to previous year's level.

Nonetheless, even excluding the "outlier" values of 2022, the firm's profit generation in the preceding years was not appropriate to cover its debt obligations: an average 10 m€ EBITDA was related to a 60 m€ debt level. The primary objective of the company should be margin expansion to benefit from revenue increases. The firm operated a strategic enlargement of market targets: it has focused on premium products, which allow to charge higher prices for clients, and it has expanded geographically, making sales abroad as main source of revenue. However, the cost structure was not sufficiently monitored or kept under control. Forwards contracts on raw material prices should be adopted to hedge against exogenous price fluctuations, and suppliers diversification should be pursued to enhance negotiating power. Long-Term transportation contracts should be signed to prevent cost fluctuations, inconveniences and delays in deliveries, especially to the USA and Canada, which represent the majority of the client base. Finally, internal processes should be redesigned seeking cost efficiency and operational excellence. These actions could be insufficient for the firm to generate sufficient cashflows and meet its debt principal repayment due in 2025. Therefore, further Shareholders contributions may be required to alleviate the company's financial position and reshape capital structure.

4.3. PIBIPLAST S.P.A

4.3.1. Company Overview

Pibiplast was founded in 1954 in Correggio (RE) by Mr. Paolo Bosi, whose initials gave name to the company's brand. It was specialized in the injection molding of plastic packaging for the pharmaceutical industry. In the 1970's a recession occurred in this sector, which pushed the founders to shift to the market of plastic packaging for the sector of cosmetics, body and skin care.

A series of company acquisitions helped this target market pivoting operation through time: in 2002 they took control of Bomal, a small company specialized in the manufacturing of make-up components, in 2013 they purchased a company that makes tubes and capsules, in the following year they acquired Plast Line, a company specialized in the manufacturing of bottles for mass production and with a large know-how in extrusion blow molding. Through these acquisitions the company carried out a vertical integration strategy, internalizing processes which used to be contracted to third parties, including production and decoration techniques such as screen printing, hot stamping, offset, UV painting and metallization. Today the company has its headquarters in Correggio (Reggio Emilia), but it makes strategic use of production plants also in Robbiate (Lecco), Tortona (Alessandria) and Calenzano (Florence) to satisfy all requirements related to the production, assembly and decoration of its products.

Since its beginnings, Pibiplast has always been a pioneer in environmental sustainability, abandoning gradually conventional plastics and substituting them with recyclable materials that have a lower impact on environment, such as PET. This momentum continued with the recent introduction of more sustainable materials, such as bioplastics and recycled plastics. The introduction of these innovative materials is the result of continuous exploration of solutions in the market, creation of synergies with raw material suppliers and rigorous testing. This approach has given Pibiplast a leading position in the industry.

In recent years, the company has been investing about 15% of its revenue in the development of new technologies, when the average market was 5-7%. Pibiplast has established PIBI Lab, a collaborative space completely dedicated to innovation, where the company interprets new trends in the field and forecasts market and consumer demands. One of the most exciting results of this research is a patented technology called PIBI Kind, which enables the creation of individual and structured surface finishes directly from the plastic conversion process, thus eliminating the need for several steps, such as painting and other decorative processes and reducing the use of raw materials (paints) and contaminants. Additionally, shortening the manufacturing process improves energy efficiency, reduces CO_2 emissions and saves costs in the long run.

The operational excellence in the production process is a determinant factor in the plastic sector, in order to keep costs under control and compete in the market. The company has carried out several analysis of its processes, alongside consultancy firms, which brought higher efficiency. The main issues tackled were set up times and batch size optimization, mold and equipment planning and the impact of the unavailability of resources. The improvements involved the creation of a continuously updating production plan, which responds to deviations due to changes in demand, production issues, or material availability and the minimization of changeover time thus increasing productivity. A later step regarded the creation of a link between Sales and Production departments, in order to incentivize sales on underutilized resources and change the production mix to avoid bottlenecks.

Pibiplast is known for its corporate social responsibility, not only towards environment but especially in the human relationships with its personnel. The company believes that the well-being of employees and the work atmosphere can have a direct beneficial impact on the firm. This policy goes far beyond working conditions and safety, but it tries to involve employees' families in organized events and trips, and common celebrations on national holidays. In return, employees respond by demonstrating not only professionalism but also passion.

4.3.2. Ambienta, L Catterton and the Transaction Deal

Ambienta was founded in 2007 as a sustainability driven asset management company. Today the group counts offices in Milan, London, Paris and Munich, investing in private and public companies that show an environmental vocation. They manage more than 3 billion € of assets divided in three classes: Private Equity, Private Credit and Public Markets.

The key believe underneath the firm's strategy is that sustainability issues are destined to conquer always more relevance in human activities leading to a market opportunity which is estimated around 3 trillion € and it is growing at a high rate. At Ambienta sustainability is regarded as a theme rather than a sector, therefore their investment portfolio includes various companies operating in different markets but united by the same common features. The group selects businesses whose products or services have a positive impact on resource efficiency and pollution control, and therefore they face a growing demand by the market in order to cope with the pressure of natural resources and the negative effects of pollution. These characteristics are regarded as a source of a strong long term competitive advantage and a higher financial return. To identify their target companies, they have created a Sustainability & Strategy team who continuously maps and researches investment opportunities, thus monitoring industry trends and originating transaction deals.

To measure the impact of their investment activity, the firm has developed a proprietary and award-winning tool, the Environmental Impact Analysis (EIA). The idea behind this methodology is that what cannot be measured, cannot be held accountable. Therefore, the purpose of EIA is to quantify the contribution of each portfolio company to the two fundamental objectives: Resource Efficiency and Pollution Control. This holistic approach can be homogeneously applied to companies with different business models, operating across various sectors. Eleven environmental metrics are adopted, and they are assessed along the entire value chain. There are five metrics to evaluate the contribution in terms of Resource Efficiency (Energy Saved, Water Saved, Food Saved, Materials Saved, Land (fill) Saved) and six to evaluate the contribution in terms of Pollution Control (CO2 Emissions Reduced, Air Cleaned, Water Cleaned, Pollutants Avoided, Materials Recycled, Biodiversity Preserved).

This methodology was adapted to all the asset classes allowing Ambienta to make more than 65 investments in Private Equity and to develop one of the largest return funds in Public Equity Markets focused on environmental sustainability.

L Catterton was founded in 1989 as a Private Equity firm. Since then, they have carried out more than 250 investments around the world, focusing on consumer brand companies. Today the firm counts 34 billion € of assets under management, 17 offices across the world and more than 150 professional employees, representing the largest and most experienced consumer-focused private equity group.

The target investees are selected through a reverse process: this approach aims at understanding first of all consumer trends and value gaps, then subsequently the specific categories and companies which benefit from these preferences are identified. The key idea is that companies who create an emotional connectivity with consumers have the power to impact their purchasing decisions and preferences, building a strong and long lasting relationship. Most of the enterprises selected are middle market and emerging high growth companies.

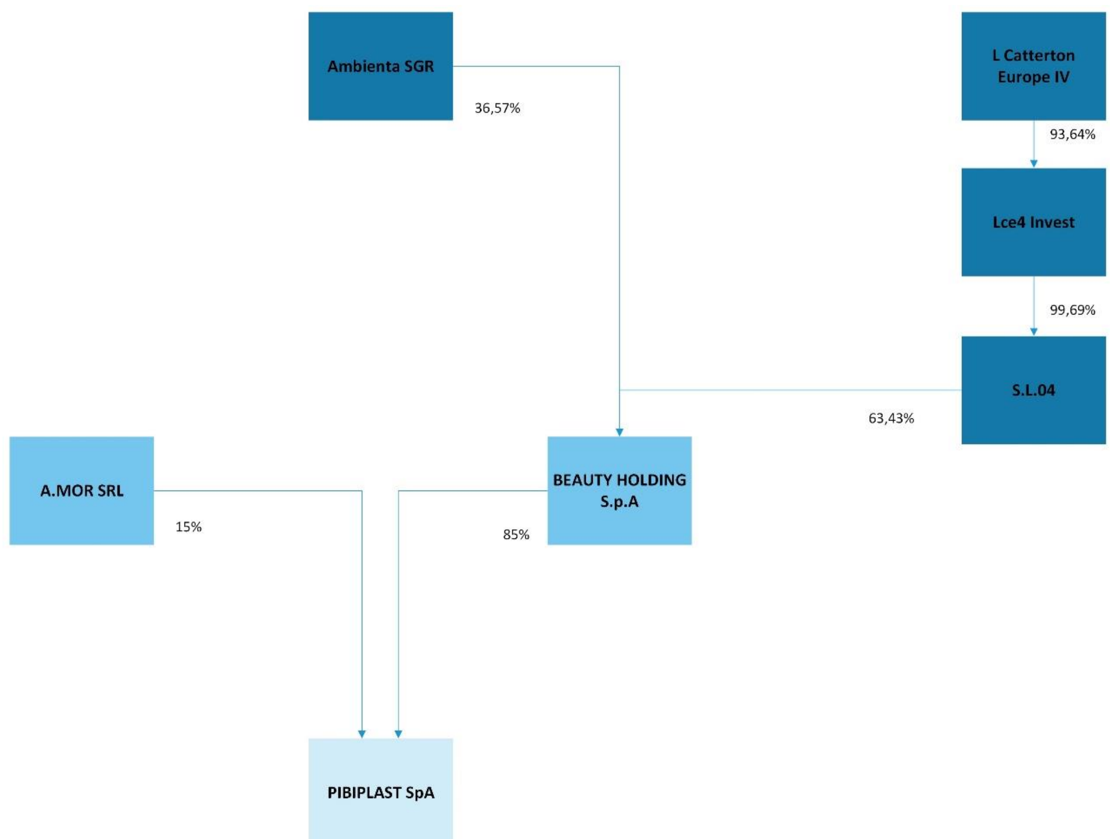
The portfolio companies benefit from a strong expertise of the group's resources in term of operational improvements, strategic thinking, human capital development and sales growth. Value is added through supply chain enhancement, brand building, business analytics, operating costs and inventory control and working capital optimization.

Since 2015, the group has developed an internal ESG policy to integrate best practices in its operating and investing activities. ESG approach is considered during the whole investment lifecycle, from the selection of the investees, the due diligence phase and the post investment period, helping portfolio companies to embed ESG practices in their operations.

In June 2018, L Catterton and Ambienta announced the acquisition of Pibiplast from the Bosi family, who remained in the shareholding with a minority ownership. The terms of the transaction were not disclosed, but Equita Group has also announced to have contributed, through its Private Debt Fund, subscribing in full to a subordinated bond loan of 10 million € issued by the investment vehicle controlled by the private equity funds. Today's ownership structure shows a 15% in the hands of A.MOR. S.r.l, controlled by the Bosi family and the remaining 85% indirectly controlled by the private equity funds, through Beauty Holding S.p.A. *(Figure 1).*

Upon the transaction, all the parties involved have highlighted the growth potential of Pibiplast and took as an objective its transformation into an undisputed leader in sustainable cosmetics packaging.

Figure 6: Ownership Structure of Pibiplast S.p.A



4.3.3. Financial Analysis

A wide overview of the firm's financial items is carried out in this section to show the overall operating and financial performance of the company.

A reclassification, based on a business analyst perspective, of the Balance sheet (*Table 1*), the Income Statement (*Table 2*) and the Cashflow Statement (*Table 3*) was made in order to facilitate the reading and understanding of the main items. The most important financial ratios are also reported (*Table 4*).

The deposited Financial Statements on *Bureau Van Dijk (AIDA)* ranging from 2018 to 2022 are used as source for this analysis. The Notes to those Financial Statements are regarded as a guiding tool to identify the most relevant items.

A final comment is provided to assess the determinants of financial distress and possible solutions. .

Table 13: Reclassified Balance Sheet of Pibiplast S.p.A

Reclassified Balance Sheet	2019	2020	2021	2022
€m				
Property, plant & equipment	16,3	21,8	19,7	17,8
Intangible assets	94,4	83,3	68,3	58,2
Financial assets	0,5	0,5	0,5	0,4
Fixed assets	**111,1**	**105,6**	**88,5**	**76,5**
Inventory	9,0	10,5	12,8	11,9
Receivables	7,9	8,0	8,4	10,0
Payables	(13,2)	(11,6)	(17,9)	(15,9)
Pre-payments	(0,5)	(0,5)	(0,2)	(0,2)
Operating working capital	**3,2**	**6,4**	**3,2**	**5,8**
Other assets	5,3	6,0	6,7	8,5
Other liabilities	(4,3)	(4,3)	(3,5)	(3,1)
Other current assets / (liabilities)	**1,0**	**1,7**	**3,2**	**5,4**
Net working capital	**4,2**	**8,1**	**6,3**	**11,2**
Severance pay fund	(1,1)	(1,0)	(1,0)	(0,9)
Other funds	(1,5)	(0,8)	(0,7)	(0,6)
Other non current assets / (liabilities)	0,9	0,6	0,6	0,6
Total other non current	**(1,7)**	**(1,2)**	**(1,1)**	**(0,8)**
Net invested capital	113,7	112,6	93,7	86,9
Cash	5,4	7,2	3,1	7,8
Bank debt (<12 months)	(7,7)	(7,9)	(10,3)	(13,7)
Bank debt (>12 months)	(33,7)	(41,9)	(38,4)	(41,0)
Other debt (<12 months)	(0,1)	(0,6)	(0,1)	(0,0)
Other debt(>12 months)	-	-	(0,4)	(0,4)
Net Debt	(36,2)	(43,2)	(46,0)	(47,3)
NetDebt/EBITDA	6,7	23,0	38,8	15,9
Equity (including shareholders' loan)	(77,5)	(69,4)	(47,7)	(39,5)
Total sources	(113,7)	(112,6)	(93,7)	(86,9)

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Table 14: Profit and Loss of Pibiplast S.p.A

Profit & Loss	**2019**	**2020**	**2021**	**2022**
€m				
Value of production	**62,0**	**55,3**	**63,3**	**68,3**
Yoy growth (%)		-10,9%	14,6%	7,7%
Raw materials	(16,4)	(15,9)	(22,2)	(22,5)
First margin	**45,6**	**39,4**	**41,1**	**45,8**
Margin (% Value of production)	73,5%	71,3%	65,0%	67,1%
Personnel	(18,1)	(17,9)	(18,5)	(18,0)
Services	(21,9)	(19,3)	(21,2)	(24,5)
Other costs	(0,2)	(0,3)	(0,2)	(0,3)
EBITDA	**5,4**	**1,9**	**1,2**	**3,0**
Margin (% Value of production)	8,7%	3,4%	1,9%	4,4%
Impairment losses on receivables	(0,1)	(0,1)	(0,0)	(0,1)
EBITDA Adj	**5,3**	**1,8**	**1,2**	**2,9**
Margin (% Value of production)	8,5%	3,3%	1,9%	4,2%
D&A	(14,6)	(14,9)	(19,9)	(15,3)
EBIT	**(9,3)**	**(13,1)**	**(18,8)**	**(12,4)**
Margin (% Value of production)	-15,0%	-23,7%	-29,6%	-18,2%
Provisions	-	(0,3)	(0,4)	(0,0)
Financial income	0,0	-	0,0	0,0
Financial expenses	(2,2)	(2,3)	(2,5)	(4,7)
Net income / (loss) on exchange rates	0,0	(0,1)	(0,0)	(0,0)
Capital gains / (write downs)	(0,0)	(0,1)	0,1	0,5
Extraordinary income / (costs)	-	-	-	-
EBT	**(11,6)**	**(15,9)**	**(21,7)**	**(16,6)**
Margin (% Value of production)	-18,7%	-28,8%	-34,2%	-24,4%
Taxes	1,0	2,3	(0,0)	(0,0)
Net Profit	**(10,5)**	**(13,7)**	**(21,7)**	**(16,6)**
Margin (% Value of production)	-17,0%	-24,7%	-34,3%	-24,4%

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Table 15: Reclassified Cashflow Statement of Pibiplast S.p.A

Cash Flow (Indirect Method)	**2019**	**2020**	**2021**	**2022**
€m				
EBITDA Adj	**5,3**	**1,8**	**1,2**	**2,9**
Taxes	1,0	2,3	(0,0)	(0,0)
Delta inventory	(0,1)	(1,5)	(2,3)	0,9
Delta receivables	3,5	(0,1)	(0,4)	(1,6)
Delta payables	0,4	(1,6)	6,3	(2,0)
Delta pre-payments	(0,7)	0,0	(0,3)	0,0
Delta Net Working Capital	**3,1**	**(3,2)**	**3,2**	**(2,7)**
Delta other current assets / liabilities	(2,3)	(0,7)	(1,5)	(2,2)
Provisions	-	(0,3)	(0,4)	(0,0)
Operating Cash Flow	**7,0**	**(0,1)**	**2,5**	**(2,0)**
Net Capex (tangible assets)	(16,9)	(20,5)	(17,8)	(13,4)
Delta other non current assets / liabilities	15,6	10,6	14,9	9,8
Extraordinary Items	-	-	-	-
Cash available for debt service (FCFF)	**5,7**	**(10,1)**	**(0,4)**	**(5,6)**
Delta bank debt	38,2	8,4	(1,0)	6,0
Delta other debt	(0,2)	0,4	(0,1)	(0,0)
Net financial gain / (expense)	(2,3)	(2,5)	(2,5)	(4,2)
Free Cash Flow to Equity	**41,4**	**(3,7)**	**(4,0)**	**(3,8)**
Delta equity	(37,6)	5,5	(0,0)	8,5
Delta Cash	**3,8**	**1,8**	**(4,0)**	**4,7**
Cash at end of period	**5,4**	**7,2**	**3,1**	**7,8**

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Table 16: Ratios of Pibiplast S.p.A

Ratios	2019	2020	2021	2022
Profitability Ratios				
Return On Investment	(7,8)	(11,2)	(19,8)	(13,2)
Return On Total Assets	(6,7)	(9,7)	(16,0)	(10,8)
Return On Sales	(15,2)	(24,9)	(31,4)	(18,0)
Return On Equity	(13,6)	(19,7)	(45,5)	(42,1)
Asset Turnover	0,4	0,4	0,5	0,6
Liquidity Ratios				
Current Ratio	1,1	1,3	1,0	1,2
Quick Ratio	0,7	0,9	0,6	0,8
DPO	125	119	150	123
DSO	47	54	50	53
DIO	200	242	211	194
Net Working Capital (days)	121	177	111	124
Financial Ratios				
Intererest Coverage	2,4	0,7	0,3	0,6
Debt to Equity	0,5	0,7	1,0	1,4
Net Debt/EBITDA	6,7	23,0	38,8	15,9
Cash Convershion Ratio	(1,9)	(0,2)	(4,7)	-
Cost Of Debt	5,4	4,7	5,2	8,6

Source: Bureau Van Dijk Database (AIDA)

Balance Sheet

Intangible Assets

This item of the balance sheet is mostly composed of Goodwill. Upon the constitution of the company in 2018, a Share Capital of 5 m€ was registered alongside a Paid-In Capital of 106,4 m€, for a total Shareholders' Equity of 111,4 m€ and the final balance of Goodwill reported 113,7 m€. In the following year, the company carried out a reverse merger with its controlling SPV, Pibi Holding Spa, with a negative reduction in Equity for 5,8 m€, which translated into a Goodwill reduction for the same amount. The value of the 100% participation of Pibi Holding in Pibiplast was 103 m€, while the total Equity of Pibiplast was 108,8 m €, hence the negative difference recorded.

Goodwill is amortized constantly over ten years and the management regularly conducts impairment tests to detect any decrease in value. Assumes the company as a single Cash Generating Unit and they discount the estimated future cashflows at the WACC of the firm, assuming a certain growth rate g. In 2021, this calculation, with WAAC= 7,67% and g= 1,74%, indicated a permanent loss of value of Goodwill equal to 4 m€, which increased the D&A on the Income statement, by the same amount. In the following years no other impairment losses are recorded and the amortization plan continued regularly, conducting to a Goodwill balance in 2022 of 56,9 m€.

The impact that the amortization and loss of goodwill has had on D&A was significant in the time period considered, transforming positive values of EBITDA into largely negative values of EBIT and therefore contributing to Net Losses.

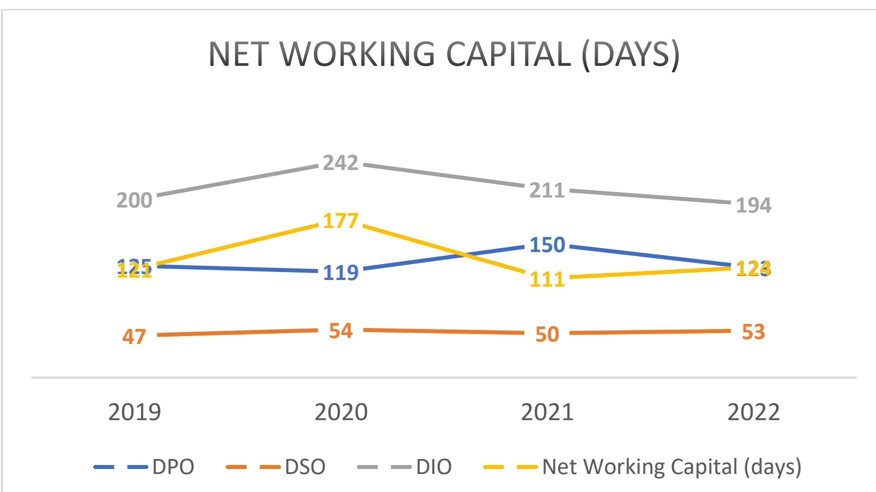
Net Working Capital

The receivables balance in 2019, dropped from 11,5 m€ down to 7,9 m€ due to better clients management and use of non-recourse factoring agreements, which led to a value of DSO equal to 47 days. In the following years the value remained stable *(Figure 2).*

A drop in demand in 2020 has pulled up the level of inventory, whose value has increased, also due to rising prices of raw materials. The payables account has seen a notable jump in 2021, rising by 6,3 m€ but it was reduced in the following period by 2 m€, due to a lack of trust from suppliers, who required earlier payments, reaching a final level of 15,9 m€.

Overall, the operating working capital absorbs on average about 4 m€ per year, while other items, such as tax receivables have a comparable impact on total net working capital, raising the need for operations financing to 7 m€ on average.

Figure 7: Net Working Capital in days



Bank Debt

Upon the establishment in 2018, the company received a Shareholders Loan of 16,8 m€. In the following year, when the merger with the Parent Vehicle occurred, this loan was fully repaid, and Long Term bank debt was raised from a pool of Financing Banks.

Two credit lines were activated: Tranche A, a fully amortized loan of nominal value 14 m€, interest rate 3,5% and due in September 2024, and Tranche B, a bullet loan of nominal value 21 m€, interest rate 4% and due in September 2025. In both cases, they are reported at amortized cost on balance sheet. The debt has placed a pledge on the Share Capital of the firm, and it was subject to a series of covenants regarding financial parameters, to be measured every six months and based on (Net Debt/EBITDA) and (EBITDA/Financial Expenses).

In the following year additional debt is raised: 7,6 m€ from the same pool of banks, backed by a guarantee from SACE, with an interest rate of 1,98%, and 2 m€ backed by a guarantee from Medio Credito Centrale. At the same time the firm negotiated and obtained a covenant holiday up to June 2021, which was respected on that date.

In 2022, the firm financial situation was critical, raising the risk of a Gone Concern. To prevent such a consequence, a new Industrial Plan for the years 2022-2026 was developed and tested by the management, with the help of reputable consultancy firms. A "Financial Maneuver Agreement" was negotiated with creditors, which forecasted an extension of the repayments plan and a covenant holiday up to June 2024 *(Table 5)*. The only covenant to be respected in the meanwhile was a Cap on Adjusted Net Debt.

Table 17: New Financial Agreement with Creditors, 2022

New Financial Agreement (€m)	2021	2022	2023	2024	2025	2026	2027	2028
Tanche A								
Original Agreement	8,1	(2,7)	(2,7)	(2,7)	-	-	-	-
New Agreement	8,1	(0,1)	(0,1)	(1,2)	(1,4)	(5,4)	-	-
Tanche B							-	-
Original Agreement	21,0	-	-	-	(21,0)	-	-	-
New Agreement	21,0	-	-	-	-	(21,0)	-	-
Revolving Credit Facility							-	-
Original Agreement	5,0	-	-	(5,0)	-	-	-	-
New Agreement	5,0	-	-	-	-	(5,0)	-	-
Capex Credit Line							-	-
Original Agreement	4,7	(0,3)	(0,5)	(0,9)	(3,0)	-	-	-
New Agreement	4,7	-	-	(0,2)	(0,4)	(4,1)	-	-
SACE							-	-
Original Agreement	7,6	(0,5)	(1,9)	(1,9)	(1,9)	(1,4)	-	-
New Agreement	7,6	(0,3)	(1,3)	(1,3)	(1,3)	(1,3)	(1,3)	(1,0)
Total Original	46,4	(3,4)	(5,1)	(10,5)	(25,9)	(1,4)	-	-
Total New Agreement	46,4	(0,4)	(1,4)	(2,7)	(3,0)	(36,7)	(1,3)	(1,0)

Source: Notes to the Financial Statements of Pibiplast S.p.A, 2022

The Bank Debt level in the 2022 balance sheet amounted to 54,7 m€, which puts the company in a critical situation in case it is not able to generate sufficient cashflows to meet its financial expenses and covenants.

Given that interest rates on debt are floating, the company entered multiple OTC Derivative Contracts, mostly IRS Swaps, to hedge against this risk. In 2022 a total of 4 contracts are still valid, with BPER, BPM, Credit Agricole and Intesa Sanpaolo, and they allow to protect 55% of the debt financing. The Mark To Market accounting method is adopted, therefore any temporary gain or loss from this contracts have a direct effect on Income Statement.

Shareholders' Equity

Upon the reverse merger of Pibiplast with Pibi Holding a Share Capital of 5 m€ and Paid-In Capital of 83,5 m€ are recorded. The continuous and subsequent Net Losses have reduced its value down to 39,5 m€ in 2022.

During the entire period in consideration, only two positive contributions to Shareholders' Equity can be counted. In 2020, according to new legislation, the company conducted an expert estimation of the firm's assets which resulted in an asset revaluation, net of taxes, of 5,5 m€. On the other side, a Revaluation Reserve is created and enhanced by the same amount. The revaluation regarded machineries and production plants acquired through financial leasing.

In accordance with the "Financial Maneuver Agreement" signed with the creditors, in 2022 the shareholders recapitalized the firm's Equity by 8,5 m€, paid pro quota: 85% from Beauty Holding, controlled by L Catterton and 15% by A.MOR S.r.l, controlled by Bosi family.

Overall, the Shareholders' Equity final value is largely reduced and if the firm's profitability in the following years does not improve, it will likely end up out of the money. Creditors may require further recapitalization to avoid liquidation.

Income Statement

Value of Production & Raw Materials

The value of production is mainly made of revenues from sales and services, while a minimum fraction represents revenues for special projects developed for clients. The company makes its revenues from packaging products in the make-up, skin care and "tubes" sector.

Sales show a constant growth trend, going from 62 m€ in 2019 up to 68,3 m€ in 2022. The only exception is represented by the year 2020, which can be charged to the pandemic restrictions. The firm makes more than 60% of its sales in Italy, while the remaining is almost equally divided between Europe and the rest of the world.

The First Margins are quite large, averaging 70% of Value of Production. In the last two accounting periods though, an increase in raw materials prices, especially plastic materials, has slightly shrinked these values.

The cost structure of the firm can be seen as equally composed of Raw Materials, Personnel and Services. The rising prices of energy and materials have progressively reduced the firm's operating margins. It is fundamental for the firm to maintain cost levels under control and increase its sales in order to maintain or enhance its margins.

D&A

Large part of this item is charged to the amortization of Goodwill. On average this counts for 11,3 m€ each year. In 2021 a devaluation of Goodwill for 4 m€ furtherly boosted D&A costs.

Tangible assets contribute to this account on average for 4 m€ each year, considering a revaluation of machineries and production plants that occurred in 2020 and which increased their value by 5,5 m€.

D&A are highly inflated by the amortization of Goodwill, which is planned to take place over a period of 10 years. The operating cost structure of the firm is large and allows excessively narrow values of EBITDA. The large amortization costs are crucial for the unprofitability of the firm, which thus becomes unavoidable.

Financial Expenses

The financial expenses are mostly due to the interest payments on the acquisition debt financing mentioned above. They average a value of 2,4 m€ per year during the entire period considered.

The debt renegotiation occurred in 2022 has contributed to this item with an additional amount of 2,3 m€, due to amortized cost recalculation, increasing the total expense to 4,7 m€. This was a non-monetary expense, but it has furtherly impacted the firm’s Net Loss.

There are other components, such as leasing financial expenses which are included in this item, but they have an irrelevant effect.

The new financial agreement signed with Creditors *(Table 5)* has provided temporary relief for the firm in the short term. Differently from what was foreseen in the original plan, the years 2022-2025 will entail debt services of limited value, slightly increasing in the last two years but still below 3 m€ per year. Large part of the repayment is due in 2026, amounting to 36,7 m€, while a remaining 2,3 m€ amount is planned for the following the years 2027-2028. Therefore, in the short term, business continuity does not seem at risk anymore. But the bullet repayment of 36,7 m€ due in 2026 forces the company to quickly recover from its current position, restructuring processes and enhancing cash generation from operations. Otherwise, a lack of profitability in the following years will definitely hinder the firm from meeting its financial commitments and push creditors to enforce their legal claim on firms assets.

Cash Flow Statement

The operating cashflows of the firm have always been negative, except for the year 2021, when, as already reported, a peak in payables has benefited the overall working capital. Nonetheless, in the following year, suppliers lost trust in the firm's capacity to meet its obligations and started requiring earlier payments, increasing liquidity absorption by working capital. In the same year, a drop in sales has raised inventory level, leading to a negative effect on operating cashflows.

The FCFF had negative values for the entire period in consideration. Raisings of bank debt were not sufficient to bring the final balance to positives values, since also FCFE stayed below zero. Only Equity increases, such as the Equity Recapitalization in 2022, have allowed to reach a positive increment in the final cash balance.

The narrow EBITDA margins of the firm are at the origin of its poor cash generation ability. This is further burdened by the high net financial expenses which absorb on average 2,4 m€ each year.

4.3.4. Final Comment

The overall situation of the firm is highly worrying, both from a financial and an operational perspective. In the last accounting period, it was necessary to renegotiate a debt repayment plan with creditors, in order to avoid Gone Concern categorization. The large amount of debt contracted for the acquisition, the consequent load of financial expenses and the contemporary limited operating profitability have hindered the firm from meeting its debt obligations, putting it at risk of bankruptcy. The “heavy” operating cost structure led to narrow values of EBITDA, which is a fundamental element for debt covenants, while the large amount of debt resulted in excessively high values of the ratio Net Debt/EBITDA as shown in *Table 13*. This scenario has been explored in depth by the research study (Leveraged Buyouts and Financial Distress, 2019), where the authors found out that bankruptcy rates for LBO target firms are 18% higher than non-LBO targets, a difference attributable to the highly leveraged capital structure of LBOs.

Table 18: Net Debt / EBITDA Ratio, 2019-2022

			2019	2020	2021	2022
Net Debt			(36,2)	(43,2)	(46,0)	(47,3)
EBITDA			5,4	1,9	1,2	3,0
Net Debt/EBITDA			6,7	23,0	38,8	15,9

Source: Analysis based on Bureau Van Dijk Database (AIDA)

Sales have shown a positive trend but the decrease in percentage first margins, due to rising raw material costs, have partially offset this positive factor. The large weight of operating monetary costs led to narrow operating margins which are insufficient to cover the financial expenses of the firm. In fact, during the last three years under examination, the metric (EBITDA-Interest paid) takes on negative values, or in any case lower than one, which gives a clear indication of the company's inability to honor its debt services with the cash deriving from operations.

The large D&A’s values had a considerable contribution to the final net losses faced. These latter have almost halved the equity value, urging the necessity for recapitalization by shareholders as agreed with creditors. Further accounting losses are predictable, given the goodwill amortization plan which lasts for five more years. It is not excluded that more funds will be required from shareholders.

Net debt has shown constant growth, excessively overcoming the equity share in total sources of financing. The financial expenses on this debt were higher than the company’s EBITDA in the last accounting year, furtherly contributing to the firm’s unprofitability. The new agreement signed with creditors, as shown above, reschedules future payments in order to allow the company lighter debt services in the short term, while postponing the larger payment of 36,7 m€ to the year 2026. Negotiations with creditors lasted for more than six months to achieve the new financing agreement. Among the documents involved, a new Industrial Plan for the time period 2022-2026 was necessary to finally convince the financing pool of banks. The five-year plan shows volume and revenue growth that is more restrained than the previous industrial plan and is significantly in line with industry forecasts. It also provides for a recovery in margins related to an increase in selling prices, to compensate for new increases in the costs of factors of production; greater volumes, allowing better productivity saturation and at the same time a more efficient time allocation and absorption of fixed costs; a more efficient automation of the loading system of the labor-intensive painting plant, with consequent benefits deriving from a gradual downsizing of the workforce; activities to improve industrial efficiency, measurement and reduction of production waste, as well as better performance of in-house manufacturing plants. On the other side, the commercial development plan was focused on promoting relationships with the main Italian filler manufacturers and, with the support of the American subsidiary, on finding new customers, both independent and with established brands. The Plan estimated the generation of operating cashflows and the achievement of positive operating profit, before goodwill amortization, in the year 2023. Furthermore, a better management of payment and collection terms as well as a greater use of non-recourse factoring, thanks to the opening of new banking relationships, accompanied by improved inventory rotation, is expected to have an impact of 2.3 million euros in lower net commercial working capital.

The radical change in management behavior signals an important feature of LBOs, i.e. the disciplining effect of debt. As stated by (Agency Cost of Free Cash Flow, Corporate Finance, and Takeovers, 1986), debt forces managers to cut unproductive expansion programs, sell worthless divisions and push payouts to creditors, as missing debt payments allow debtholders to exercise their senior claim on the firm's assets. In the case under examination, the financing pool of banks has allowed the postponement of payments, subject to strict observation and compliance with the Industrial Plan. Furthermore, the new financing agreement entailed an equity recapitalization by Shareholders for 8,5 m€, divided pro quota between L Catterton, Ambienta and A.MOR S.r.l. Capital injections by PE to financially distressed investees is a peculiar characteristic of their investment approach, as it has been demonstrated by the research study (Private Equity and the

Resolution of Financial Distress, 2021), also allowing for an out-of-court restructuring in the 52% of the cases, with respect to only 36% of non-PE backed firms.

Once again, the role of PE is crucial for the destiny of the firm. Paving the way for liquidation would be a difficult and unlikely choice given the high reputation of the funds involved. If operations do not improve during the next few years, investors may decide to exit in mainly two different ways: seeking a strategic buyer, i.e. a company in the same industry of the investee which is interested in strategic fit with its business , or through a secondary buyout, thus selling their share to an interested Private Equity firm. Both ways would entail a discount on the sale to encourage the buyer to restructure and achieve a profit.

5. Conclusions

This work covered an analysis of Italian LBO targets which are currently in a financially distressed position, putting at risk their business continuity. For each specific case, the decisions and actions undertaken by the management were explained and assessed. Nonetheless, some common features can be detected and highlighted as the main reasons for financial distress.

Sales revenue has been constantly increasing since the PE acquisition, which signals the high determination in expanding businesses, most likely according to the original *underwriting plans*. However, in most cases the expansion did not happen in a profitable and sustainable way, and the cost structure was not made efficient, either at gross margin level or EBITDA level, due to upturns in operating monetary costs. In some of the cases under investigation, exogenous shocks, such as Covid-19 pandemic and trade limitations, have contributed to the raising prices of primary resources. Therefore, the sale expansion did not benefit EBITDA growth, which showed only slight increases or not at all. It rather entailed an amplification of inventory and working capital cash absorption, which led to negative FCFFs.

This trend is incompatible with the nature of the financing sources of these firms, largely reliant on long term bank debt. The scheduled debt services were met through the already pre-existing cash balance. When this was insufficient, shareholders have contributed with own funds, through equity recapitalization or shareholders loans, to meet debt commitments. The breach of covenants on financial parameters has forced the firms to renegotiate the debt repayment agreement, delaying payments in time but adjusting for PIK interests which furtherly increased the face value of the loans. A common trend, indeed, is the stability or the growth of total Net Debt, which was supposed to follow the opposite direction in the pre-acquisition business plans.

A macroeconomic valuation may be appropriate to understand the peculiar tendency that emerged from these cases. As it has been shown in the literature review section, several studies, such as *(Brinkhuis & Maeseneire, 2009)*, *(Demiroglu & James, 2010)* and *(Shivdasani & Wang, 2011)* found a strong link between credit market conditions and debt level in LBOs financing. In the cases under examination, indeed, the acquisition period coincides with an historical low level of interest rates in Europe. The ECB's expansionary monetary policy has set interest rates to banks to zero or negative values, thus fostering a flux of liquidity to firms and investments. The auction-like process of the bid for LBO targets pushes the incumbent shareholders to accept the highest offer, beside from potential strategic synergies. This phenomenon has led to overpricing of deals, and as a direct consequence, to over-leverage of capital structures, beyond the firms specific ability of repayment. However, the responsibility of the concerning trends emerged from this study must be charged to all stakeholders. Policymakers could develop industry-specific regulations on leverage ratios and financing structures to foster a more responsible and sustainable LBO environment. Lenders should have implemented stricter due diligence processes, focused on the resources and capabilities of each firm, and established more robust financial parameter thresholds to refine their investments. While PE firms should have prioritized sustainable growth over aggressive expansion and sought EBITDA enhancements, either through cost-containment measures or strategic differentiation. By addressing these critical areas, the LBO landscape can be reshaped, prioritizing long-term value creation over short-term financial gains.

This research has the ambition to be illustrative rather than exhaustive. The methodology adopted was not aimed at generating quantitative statistics on the impact of LBOs on targets' performance. In this sense, existing literature has already produced plenty of studies applying regression analysis on wide samples and linking these transactions to increased financial distress. The overall objective set is to find the case-specific causes which may differ depending on firm characteristics, time period and geographics considered. Then an association with theory and literature has been established, adding new findings where possible. The initial sample considered, counted 28 worldwide PE operators and 160 investees, but the study can be furtherly developed taking into account a wider number of PE firms and portfolio companies, expanding the geographical limit to European or global LBO targets. Following the same methodology but refining the established financial parameter thresholds could yield richer findings and identify nuanced distress profiles. A subsequent analysis of the selected targets could deliver additional insights on determining factors of financial distress. In addition, the inclusion of exited LBOs would give further information on solution paths contributing to future mitigation strategies.

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Appendix A: PE Funds and Portfolio Companies

Private Equity Fund	Portfolio Company	Revenue (k€) 2022	NetDebt/EBITDA				Debt/Equity ratio %			
			2022	2021	2020	2019	2022	2021	2020	2019
21 INVEST	AUSSAFER DUE S.R.L.	81.482,0	1,8	1,5	-	-	0,9	0,6		
	CASA VINICOLA ZONIN S.P.A.	200.069,0	6,0	7,3	(44,3)	4,8	0,5	0,6	0,6	0,7
	ENERGREEN S.P.A.	73.155,0	1,5	(0,1)	-	-	0,6	0,5		
	IN & OUT HOLDING S.P.A.	-	5,3	13,4	-	-	-	-		
	SIFI S.P.A.	129.424,8	0,7	0,4	0,2	0,4	0,3	0,2	0,1	0,2
	TRIME S.R.L.		-	0,7	1,4	3,2		0,6	0,9	0,9
	WITOR'S S.P.A.	83.517,0	5,9	4,5	-	-	0,7	0,8		
ALPHA PRIVATE EQUITY	CAFFITALY SYSTEM S.P.A.	145.698,0	6,4	5,9	14,0	5,4	0,7	0,8	0,8	0,7
	CALLIGARIS S.P.A.	248.475,0	2,7	5,2	1,7	4,0	0,9	1,1	0,6	0,7
	LAMINAM S.P.A.	243.377,3	1,8	0,6	1,5	3,0	0,9	0,8	0,5	0,6
	OPTIMA ITALIA S.P.A.	273.846,0	0,6	0,5	0,8	0,6	2,6	2,1	2,9	1,4
	PRIMA INDUSTRIE - S.P.A.	484.660,0	0,9	1,4	2,8	2,3	0,5	0,7	0,9	0,8
	REMAZEL ENGINEERING S.P.A.		-	(1,0)	(1,0)	-		0,1	0,1	
ALTO PARTNERS SGR	C.E.I. S.P.A. - CALORE ENERGIA IMPIANTI	41.777,6	2,9	1,7	0,4	2,8	1,7	1,3	1,3	1,9
	FM COMPANY S.R.L.	16.547,5	0,4	1,0	1,3	3,1	0,4	0,6	0,9	3,1
	IPE' S.R.L.	52.419,6	4,8	5,3	5,6	5,2	1,4	1,5	1,4	5,5
	MILLEFILI S.P.A.	75.171,5	(0,1)	1,0	0,9	1,4	0,3	0,8	1,6	1,4
	MIPHARM S.P.A.	44.204,9	5,3	1,4	2,4	5,8	0,8	0,6	0,7	0,8
	OLIMPIA SPLENDID S.P.A.	113.391,2	1,8	1,4	0,0	0,4	0,7	0,6	0,7	0,6
ARDIAN	ALGO S.P.A.		-	7,0	17,4	14,0		2,7	4,6	13,3
	BIOFARMA S.R.L.		-	2,1	3,3	-		0,9	1,0	

	CELLI S.P.A.	166.255,6	(12,1)	14,5	11,2	4,3	1,5	0,9	0,8	0,7
	COROB S.P.A.	109.663,0	1,1	1,9	3,0	7,4	1,5	2,2	4,0	2,8
	DEDALUS ITALIA S.P.A.	108.772,0	(4,2)	1,3	2,1	6,3	0,2	0,1	0,2	1,4
	JAKALA S.P.A. SOCIETA' BENEFIT	434.250,0	4,8	10,1	2,2	3,1	0,8	0,7	2,4	2,3
	NEOPHARMED GENTILI S.P.A.	206.060,9	6,3	2,4	3,1	4,1	1,4	0,7	0,8	0,8
ARMONIA SGR	**ALBERTO ASPESI & C. S.P.A.**	42.074,7	(692,6)	(6,2)	(4,9)	1,2	1,1	0,7	0,6	0,3
	ARRIGONI S.P.A.	73.287,7	2,7	2,0	0,1	2,0	1,6	0,8	0,2	1,1
	ESTENDO S.P.A.	43.404,0	2,2	3,2	-	-	0,8	0,8		
	RIVA E MARIANI GROUP SPA	47.398,9	(32,7)	-	-	-	0,3			
AZIMUT LIBERA IMPRESA SGR	**GRUPPO MANIFATTURE ITALIANE S.P.A.**	95.860,1	3,0	3,3	3,0	-	1,3	1,3	1,1	
	ISOCLIMA S.P.A.	176.351,4	0,2	1,5	3,0	-	0,5	0,9	1,1	
	NUTKAO HOLDING S.R.L.	297.619,0	7,1	6,8	5,6	4,4	1,0	0,8	0,7	0,8
	OCS S.P.A.		-	(0,6)	-	-		0,0		
BAIN CAPITAL	**DELTATRE S.P.A.**	61.976,2	(0,1)	0,6	(2,1)	(0,1)	0,2	0,3	0,3	0,0
	ENGINEERING - INGEGNERIA INFORMATICA - S.P.A.	1.394.139,0	5,2	1,8	1,3	1,9	1,0	0,5	0,4	0,8
	ITALMATCH CHEMICALS S.P.A.	861.886,0	0,5	0,3	0,3	(0,5)	0,2	0,2	0,2	0,1
	NEXI SPA	5.399.141,0	-	-	-	-				
	OVERIT S.P.A.	48.873,0	2,9	1,7	1,4	2,0	0,1	0,2	0,3	0,5
BC PARTNERS	**CIGIERRE S.P.A.**	386.491,0	5,2	13,2	26,5	4,1	4,2	2,6	1,9	1,7
	DP GROUP S.P.A.	226.642,0	4,7	4,9	11,5	10,9	1,8	1,8	1,9	1,4
	FEDRIGONI S.P.A.		-	(0,9)	(1,6)	-		0,5	0,5	
	FORNO D'ASOLO S.P.A.	395.624,0	7,1	0,3	47,9	-	2,0	0,4	1,9	
	I.M.A. S.P.A.	1.990.343,0	1,0	0,1	2,2	2,0	0,3	0,1	1,1	1,3
CHEQUERS CAPITAL	**BIOLCHIM S.P.A.**	154.597,0	0,4	0,5	1,1	2,0	0,2	0,3	0,4	0,5
	GIOVANNI BOZZETTO S.P.A.	218.253,0	1,6	1,7	2,2	1,6	0,8	0,9	1,3	0,9
	MTA S.P.A.	318.996,5	0,9	0,7	-	-	0,5	0,4		
	PHOENIX INTERNATIONAL S.P.A.	112.648,0	5,3	4,2	4,7	1,5	1,4	1,4	1,1	0,7
	SELINI S.R.L.		-	8,0	8,6	6,7		2,9	3,7	3,0

	SO.MA.CI.S. - S.P.A. -	56.143,3	0,8	3,3	3,9	3,8	0,5	0,7	0,7	0,7
CVC CAPITAL PARTNERS	**BIP GROUP S.R.L.**	320,2	12,8	1,4	-	-	0,5	0,5		
	GENETIC S.P.A.	72.999,3	1,8	4,4	-	-	0,6	0,6		
	RECORDATI S.P.A.	1.853.307,0	1,9	1,0	1,2	1,3	1,0	0,6	0,7	0,8
	RGI SPA		-	5,8	14,4	5,6		1,1	1,3	1,1
DBAG	**ITELYUM GROUP S.R.L.**	552.388,8	(0,4)	(6,1)	-	-	0,1	0,1		
	MTW HOLDING S.P.A.		-	1,2	-	-		1,0		
EQT	**FACILE.IT S.P.A.**	43.772,0	(1,5)	(1,5)	(6,2)	(0,1)	2,6	2,9	3,4	0,1
	LIMACORPORATE S.P.A.	248.594,0	7,1	1,2	1,2	0,5	0,2	0,2	0,2	0,2
	MINERVA S.P.A.	87.870,3	1,8	0,3	1,3	4,3	0,7	0,9	1,5	1,4
FININT	**SE.RI.NEX S.R.L.**	11.261,3	(1,0)	(1,1)	(1,4)	(0,8)	0,2	0,3	0,1	0,2
	TECNO COVER S.R.L.	7.649,3	(2,2)	(1,1)	(1,6)	(1,6)	-	-	-	-
Green Arrow Capital SGR	**GREEN PACK HOLDING S.R.L.**	103.703,2	2,8	3,6	2,7	(5.233,9)	0,9	0,9	1,0	1,1
	LABWARE S.P.A.	8.383,2	(0,4)	(0,1)	0,6	(55,4)	0,2	0,2	0,1	0,2
	RICHETTI S.P.A.	60.814,7	0,1	(1,1)	(0,5)	1,3	0,2	0,6	0,5	1,4
	SEVEN S.P.A.	276.821,0	(0,6)	(0,8)	(0,6)	(0,6)	-	-	-	-
	TFM AUTOMOTIVE & INDUSTRY S.P.A.	69.500,9	4,1	4,7	8,7	5,5	1,7	1,6	4,0	2,3
H.I.G. EUROPE DGS	**BERARDI BULLONERIE S.R.L.**	114.806,6	1,9	(0,0)	(0,0)	1,2	0,9	0,2	0,3	0,6
	CADICAGROUP S.R.L.	105.655,7	3,0	3,0	7,0	6,8	2,1	1,8	2,4	1,4
	DEENOVA S.R.L.	18.603,4	1,8	1,4	1,4	1,9	0,4	0,5	0,5	0,8
	DGS S.P.A.	206.484,7	4,0	3,5	(0,3)	1,5	3,0	2,6	0,5	1,4
	LETO S.R.L.	135.502,0	(0,5)	(0,8)	(1,1)	(0,2)	0,3	0,4	0,6	0,5
	METALPRINT S.P.A.	133.462,7	2,0	2,4	3,0	2,7	1,6	1,4	1,7	1,5
	PINALLI SRL	115.046,0	(1,7)	(1,2)	(0,8)	0,8	0,5	0,7	0,6	0,6
IGI Private Equity SGR	**BLUMEN GROUP S.P.A.**	36.305,6	4,4	2,8	-	-	1,8	1,7		
	MATEC INDUSTRIES SPA	74.546,9	2,5	3,9	3,3	1,5	2,0	1,5	1,2	1,5
	O.M.E. - METALLURGICA ERBESE - S.R.L.	45.130,5	2,3	4,5	(0,6)	(2,8)	0,7	0,8	0,3	0,2
	TEST INDUSTRY S.R.L.	33.891,2	5,9	2,7	3,7	2,4	0,6	0,6	0,6	0,5

	TRAMEC S.R.L.		-	1,6	-	-		0,7		
INVESTINDUSTRIAL	**AMALFI HOLDING S.P.A.**		-	4,4	-	-		-		
	ARTSANA - SOCIETA' PER AZIONI	1.896.134,0	4,3	3,8	3,7	3,5	2,3	2,2	2,2	1,8
	CEME S.P.A.	322.451,0	3,6	3,1	3,2	5,7	0,9	0,9	0,9	1,0
	DESIGN HOLDING S.P.A.	844.044,0	0,5	(0,5)	(0,4)	(0,1)	0,2	0,1	0,1	0,1
	EATALY S.P.A.	588.372,4	7,7	40,3	(3,9)	3,6	206,5	6,1	3,8	1,5
	EZ SERVICE S.R.L.		-	7,8	-	-		1,9		
	FARMACEUTICI PROCEMSA S.P.A. SB		-	3,0	-	-		1,8		
	FLOS SOCIETA' PER AZIONI	269.691,0	(0,1)	(0,3)	(0,3)	(0,0)	0,0	0,0	0,0	0,0
	GUALA CLOSURES S.P.A.	881.047,0	0,0	(0,2)	0,1	0,1	0,1	0,1	0,1	0,1
	ISTITUTO DI VIGILANZA DORIA S.R.L.	2.160,6	(0,5)	(0,7)	(1,9)	0,2	0,4	0,2	0,2	0,5
	ITALCANDITI S.P.A.		-	4,7	6,4	5,4		0,9	0,9	0,9
	OMNIA TECHNOLOGIES S.P.A.	239.926,3	0,7	(0,4)	(94,9)	-	0,3	0,2	0,4	
	SERGIO ROSSI SPA	61.667,0	(1,3)	(4,1)	(4,0)	(16,0)	0,8	1,2	0,7	0,9
	TARGA TELEMATICS S.P.A.	50.410,7	(1,2)	0,0	(0,1)	(0,4)	0,1	0,2	0,3	0,2
	VAIMO S.P.A. SOCIETA' BENEFIT	36.129,6	68,1	(2,3)	(2,2)	(1,4)	1,0	0,9	0,7	0,3
JEFFERIES	**OPNET S.P.A.**	186.724,0	2,9	2,9	2,6	3,2	10,8	2,7	3,7	1,4
L CATTERTON	**CAREDENT ITALIA S.P.A.**	44.088,2	17,8	9,2	(9,7)	(18,0)	2,1	2,8	6,1	2,4
	ETRO S.P.A.	280.124,3	(1,1)	2,5	-	-	0,8	0,6		
	GIUSEPPE ZANOTTI S.P.A.	90.458,2	1,5	1,3	(1,6)	(2,4)	0,5	0,5	0,5	0,4
	IAF NETWORK S.P.A.	46.491,9	0,8	(9,0)	(0,9)	(0,0)	0,3	0,0	0,1	1,5
	PIBIPLAST S.P.A.	66.555,1	16,1	62,0	28,3	6,7	1,4	1,0	0,7	0,5
MINDFUL CAPITAL PARTNERS	**COFFEE HOLDING S.P.A.**		-	0,7	-	-		-		
	CROCI S.P.A.	31.873,9	14,1	5,5	2,1	3,6	1,3	1,1	0,5	1,2
	ITALCER S.P.A. SOCIETA' BENEFIT	317.252,0	0,7	0,1	(0,2)	0,1	0,3	0,2	0,3	0,2

	ITALIAN FROZEN FOOD HOLDING S.P.A.	75.177,3	3,6	4,8	2,8	3,9	0,7	0,8	0,8	0,9
	MARGOT S.P.A.		-	2,5	(28,4)	86,5		0,9	1,8	0,9
	MEDTECH HOLDING S.P.A.	-	0,8	3,0	-	0,8	-	-		-
	SELEMATIC - S.P.A. -	12.890,1	3,8	(1,8)	(0,9)	(0,5)	0,9	0,0	-	0,1
	WAICO S.R.L.	25.845,8	3,6	-	-	-	0,5			
	YMENSO S.P.A.		-	(186,3)	-	-		0,4		
NB RENAISSANCE PARTNERS	**ARBO SOCIETA' PER AZIONI**		-	1,5	3,0	3,9		0,7	0,9	0,9
	BENDING SPOONS S.P.A.	151.301,0	27,2	(0,1)	(1,4)	(0,4)	3,4	2,0	1,2	1,3
	COMELZ S.P.A.	82.097,0	1,4	3,1	8,9	2,7	0,4	0,5	0,5	0,5
	HYDRO HOLDING S.P.A.	85.713,1	1,6	2,2	7,2	6,9	0,6	0,6	0,7	0,7
	RINO MASTROTTO GROUP S.P.A.	344.526,7	1,9	2,0	2,8	0,4	0,7	0,8	0,8	0,4
	SICIT S.R.L.		-	-	-	-				
	U-POWER GROUP S.P.A.	270.193,0	0,3	(0,1)	(0,1)	0,3	0,6	0,3	0,4	0,5
	UTECO CONVERTING S.P.A.	98.330,9	3,6	1,2	3,7	2,9	0,7	0,7	0,8	0,9
PALLADIO HOLDING	**BERNARDINELLO ENGINEERING S.P.A.**	36.092,7	(0,3)	(0,6)	(0,5)	(1,4)	0,1	0,2	0,4	-
	BIOS LINE S.P.A.	42.240,7	2,0	0,0	(1,4)	(1,2)	0,4	0,0	-	0,1
	NICE FOOTWEAR S.P.A.	31.653,4	0,0	-	-	-	0,5			
	RCF GROUP S.P.A.	185.333,0	3,7	5,2	97,8	3,6	2,3	3,6	4,7	2,6
	SANTI S.R.L.	20.047,0	4,6	21,9	9,2	(1,4)	0,8	0,9	1,0	-
	TCH S.R.L.	91.995,0	0,3	4,5	3,9	1,8	0,4	1,6	1,3	1,0
	UNI GASKET S.R.L.	46.447,7	11,7	5,7	13,8	14,0	1,0	0,9	0,8	0,8
	WISYCOM S.R.L.	11.330,8	(0,2)	(1,0)	(1,7)	(1,3)	-	-	-	-
RIELLO INVESTIMENTI PARTNERS	**E.P. ELEVATORI PREMONTATI S.R.L.**	37.281,5	(1,4)	(1,5)	(4,1)	(4,7)	0,5	0,8	0,5	0,3
	FOODNESS S.P.A.	21.013,2	34,0	16,8	(9,5)	2,2	5,5	2,8	1,8	2,3
	GARMONT INTERNATIONAL S.R.L.		-	1,9	-	-		1,0		
	IL FORNAIO DEL CASALE S.P.A.	43.806,0	1,2	1,0	1,7	2,1	1,2	0,9	1,2	1,5

	P & P LIGHTING S.R.L.	1.124,5	0,7	(0,9)	-	-	0,7	-		
RIVERSIDE	**BIODUE S.P.A.**	69.888,0	1,5	1,2	3,0	2,5	0,5	0,6	0,9	0,6
	IL PASTAIO S.P.A.	51.554,0	2,4	0,1	(0,1)	0,6	0,9	0,7	0,9	0,9
	LA GALVANINA S.P.A.	75.740,0	61,1	6,3	6,5	30,6	1,6	1,5	1,7	1,3
TIKEHAU CAPITAL	**BRANDART S.P.A.**		-	2,8	0,6	-		0,9	0,5	
	DOVEVIVO S.P.A.	85.406,6	0,3	1,9	(66,3)	-	0,2	0,3	1,1	
	ECOPOL S.P.A.	44.305,0	2,4	-	-	-	0,5			
	EUROGROUP LAMINATIONS S.P.A.	851.112,0	2,4	1,4	2,9	-	2,0	1,2	1,3	
	HOWDEN ASSITECA S.P.A.	97.885,0	7,3	1,7	1,8	2,6	1,0	0,9	0,7	1,3
	MINT S.P.A.	61.760,3	(1,4)	(1,6)	0,4	0,1	0,2	0,3	1,6	-
WHITE BRIDGE INVESTMENTS	**FOODELICIOUS S.R.L.**	13.586,4	0,8	0,7	0,1	(2,9)	0,4	0,3	0,2	-
	NEMBO SECURITY S.R.L.	238,0	(0,6)	(2,1)	(0,1)	0,0	-	-	-	-
	REEVO MSP S.R.L.	4.044,8	(0,9)	(0,8)	(1,6)	-	0,2	0,3	0,3	
	SECURITY LAB S.R.L.		-	(0,7)	(0,2)	(0,5)		0,2	0,8	1,2
WISE EQUITY SGR	**ALMAC S.P.A.**	27.173,4	(0,7)	1,5	0,1	1,4	0,0	1,4	1,5	2,5
	FI.MO. S.P.A.	11.683,5	(2,2)	139,4	(5,5)	(8,7)	0,1	0,0	0,0	-
	INNOVERY SPA		-	3,8	1,9	0,1		0,5	0,5	0,7
	NTC S.R.L.	39.967,6	3,5	1,4	3,5	3,3	0,7	0,6	0,6	0,8
	ONETAG S.R.L.	11.991,3	(0,1)	(1,7)	(2,2)	(8,2)	0,0	0,1	0,2	-
	SELLE ROYAL GROUP S.P.A.	223.763,0	0,9	1,0	2,1	2,1	0,9	1,3	1,5	1,1
	SPECIAL FLANGES SPA		-	(1,2)	-	-		-		
	VERTITEX S.P.A.		-	96,0	64,5	(63,9)		2,3	2,0	0,8
	VITTORIA S.P.A.	106.949,0	1,7	0,4	1,1	-	0,6	0,3	0,3	
	WAYCAP S.P.A.	36.622,3	2,7	3,0	6,5	3,1	1,1	1,3	1,3	1,0
XENON PRIVATE EQUITY	**CHEBUONI S.R.L.**		-	-	-	-				
	EMS GROUP S.P.A.	206.548,0	5,9	(3,3)	4,9	6,2	1,7	1,4	0,7	1,3
	FIFTH BEAT SRL	5.183,7	-	-	-	-				
	IL FARO QUALITY FISH S.R.L.	12.212,2	0,6	1,3	5,1	-	0,7	1,8	2,8	
	KOVERLUX S.R.L.	10.950,9	(0,5)	9,8	196,7	0,4	-	1,1	1,1	0,4
	MINERVAHUB S.P.A.		-	3,2	5,4	(364,2)		1,1	1,6	1,4
	N.T.W. S.R.L.	4.466,6	(2,5)	(0,6)	(1,0)	(1,1)	-	-	-	-
	TESTING S.R.L.	3.965,8	-	-	-	-				

Appendix B: Selected Portfolio Companies

Private Equity Fund	Portfolio Company	Financial Distress	D/E Ratio Minimum	Control Ownership	Selection
21 INVEST	CASA VINICOLA ZONIN S.P.A.	Distress			
ALPHA PRIVATE EQUITY	CAFFITALY SYSTEM S.P.A.	Distress			
ARDIAN	ALGO S.P.A.	Distress	Over-Leveraged	Majority	Selected
	CELLI S.P.A.	Distress	Over-Leveraged	Majority	Selected
	JAKALA S.P.A. SOCIETA' BENEFIT	Distress	Over-Leveraged	Majority	Selected
	NEOPHARMED GENTILI S.P.A.	Distress	Over-Leveraged		
AZIMUT LIBERA IMPRESA SGR	NUTKAO HOLDING S.R.L.	Distress		Majority	
BC PARTNERS	CIGIERRE S.P.A.	Distress	Over-Leveraged	Majority	Selected
	DP GROUP S.P.A.	Distress	Over-Leveraged		
	FORNO D'ASOLO S.P.A.	Distress	Over-Leveraged		
CHEQUERS CAPITAL	SELINI S.R.L.	Distress	Over-Leveraged		
CVC CAPITAL PARTNERS	RGI SPA	Distress	Over-Leveraged	Majority	Selected
EQT	LIMACORPORATE S.P.A.	Distress		Majority	
GREEN ARROW CAPITAL SGR	TFM AUTOMOTIVE & INDUSTRY S.P.A.	Distress	Over-Leveraged	Majority	Selected
H.I.G. EUROPE DGS	CADICAGROUP S.R.L.	Distress	Over-Leveraged	Majority	Selected
INVESTINDUSTRIAL	EATALY S.P.A.	Distress	Over-Leveraged	Majority	Selected
	ITALCANDITI S.P.A.	Distress		Majority	
	VAIMO S.P.A. SOCIETA' BENEFIT	Distress			
L CATTERTON	CAREDENT ITALIA S.P.A.	Distress	Over-Leveraged		

	PIBIPLAST S.P.A.	**Distress**	**Over-Leveraged**	**Majority**	**Selected**
MINDFUL CAPITAL PARTNERS	**CROCI S.P.A.**	**Distress**	**Over-Leveraged**	**Majority**	**Selected**
NB RENAISSANCE PARTNERS	**BENDING SPOONS S.P.A.**	**Distress**	**Over-Leveraged**		
	COMELZ S.P.A.	**Distress**		**Majority**	
	HYDRO HOLDING S.P.A.	**Distress**		**Majority**	
PALLADIO HOLDING	**RCF GROUP S.P.A.**	**Distress**	**Over-Leveraged**		
	UNI GASKET S.R.L.	**Distress**		**Majority**	
RIVERSIDE	**LA GALVANINA S.P.A.**	**Distress**	**Over-Leveraged**	**Majority**	**Selected**
TIKEHAU CAPITAL	**HOWDEN ASSITECA S.P.A.**	**Distress**			
WISE EQUITY SGR	**VERTITEX S.P.A.**	**Distress**	**Over-Leveraged**		
	WAYCAP S.P.A.	**Distress**	**Over-Leveraged**	**Majority**	**Selected**