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"PRIVATE EQUITY, LEVERAGED BUYOUT AND VALUE CREATION: SOME ITALIAN CASES"

Relatore:

Ch.Mo Prof. Fabio Buttignon

Laureanda:

Anna Cattapan

Matricola N. 1178835

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Introduction

The purpose of this work is to analyze how private equity companies create value in leveraged buyout transactions (LBO), with specific reference to the Italian scenario. The wide literature review presented in the first part is accompanied by the analysis of 5 Italian companies, which have been object of LBO in the recent years.

A private equity company is a financial intermediary typically organized as a partnership or limited liability corporation. It raises equity capital through a private equity fund, a limited partnership, in which General Partners are the managers and the Limited Partners provide the capital to be invested. The private equity companies and its General Partners can be compensated in three ways: first, they earn an annual management fee, typically 2% of the committed capital; second, General Partners earn the so-called carried interest, a share of the profits of the fund, commonly fixed at 20%; third, they can charge deal and monitoring fees to the companies in which they invest.

Leveraged buyout is a transaction in which a company is acquired using a relatively small portion of equity and a relatively large portion of debt financing, thus resulting in a company that has more debt than before the transaction occurred. The transaction is realized through the creation of a new company, Newco, which receives the debt financing from the lenders, and is used by the PE to acquire the target company. Then, the target company is merged into the Newco, through a merger by incorporation; after this step, the original financing borrowed by the Newco is extinguished and is replaced by new financing contracts, guaranteed by the assets and the shares of the Newco itself, which at this point includes also the target.

This type of transaction is largely performed by PE companies, which buy majority controls of firms in which they invest, differently from Venture Capitals which typically obtain minority stakes. A potential target company for a leveraged buyout transaction typically has a leading position in the reference market, is undervalued at the moment of the deal, generates strong and sustainable cash flows, has a proven management team, potential efficiency enhancement and growth opportunities, low Capital Expenditures requirements, and a strong asset base that serves as collateral for debt financing.

Prior to 1970s, the term leveraged buyout can be reconducted to the "bootstrap" acquisition, which was for those years little more than an obscure acquisition financing technique. It was during 1970s, when newly formed firms such as Kohlberg Kravis Roberts (KKR) and Thomas H. Lee Company saw an opportunity to profit from inefficient and undervalued corporate assets, that the term leveraged buyout has been started to use (Olsen, 2002). This financial technique allows investors to buy undervalued public companies, but also to solve what Jensen theorized as the agency costs of free cash flows: as the agency theory shows, there are conflicts between the managers (agents) and the shareholders (principals), since their interests are not aligned; this is particularly true when the company generates substantial free cash flow. To the extent that managers are in charge of investing the available FCF incurring in no personal risk, they may not tightly evaluate the riskiness of the projects they are carrying on or if they are the best projects in which invest from a shareholder point of view. One solution to this problem is increasing the level of debt of the company: the interest and principal debt payments reduce the cash flow available for spending at the discretion of managers (Jensen, 1986). Leverage creates pressures on managers to not waste money. Therefore, a potential benefit of debt is to motivate managers to efficiently run excess free cash flows, preventing from wasting resources on low-return projects (Jensen, 1986), and consequently contributing to increase the value of the company.

The increasing importance of the leveraged buyout transactions over the years, despite the crash of junk bonds at the end of 1980s and the peaks and downturns of this market, stimulated authors and researchers to analyze how private equity companies create value in these transactions. Notwithstanding the widespread literature in this field, there is a lack of research, except for few attempts, offering an overall view of the various mechanisms by which value can be created in buyouts. Therefore, this work seeks to contribute to the emerging literature whose aim is to propose an overall framework for mapping the diverse opportunities to create value. The approach adopted is to classify in a systematic way the measures, the activities, the actions implemented by PE companies to create value in their targets, and the overall factors affecting LBOs.

In the first chapter it is presented a literature review with an in-depth analysis of the factors that contribute to generate value in leveraged buyouts. They are organized in 3 macro-categories – firm factors, market factors, private equity factors, and a total of 11 factors. Chapter 2 performs an analysis of the Italian private equity market from 2000 to 2018, which shows the importance of the buyout activity in the private market, and the increasing relevance of the private equity market in the Italian scenario. Next, in Chapter 3 it is carried out an empirical analysis on 5 leveraged buyout investments in Italian companies – DOC Generici Srl, Rollon Spa, Cellular Italia Spa, Bormioli Rocco Spa, Suba Seeds Spa. The transactions, made by both Italian and foreign private equities, have been performed in the recent years, starting from 2012, and all of them have been completely closed prior to 2019. Despite being aware of the several failures that private equity funds undergo during their activity, in this work only successful cases have been analyzed; as a matter of fact, the purpose is to delve into the actions undertaken by the General Partners and understand their contribution to the capital value creation (IRR).

For each company, it is displayed an overall view of the business model, the products offered, the market in which it operates; the data related to the transaction, both entry and exit; the activities performed during the holding period by the financial sponsors; an economical and financial analysis based on the Balance Sheet, Income Statement, Cash Flow Statement, along with the evaluation of the value drivers implemented by the General Partners.

Chapter 1 – Do LBOs Create Value? Evidence from Literature

In this chapter, an in-depth analysis of the factors that contribute to generate value for Private Equities in leveraged buyouts transactions is performed. Despite there is a strong debate on how private equity firms operate in these transactions, the overall empirical evidence suggests that leveraged buyouts by private equity firms create value (Achleitner, et al., 2011; Axelson, et al., 2013; Ayash , et al., 2017; Castellaneta, et al., 2019; Cumming, et al., 2007; Demiroglu & James, 2010; Guo, et al., 2008; Kaplan & Schoar, 2005; Nikoskelainen & Wright, 2007; Scellato & Ughetto, 2013). Given the increasing importance of the private equity sector for both private and public companies, as it can be seen also by the substantial larger investments performed by Limited Partners over the years, it is worth analyzing how these companies act and create value for their targets.

The mechanisms adopted by private equities in LBOs are powerful instruments to solve the agency costs of free cash flows theorized by Jensen. The high level of debt involved in this type of transactions contributes to not dissipate substantial free cash flows generated by the company in no profitable projects, since they have to be used to meet principal and interest payments on debt. In addition, giving equity stake to the senior managers leads to realign the interest between them and the owners of the company. Along with other measures adopted, in this chapter it is presented an in-depth analysis and classification of the principal value drivers detected in the wide literature about leveraged buyouts and private equity firms. The value drivers are classified according to the type of factors that directly influence them. Namely, three different macro-factors have been identified – firm factors, market factors and private equity factors. Firm factors comprise the classical mechanisms applied by PE sponsor to the target firm, related to financial, operational and governance engineering. Market factors identify those factors that influence the LBO transactions, which depend on the situation of capital markets and the overall economic environment. Then, private equity factors include the characteristics of the fund, the skills and knowledge of General Partners and the role covered by financial sponsor in the capital markets. Therefore, it does not identify the mechanisms applied by PE to the target, but the features of the private equity company itself. It is worth noting that other works classify in a different way the value drivers of LBOs, for example Simon (2015) basically classifies in direct and direct value drivers, plus levers of value capture. In a following work, Castellaneta, Simon and Wright (2018) identify 7 types of value drivers – financial, operational, strategic, governance, cultural, commercial, institutional, and 32 sub-drivers. Then, Gomper, Kaplan and Mukharlyamov (2015) surveyed 79 private equity firms managing $750 billion in capital, providing granular information on PE managers’ practices, and the actions they say they take grouping them into specific firm strategies. However, even if they are classified according to different factors and principles, the value drivers detected by different authors in different papers are substantially similar.

The remaining of this chapter is organized as follows: in paragraph 1.1 the firm factors are analyzed, starting from financial engineering in 1.1.1, free cash flow and working capital management in 1.1.2, operational engineering in 1.1.3, and governance engineering in 1.1.4. The paragraph 1.2 comprises all the value drivers related to market factors, specifically the influence of debt market conditions in 1.2.1, the mispricing between debt and equity markets in 1.2.2 and the multiple arbitrage in 1.2.3. Then, private equity factors are analyzed: the object of 1.3.1 is to show how the reputation, the knowledge and the experience of private equity sponsor and General Partners influence the value of their targets. The active role as financing intermediaries covered by private equities in capital markets allows them to build reputed relationships with senior lenders – aspect discussed in the paragraph 1.3.2. Different studies find that the stage of the life cycle of the fund and the timing tactics adopted by PEs impact the valuation of the LBO firms. These findings are deepened respectively in 1.3.4 and 1.3.3. Finally, section 1.4 depicts a brief presentation of the levers of value capture, which are slightly different from value creation drivers, since value is not created, but won or lost in what constitutes a zero-sum game (Simon, 2015).

1.1 Firm Factors

According to Kaplan and Strömberg (2009), the sets of changes applied by private equity firms to their targets can be categorized as financial, operational and governance engineering. In this section these three mechanisms are analyzed. Starting from financial engineering, the central role of leverage in LBO transaction is discussed, in particular, it is discussed the potential benefits of high level of debt, the relationship between leverage and pricing, and the analysis of the factors that determine the capital structure of buyout firms and public companies. In paragraph 1.1.2, it is discussed how the improvement of working capital management carried out by PE sponsor positively influences the value of the target. Next, operational engineering measures are deepened, in particular how the strategy adopted by private equity firm evolves over time: during the first wave of buyout, they primarily focused on increasing operating margin, while in the recent years it seems more effective to exploit sales growth potential. In addition, it is considered how the increasing bargaining power with supplier affects value creation after an LBO deal, and the need to take into account distortions and biases in accounting measures when evaluating operational improvements. Finally, with the aim to show other powerful tools that can be used to solve the agency costs of free cash flow theory explained by Jensen, the ultimate changes applied by PE sponsor – governance engineering –

are analyzed: the term identifies a set of mechanisms related to changes in board composition, management team and management incentives, and stronger monitoring and control activities applied by private equity firms.

Supplementary to the three changes, another important element that started to emerge in the latter half of the 1990s is the strategic redirection in buyout firms during the holding period. The objective of PE firms is to achieve a market leadership position by consolidating a fragmented market or to refocus the firm on core business activities by asset divestment (Simon, 2015). In particular, private equity directors reduce the level of diversification of the targets, sell assets and divest non-core operations, allowing to reduce complexity and to focus on the core business of the firm (see Gadad & Thomas (2004), Phan and Hill (1995), Kaplan and Weisbach (1992) and Aslan and Kumar (2001) in Castellaneta, et al., 2018). Another typical tool developed by the financial sponsor is the creation of 100-day plan immediately after the deal that contains the necessary changes during the holding period. This is particularly useful because new owners are frequently under pressure to improve cash flows to serve debt obligations, meaning that there is a limited period of time to enact operational improvements (Castellaneta, et al., 2019).

1.1.1 Financial Engineering

Leverage in LBO transactions is the core element since it characterizes the transaction itself. All the other mechanisms applied by the PE sponsors serve it to create value. Increasing leverage allows private equity firms to buy a larger target or to acquire a company with less fund investment involved; however, the sharp increase of debt imposes as of first importance the risk of default for the target firm (Kaplan & Strömberg, 2009). Different studies find that the leverage amount and debt coverage are important sources of value creation (see Kovner (2010) in Ivashina & Kovner, 2011; Nikoskelainen & Wright, 2007; Kaplan & Strömberg, 2009; Castellaneta et al., 2018; Demiroglu & James, 2010). Nevertheless, PE sponsors need to implement other measures such that the potential benefits of leverage overcome the risk of default.

As Simon (2015) highlights, during 1980s, the utilization of high level of debt created demand for different financing techniques, collectively called financial engineering. These new financial instruments evolved over time, thus allowing the PE firms to profoundly reorganize the capital structure of the target company. In particular, according to the seniority, the pricing, the issuer, the riskiness, different types of debt are available to the sponsors and their availability depends on the size of the buyout. As a matter of fact, investments banks require collateral for borrowed funds, and according to Nikoskelainen & Wright (2007), the amount they are willing to provide depends on the assets of the target, its operating history and the risks associated with cash flows. Generally, in LBO transactions, it is possible to find different types of debt, in particular:

- *Bank Debt*: it is the most secure debt with the highest seniority, included in the first lien. It can be further divided into:
    - *Revolving Credit Facilities*: it is also called contingent debt, and serves to fund working capital, capital expenditures, acquisition lines of credit, add-on acquisitions, but is not drawn down at the time of the transaction (Axelson, et al., 2013);
    - *Term Loan A*: amortizing debt with typically 4-6 years of maturity, floating interest rate issued by commercial or investment banks;
- Institutional loans that comprise *Term Loan B* and *Term Loan C*: they are so-called bullet debt, non-amortizing with typically 6-8 years of maturity, with higher basis points than Term Loan A, and lower level of seniority;

The types just described are usually part of the first lien debt, also called senior leverage. Then, PE sponsors can choose among different types of less secure debt, also called subordinated, or second lien debt or junior leverage:

- *High yield bonds*: they can be further disaggregated into senior secured debt and senior subordinated debt. They are non-investment grade debt, typically bullet with longer maturities – 8-10 years, less restrictive covenants and higher coupon fixed interest rate;
- *Bridge loans*: short term loan typically required by the transaction structure of the LBO;
- *Mezzanine debt*: it represents hybrid security composed of subordinated debt and preferred stock. It allows to cater financing needs of the target firm. Interests on mezzanine debt can be paid either through cash or "pay-in-kind" toggle: this feature provides the borrower to pay interest through the issuance of additional debt providing relief at times of financial distress (Demiroglu & James, 2010). The interest rate is generally fixed and this instrument has longer maturity, between 8 and 12 years.

Accordingly, covenants become less restrictive as level of subordination increases. As stated in Axelson et al. (2013), bank debt is usually kept on the balance sheet of the originating bank after the transaction, while the subsequent less secured types are often securitized to institutional investors, e.g. hedge funds. The level of debt in LBOs is typically expressed in terms of EBITDA, which is a powerful and useful way because it shows how many years are needed to repay all the outstanding debt, considering that EBITDA can be used as proxy for cash flows.

Despite the already known drawbacks of high level of debt connected to financial distress and bankruptcy costs, there are several benefits connected to it, in particular:

1) Increased tax shield: the tax deduction on debt interests generates substantial value for the company (Guo, et al., 2008; Simon, 2015). The value of tax shield is expected to be higher when the corporate tax rate is high and when the firm has high and steady taxable cash-flows (Axelson, et al., 2008). Higher is the level of debt, higher the benefits related to tax deduction;
2) Disciplining effect of debt: since all the free cash flows available to managers are used to repay debt during the holding period, it reduces the possibility to supply value dissipating investments (Jensen, 1986). In addition, high levels of debt expose managers to the personal costs of bankruptcy, which forces them to efficiently run the company to avoid default (Castellaneta, et al., 2019), creating strong incentives to invest in growth and positive net present value opportunities;
3) Increased monitoring and control reduce agency costs: higher level of debt leads to stronger monitoring activities performed either by banks or PEs (see section 1.4.1) due to the higher financial distress risk in LBO target. This forces management to reduce wasteful uses of corporate resources and focusing on performance and value, thus allowing to realign the interests between owners and executives (Guo, et al., 2008).

Another important element that is worth analyzing with reference to financial engineering is the relationship between leverage and pricing. Different studies confirm that the level of leverage is positively associated with entry price of buyout (Axelson, et al., 2008; Axelson, et al., 2013; Demiroglu & James, 2010; Nikoskelainen & Wright, 2007), thus lowering returns and value creation. It often happens when the access and the cost of debt is “easy”, because private equity funds have incentive to lever up as much as they can and to overpay for deals (Axelson, et al., 2013). Nikoskelainen & Wright (2007) confirm that the overleverage of target companies lead to lower returns for PE sponsors and Demiroglu & James (2010) find that buyout prices are significantly higher when leverage (measured by Debt to EBITDA ratio) is higher. Furthermore, according to Guy Hands, president of the British private equity Terra Firma Capital, it seems that the most important factor in buyout capital structure is the out funds to use “cheap” debt to take levered bets on firms. Private equity funds are uniquely positioned to time the market by arbitrating debt when leverage is relatively cheap due to superior access to debt financing (Axelson, et al., 2013).

Looking at leverage in a capital structure perspective, in a situation different from the one depicted by Modigliani and Miller, the optimal level of leverage corresponds to the point where the marginal cost of bankruptcy equates the marginal benefit of tax deduction, that is also the point where the value of the company is maximized. The balance between debt and equity ratio is therefore critical for the firms. In line with this theory, PE sponsors, when pursuing a high levered transaction, do not respect the fundamental trade-off theory, since the financial distress costs are higher than potential benefits generated by leverage. Different studies compare capital structure and leverage between buyout target companies and public companies within the same industry (Axelson, et al., 2008; Axelson, et al., 2013). They find that there is no relationship between the capital structure of LBO targets and their public peers. Yet there could be possible explanatory concerns: level of leverage chosen at the time of the buyout is not representative of what the sponsors think is the optimal target capital structure in a long term perspective, therefore the comparison it is done in the wrong point in time (Axelson, et al., 2008). Another potential concern for the lack of relationship is related to the transaction costs faced by public firms when changing their capital structure (Axelson, et al., 2008). Specifically, researches compare capital structure of LBO target when there is an active capital structure decision, while public firms do not always optimize the amount of debt because of the transaction costs in doing it. However, even after adjusting for these possible measure biases, Axelson, et al. (2008) and Axelson, et al. (2013) find that different factors explain capital structure between public firms and buyout firms. Consistent with this conclusion, it is reasonable to assume that there could be a relationship between the level of leverage, and specific characteristics of the firm. As a matter of fact, according to Colla et al. (2012), level of leverage is positively associated with asset uniqueness, and Axelson, et al. (2008), in a research performed on 153 buyouts transactions of the 50 largest funds in Europe and the US, find that there are different explanations that apply for level of debt in comparable public firms and buyouts firms. The drawn conclusion is that different factors drive the choice of leverage between LBO targets and public firms. Also, Kaplan and Strömberg (2009) confirm that actual firm characteristics explain the level of leverage. One potential reason to explain the absent relationship is that firms targeted for LBOs are different from the rest of industry, and they may have different characteristics (Axelson, et al., 2013) that fit with the possibility to lever up more. A second stronger potential motive is related to time-series effect: the conditions of debt markets have a strong influence on the level of debt in LBO targets (Axelson, et al., 2013; Kaplan & Strömberg, 2009; Colla, et al., 2012). This conclusion will be further discussed in the section 1.3.1.

Summarizing, level of leverage impacts the value of the firm, mainly through the level of tax shield, but also with the disciplining effect of debt and monitoring activities. PE sponsors have incentive to increase as much as they can the level of debt, but excessive leverage leads to higher entry prices since financial sponsors are willing to pay more, in particular during hot credit market conditions, thus decreasing the value and returns generated by the LBO transaction. Another important consideration is that capital structure of LBO cannot be compared with capital structure of public peer companies, since they seem be driven by different factors. To the degree that private equity practitioners leverage as much as they can a transaction, it is reasonable to assume that they create a capital structure in function of the level of debt, apply a set of mechanisms to maximize value according to the leverage implied in the transaction. Therefore, while the standard trade-off theory explains the public capital structure, it does not for buyout debt-equity ratio (Axelson, et al., 2008). However, it is important to remember that the ultimate financing structure of LBO is the outcome of bargains among financial sponsors, debt investors, the company and management. While PEs want to maximize leverage in order to boost equity returns, debt investors pursue the opposite objective, since company must be able to always pay interest and debt amortization. From the company point of view, the aim is to increase value, thus it counterbalances benefits and drawbacks of debt. Finally, management straddle in the middle, because managers want to maximize the returns, but at the same time mitigating risk and preserving flexibility.

1.1.2 Free Cash Flow and Working Capital Management

Together with the other measures applied by Private Equities in their target companies, working on the elements that compose the free cash flows, it is possible to directly affect the value of the company, since it represents the primary element of the valuation process. In particular, working capital is an important factor affecting FCF. By operating at more efficient level working capital, PEs can free up cash available to invest in growing opportunities (Guo, et al., 2008).

An optimal working capital management is fundamental for any firm. Among other measures applied by PE sponsors, this is critical since its purpose is to make sure that company is always able to meet its short-term obligations and repay debt, but it also has strong effect on the value of the firm. Working capital is related to current assets and current liabilities, specifically Receivables, Payables and Inventory. In practice, improving working capital management means:

- Accelerating the collection of account receivable, by enforcing payment terms, shortening the payment period;
- Prolonging the payment of account payables;
- Renegotiating prices;
- Improving inventory management. Since most of working capital is tied up in inventory, applying techniques, e.g. lean management, that decrease the level of inventory has a positive effect on working capital (Castellaneta, et al., 2019).

While the reduction of working capital has not immediate effect on EBITDA or sales, it expands the resources available to finance growth projects or to service the debt (Battistin, et al., 2013). Finally, Capital Expenditures play a role in the value creation process of the target firm. Typically, LBO targets have underutilized assets that PE sponsors either increase utilization or promptly divest. Most of the researches find that after the deal, in order to have cash available to debt repayment, Capital Expenditures are minimized, and a set of measures to increase the efficiency of the fixed assets are set. However, some papers that study private to private European buyouts (see Boucly et al., 2011; Chung, 2011 in Battistin, et al., 2013) find that PEs increase Capital Expenditures of LBO target to expand sales. As it can be seen in the paragraph 1.1.3, growth sales is currently the most powerful effect to increase the value of the company. The investment in PPEs to increase sales are concentrated in the first year after the deal, consistent with the idea that PE firms need to boost growth in a relatively short period of time (Battistin, et al., 2013). Therefore, free cash flows are critical in determining the value of the company, since they are the primary measure through which it is calculated. Along with the other ways presented to solve the agency costs of free cash flows, the careful management of the components of free cash flows is of fundamental importance for financial sponsors to reveal and exploit the potential of the target.

1.1.3 Operational Engineering: Operating Margin Improvement vs. Sales Growth

One of the measures applied by PE firms, especially starting during the second wave of buyouts in the mid-1990s, is called operational engineering: this term classifies those actions that apply changes in corporations, increasing operational efficiency and productivity (Castellaneta, et al., 2019). On a broader view, Kaplan & Strömberg (2009) state that operational engineering refers to industry and operating expertise that PEs apply to their targets to add value. Operational engineering measures become more effective when PE sponsors start to hire executives with industry experience that can be applied to the firm in which they invest. In addition, its effect on value creation is strengthened since PE sponsors are able to apply operational measures without having full control of their target. (Battistin, et al., 2013)

Operational measures are particularly important because, as Achleitner et al. (2011) highlight, the company’s operating performance during the holding period could be a good proxy for the future performance anticipated by investors. Therefore, it is reasonable to assume that companies with operating outperformance receive higher exit EBITDA multiples, thus positively and directly affecting the value of the firm. The impact of operational engineering has been measured on the productivity, labor productivity and level of employment of the target.

Based on a study conducted on 191 buyouts during period 1995-2004 on PE-backed firms with headquarter in Italy, Battistin, et al. (2013) find that sample firms achieve higher operational margin (EBITDA), higher sales and higher level of employment than the control group. Focusing on the productivity, improvements are reached by readjusting how to use the company's resources, without changing the strategic positioning of the company (Castellaneta, et al., 2019), through better allocation and increased efficiency in the use of them. Studies based on plant/division-level data, find that productivity enhances after a buyout. This is consistent with theory and empirical evidence that buyout deals reallocate the resources of the firm to more efficient uses and to better managers (Cumming, et al., 2007; Scellato & Ughetto, 2013). It is worth noting that, when measuring productivity levels, it has to be taken into account that there could be some biases, related to the firm-level data, for example the accuracy of input and output price deflators, the location of the plants in different countries (Cumming, et al., 2007). Therefore, the measures adopted have to be adjusted with the aim to eliminate any bias.

Another positive aspect related to LBO and operational engineering is the increase of the bargaining power with supplier for the target firm, studied by Brown, Fee and Thomas (2008). Bargaining power with suppliers has an indirect effect on value of the firm through the reduction of costs of goods sold, better operational margins and better negotiation terms. With reference to high leverage, it functions as a commitment device that enables the target firm to credibly threaten to abandon an investment that would enhance a supplier's claim unless the supplier agrees to price concessions (Brown, et al., 2008). In this view, LBO creates an opportunity for the firm to extract concessions from its suppliers. In addition, there is further effect driven by elimination of business lines, reduction of outputs and, consequently, reduction of demand of inputs (Brown, et al., 2008). The effect is even larger for those relationships classified as specific: specific suppliers are the one most susceptible to bargaining pressures since they face higher threat of hold up by the customer.

There are different views and results, instead, about the effect of buyout deals on level of employment and wages. Some theories provide the insight that PEs improve profitability by reducing wages and enhancing employees' productivity, while other researches demonstrate that level of employment increases after buyout deals. Battistin, et al. (2013), Scellato and Ughetto (2013) and Gompers, et al. (2015) find that the average number of employees and growth of employment is higher in PE-backed firms than their peers.

Over the years, during the different waves of the buyouts, it has been possible to detect and classify two different adopted transaction strategy by private equity firms, which have different impacts on the performance of the buyout: one focused on the improvement of operating margin, and one on the exploit of revenue growth potential. Ayash, et al. (2017) classified these strategy respectively as Classic LBOs, and Entrepreneurial LBOs, but they can be found also in Achleitner, et al. (2011) and Battistin, et al. (2013). Deeply, transactions oriented on improvement of operational efficiency are called Classic LBO, since it is the typical strategy adopted by PE firms starting from 1980s. According to Ayash, et al. (2017), Classic LBO is defined as: “shock therapy designed to cut back wasteful investment, force sale of underutilized assets, and generally to strengthen management’s incentives to maximize value to investors”. In other words, this strategy is typically characterized by: considerable sale of underperforming assets, capital structure with high level of leverage after LBO deal, change in executive management and strong incentives to them. Therefore, since efficiency enhancements are a primary determinant of LBO sponsor returns, and Classic LBO focuses on this mechanism, it should be positively related to company post LBO operating performance. However, Achleitner, et al. (2013), Battistin, et al. (2013) and Ayash, et al. (2017) find that EBITDA margins remain largely unchanged before and after the LBO. In addition, there is no statistical evidence that operational margin improvements have a positive influence on exit EBITDA multiples.

Alternatively, in the most recent years, PEs are focusing more on strategies and activities that increase sales growth, rather than operating margins: it seems that PE directors are more effective in freeing their growth potential (Battistin, et al., 2013). Ayash, et al. (2017) classify as “Entrepreneurial LBO” those strategies more oriented on revenue growth through expansion and strategic acquisitions. In particular, LBOs apply the so-called “buy and build” strategy in which the PE sponsor uses an existing portfolio company to pursue multiple strategic acquisitions. Furthermore, Entrepreneurial LBO increasingly partners with strategic bidders to gain operational expertise as well as potential cost-savings. (Ayash , et al., 2017). This form of leveraged buyout represents the necessary evolution of this type of transaction since 1980s, for the reason that LBO market considerably increases in size and degree of competitiveness among private equity firms starting from 2000. To identify the LBO targets following this strategy, it can be analyzed the extent to which each portfolio company is engaged in acquisition activity following the LBO. Results suggest that revenue growth and strategic acquisitions of Entrepreneurial LBO are stronger than operating margin improvements and have a direct impact on value of the firms (Ayash , et al., 2017). In addition, higher sales growth is positively and significantly related to larger exit valuation through higher exit EBITDA multiples, since it is signal of consistent future growth in the post-LBO period (Achleitner, et al., 2011).

Finally, as already anticipated for productivity measures, there can be some accounting biases and distortion when measuring operational engineering effects. In a study conducted by Ayash and Schütt (2016), they find that the accounting of LBO mechanically induces an upward bias into LBO targets' measures, for example related to the increase in the balance sheet of the intangible assets, in particular the goodwill associated with the deal, that can be misinterpreted as an LBO induced improvement. Therefore, it is important to take into account this aspect and try to adjust any accounting measure adopted when judging the operational activities performed by Private Equity.

Summarizing, a clear focus on revenue growth instead of EBITDA margin improvements are a signal of sustainable operating improvements, thus affecting the value creation process of the target company (Ayash , et al., 2017). The absence of changes in EBITDA margin among more recent transactions compared of LBOs during 1980s, suggests that Classic LBO strategy may be less effective in the value creation of the targets than focusing on revenue growth in the current competitive environment (Ayash , et al., 2017).

1.1.4 Governance Engineering

"An arbitrage exists whenever the firm is mismanaged."

Already in the mid-1960s, Manne (1965) argued with the market for corporate control that equity markets could be the principal mechanism for facilitating corporate takeovers. In an efficient market, a firm would become more attractive as a takeover object the lower its stock price became compared to the value potential with another more efficient management (Simon, 2015). The ultimate mechanisms adopted by PE sponsors discussed in this chapter are called governance engineering: it concerns the changes applied to the organizational structure, in particular managerial ownership, board composition, incentives to management team, and monitoring and control activities (Brown, et al., 2008; Castellaneta, et al., 2019; Kaplan & Strömberg, 2009). Private equity companies are more actively involved in governance than the public companies boards; in addition, boards of buyout firms are typically smaller than their public peers (Kaplan & Strömberg, 2009). Again, the main reason for the application of this set of mechanisms is the agent-principal conflict and the agency costs of free cash flows described by Jensen (1986). Jensen recognizes that in corporations, the separation of ownership and managerial control generates a wide range of agency problems, such as ineffective internal oversight, managerial entrenchment and operational inefficiency (Jensen, 1989). In addition, the agency conflict appears to be prevalent in mature industries with low to moderate prospects of growth (Castellaneta, et al., 2019), namely the sectors in which it is more likely to find LBO targets. Therefore, together with the disciplining effect of debt to reduce the free cash flow problems, the renewed corporate governance mechanisms that accompany buyouts allow to better align managers' incentives to those of investors and shareholders (Scellato & Ughetto, 2013).

Despite governance engineering tools do not directly affect profit drivers, they result as an indirect value creation instrument through superior governance model and better and more efficient management team (Scellato & Ughetto, 2013; Simon, 2015). Practically, the measures applied by financial sponsors can be categorized in monitoring and control activities, change composition of board of directors, change of management team and creation of managerial incentives programs.

The concentrated ownership created by PE investors gives them the ability to monitor and control the strategy of the target, through an active presence on the board of directors. In addition, the need for monitoring management is partially offset by the effective self-monitoring resulting from managerial equity ownership (Nikoskelainen & Wright, 2007), which is a cornerstone of the private equity model, the transformation of management team from agent to owner (Leslie & Oyer, 2008). Senior managers are called to contribute to capital, receiving equity stakes, the so-called management rollover, with their own personal funds, in order to reduce agency costs and create stronger incentives to maximize returns, pursuing positive NPV investments, and not dissipating available free cash flows in not profitable activities (Kaplan & Strömberg, 2009; Leslie & Oyer, 2008).

About the changed composition of board of directors, one to two General Partners are typically appointed to represent the firm, and in the remaining seats more outside directors are installed. A direct consequence of this new board composition is the accelerated decision-making process compared to traditional competitors (Battistin, et al., 2013; Castellaneta, et al., 2019). Through the direct presence in the Board, PE sponsor can appoint the senior management team, and produce challenging business plans that raise performance standards and expectations for management together with create strong incentives for them in order to realign their interests with those of owners (Castellaneta, et al., 2019).

In a specific study, Leslie and Oyer (2008) analyzed the managerial incentives implemented by PE sponsors to their target firms compared to public companies. They find that incentives of managers of PE-backed firms are related to higher equity ownership than public peers, lower salaries but higher annual cash compensation in form of variable pay (Leslie & Oyer, 2008). This in turn pushes senior management team to run well the company in order to achieve these incentives in terms of cash compensation and capital gains.

Empirical evidence suggests that corporate governance mechanisms in LBOs are positively associated with value and return characteristics. In particular, management equity significantly influences LBO returns (Nikoskelainen & Wright, 2007), given the direct impact of the investment choices of the executives to the equity value. In addition, Guo, et al. (2008) find that cash flow performance is positively related to management change and replacement of CEO as soon after the time of the buyout. Next, the number of directors changes after a buyout – it is smaller, as well as there are changes in the age, the localness and demographics of the appointed directors (Battistin, et al., 2013). Finally, buyers who signal their intention to adopt an active ownership model in the firm are greeted much more favorably by the market than those who do not (see Barclay, et al. (2007) in Cumming, et al. (2007)).

1.2 Market Factors

In this section, it will be discussed conditions on debt, equity and in general capital markets that affect the decision to enter in a buyout, the level of leverage, the composition of that leverage, the pricing and valuation of LBO transactions.

As Haddad, et al. (2016) argue, aggregate changes in valuation environment affect the decision to enter in a buyout. They show that aggregate risk premium has an impact on buyout activity because discount rate affects valuations of the firms and in turn affects the decision to enter in a deal. In particular, there is a negative relationship between risk premium and buyouts activity since future gains are discounted more when risk premium is larger, and investments are less attractive; this integrated view of the capital markets allows to outline cycles of buyout activity (Haddad , et al., 2016). Another aspect that needs to be considered is the development of capital markets themselves. According to Colla, et al. (2012), in common-law countries that are associated with stronger shareholder protection and more developed financial markets, deals rely on relatively higher junior and lower senior debt.

In the following paragraphs, perhaps the three most important market factors affecting value creation in buyout transactions are analyzed. First, an in-depth analysis of debt market conditions is performed, showing how cheap debt influences the composition of leverage, the level of leverage and the pricing of deals. Then, how PEs manage and take advantage of situation when there is mispricing between debt and equity markets. Finally, it is discussed the role of multiple arbitrage and how it affects the valuation of the LBO target.

1.2.1 Debt Market Conditions

Debt market conditions play a central role in LBO transactions, since they are one of the primary determinants of capital structure, level of leverage, pricing of the deal and therefore value of the target and returns of PEs. In addition, they determine the level of LBO activity itself over time. Indeed, hot buyout markets correspond to periods of time when debt is particularly cheap. Different studies analyze the impact of debt market conditions on different aspects of buyout activities, primarily if exists a relationship with level of leverage and buyout pricing (Axelson, et al., 2013; Axelson, et al., 2008; Colla, et al., 2012; Guo, et al., 2008; Haddad , et al., 2016; Kaplan & Strömberg, 2009). The main assumption about favorable market conditions is that – for a given level of cash flow, firms are able to take on more debt and still be able to meet interest payments (Axelson, et al., 2013) or, in other words, when rates are lower, firms can pay interest on a higher principal with the same cash flow (Axelson, et al., 2008).

The first relevant evidence about debt market conditions is how it affects the composition of leverage: when debt is cheaper, the amount of debt provided by banks and institutional investors is greater (Axelson, et al., 2013; Colla, et al., 2012). In addition, senior lenders tend to relax lending standards, providing even cheaper financing. This is relevant for the target firm because it means that, during favorable market conditions, it can have the highest senior debt at lower cost, with less covenants that is not connected to a lower underlying risk of the firm. Another story that has been deeply analyzed by Axelson, et al. (2008) and (2013), and confirmed by Colla, et al. (2012), Guo, et al. (2008), and Kaplan & Strömberg (2009) is whether there is a relationship between debt market conditions and level of leverage. All the studies endorse that, when interest rates on loans are lower, leverage is higher in LBO transactions. This effect should be connected to positive valuation of the target company, because by taking large amounts of cheaply debt, firms can lower their WACC, thus increasing valuation (Guo, et al., 2008). However, according to the studies conducted by Axelson, et al. (2008) and (2013), higher leverage is connected to higher acquisition prices. Their results are consistent with the story that private equity firms, during favorable credit market conditions, are willing to pay higher prices, even if the underlying value of the targets is the same. This in turn leads them to overpay for deals when there are lax credit conditions. Therefore, contrary to the prediction of the basic cost of capital that, ceteris paribus, equity returns increase when leverage increases, these studies find that the level of leverage is negatively related to returns of the financial sponsors, consistent with the idea that PE firms overpay deals when debt is cheaper (Axelson, et al., 2013).

Another effect that is worth analyzing is related is related to studies conducted by Axelson, et al. (2013) and Kaplan and Strömberg (2009): surprisingly, their result suggest that the level of debt in LBO transactions is driven more by credit market conditions than by the relative benefits of leverage for the firm. As already mentioned before, private equity practitioners tend to use as much leverage as they can in the transaction, and this statement is even strengthened in presence of lower loan interest rates. One potential explanation is that the compensation structures of private equity funds provide incentives to take on more debt than is optimal for the individual firm (Kaplan & Stroemberg, 2009).

In summary, debt market conditions have a key role in determining the level of leverage, its composition, the pricing of buyouts and, as a consequence, the value of the target firms. Level of senior debt is higher when interest rates on loans are lower; also, senior lenders tend to relax covenants and spreads in the same situation. Different studies confirm that level of leverage is primarily determined by hot market conditions, rather than to the firm characteristics suggested by trade-off theory of capital structure and benefits of leverage of the firm (Axelson, et al., 2013). This in turn is related to higher prices for buyouts, leading to lower returns for private equity funds.

1.2.2 Debt – Equity Mispricing

Debt – equity mispricing plays a role in determining the capital structure, the value created and the returns of the private equity funds in LBO transactions. As Kaplan and Strömberg (2009) suggest, this argument relies on the existence of market frictions that enable debt and equity markets to become segmented. An example can clarify how this condition might matter. Assuming that a public company is running optimally and has zero debt, that is unleveraged. If a private equity firm can borrow at a rate that is too low given the risk, the private equity will create value by borrowing. Different studies (Axelson, et al., 2013; Axelson, et al., 2008; Castellaneta, et al., 2019; Colla, et al., 2012; Demiroglu & James, 2010; Kaplan & Strömberg, 2009) confirm the hypothesis that private equity firms take advantage of mispricing in debt and equity markets and, as Guy Hands (president of the Terra Firma Capital) said: "We [Private Equity firms] buy stuff with cheap debt and arbitrage on the difference with equity markets." (Arnold, 2007).

Mispricing means that, for example, when debt markets become "overheated", investors do not demand the full interest rate corresponding to the fundamental underlying risk of a firm. Consequently, when debt is more overvalued, firms issue more debt (Axelson, et al., 2008). As already explained in the previous paragraph, when interest rates are low, private equity sponsors lever up the deals more, increasing the value of their option and ceteris paribus, they are willing to pay more, albeit this price does not fully reflect firm fundamentals (Axelson, et al., 2008). The mispricing theory suggests that a relatively higher number of deals will be taken when debt markets are favorable (Kaplan & Strömberg, 2009). It is worth noting that the effects of debt – equity mispricing on valuation are reflected through leverage, because as long as firm does not change capital structure increasing debt when it is overvalued, there is no impact on value (Axelson, et al., 2008). On the other hand, according to Simon (2015), when there is mispricing between the markets, investors could take advantage of it by pursuing public equity when its price is comparatively lower than the cost of debt financing. In other words, PE firms finance debt with public equity issues during periods of low returns and debt issues during periods of high returns (Baker, et al., 2003). However, the same pattern does not work for public firms, since they do not take advantage of cheap debt. One potential explanation is that the maintenance of financial flexibility and the avoidance of excess distress costs are more important for public firms than the potential advantage of mispricing (Axelson, et al., 2013). But, more importantly, private equity firms are one of the most active subject in capital markets, and they may be better positioned to take advantage of debt – equity mispricing, since they are repeated borrowers, enabling them to build reputation with different sponsors (Demiroglu & James, 2010; Kaplan & Strömberg, 2009). Notwithstanding the potential benefits of mispricing between debt and equity markets and position of private equity sponsors to take advantage of them, when interest rates on debt are lower, private equities increase leverage and they tend to overpay for deals, thus negatively impact on returns (Axelson, et al., 2013).

1.2.3 Multiple Arbitrage

One of the most popular measures among LBO investors to compare different companies in the same industry is the EV/EBITDA multiple, and it represents a proxy for deal pricing as well as for the expected growth of a company (Achleitner, et al., 2011; Metrick & Yasuda, 2011). This multiple may vary for several reasons: different industries in different countries may be evaluated at different multiples. Then, mature industries tend to be valued at lower multiple than growth firms, despite they have the same profitability level. Larger firms are more likely to receive greater multiples than smaller firms within the same industry (Castellaneta, et al., 2019), because they are usually as not risky as smaller companies; and public firms are valued and traded at higher multiple than private companies, for several reasons: investors are willing to pay a premium for more liquidity and tranSparency; the universe of investors is much broader, thus enabling public markets to attract significant flows of capital. It is worth noting that, despite these facts are not changed for public companies, there have been lot of changes from private side in the recent years. As reported by articles of Financial Times and the Global Private Equity Report 2019 of Bain & Company, the multiples for private and public companies are narrowing in the current economic cycle, thanks also to the effects of private equity action and the increasing amount invested by Limited Partners over time, because of the superior returns generated by private equity relative to other asset classes. Indeed, $5.8 trillion have been allocated globally to private equity since 2009 (Bain & Company, 2019); this exceptional amount of capital contributed to drive average buyout purchase price multiples to high level in the recent years.

Other two factors have a relevant impact on EV/EBITDA multiple: the business cycle of the sector and industry growth. Having superior market expertise on industry growth means have the ability to predict long-term industry trends, therefore it positively affects the multiple (Castellaneta, et al., 2019). Multiple expansion or, multiple arbitrage, refers to the situation in which there is an overall appreciation in value of business sectors and industries, that is reflected through an increase of EV/EBITDA multiple (Achleitner, et al., 2011; Castellaneta, et al., 2019; Simon, 2015). Different studies (Achleitner, et al., 2011; Ayash , et al., 2017; Castellaneta, et al., 2019; Guo, et al., 2008; Simon, 2015) confirm the underlying idea that private equity firms benefit from rising valuation multiples in sectors in which they invest. Practically, assuming EBITDA remains the same between the time of the deal and the time of exit, when multiple increases, it leads to higher enterprise value and, assuming net debt as given (or likely lower than the time of entry), equity value at exit is higher than equity value at entry, thus leading to higher returns (Achleitner, et al., 2011). However, it is worth specifying that multiple arbitrage that depends on overall market conditions is more a value capture driver rather than value creation driver, since the valuation of the firm increases without affecting the fundamental business drivers of the firm (Castellaneta, et al., 2019). The guiding principle in multiple arbitrage is “a rising tide lifts all boats”.

General market conditions, industry specific factors, growth and market expansion play an important role in determining the valuation of firms entered in LBO transactions through EV/EBITDA multiple (Achleitner, et al., 2011; Castellaneta, et al., 2019). Different is the evidence that PE sponsors are able at all time to receive higher exit multiples compared to the price paid at entry. Achleitner, et al. (2011) find that PE sponsors generate positive and sustainable valuation through multiple expansion, independently from the vintage year and therefore, from its economic environment. However, this topic will be further discussed in the next section related to the PE factors in the paragraph 1.3.1.

Summarizing, in this section it has been shown that market factors directly and indirectly influence valuation in LBO transactions. On one hand, debt market conditions and mispricing between debt and equity markets determine the level of leverage of target firms and the pricing of buyouts, negatively affecting the equity returns since private equity sponsors are willing to pay more for deals, leading to prices that do not represent the underlying valuation of the company. On the other hand, an increase in EV/EBITDA multiple in the market, also called multiple arbitrage, positively affects the valuation of LBO targets, despite of the fundamental business drivers of the firms are not changed. Indeed, it can be classified as value capture driver, rather than value creation driver as new value is not created, but merely won or lost in what constitutes a zero-sum game (Simon, 2015).

1.3 Private Equity Factors

The last set of components affecting value creation in LBOs analyzed in this work are strictly related to private equity firms. Namely, the focus is on the characteristics, the skills, expertise and all the other relevant specificities of LBO sponsors which have an impact on the value creation process, different from the mechanisms they applied to their targets – financial, governance, operational engineering. There is evidence that private equity investment returns are relevant sources of value creation in LBOs (Ivashina & Kovner, 2011). The first aspect that needs to be considered is that private equity funds are able to select potential "good" targets that, at the time of the deal, are undervalued or mismanaged. According to this, PEs are able to acquire firms cheaper than other bidders, and sell them higher (Kaplan & Strömberg, 2009). Then, it has been recognized that the access to relevant resources and capabilities of private equity funds is central to explain post-buyout performance, in particular value creation through growth. More experienced investors have larger potential to create value due to the possibility to develop broad range of knowledge regarding markets, skills to exploit fruitful opportunities and larger information networks (Scellato & Ughetto, 2013). In addition, the parenting advantage offered by General Partners is critical to explain performance of leveraged buyout targets. Parenting advantage refers to the implementation of common services in monitoring, mentoring and learning by PEs to their targets (Castellaneta, et al., 2019; Scellato & Ughetto, 2013). Among others, the governance engineering mechanisms are the main elements to exploit this type of activities: for example, the creation of an active ownership model where some General Partners are involved, the facilitated interaction by direct communication channels and the reduction of levels of bureaucracy. Then, as already said, the board of buyout targets is typically lower than before, allowing direct communication with management on a daily or weekly basis (Battistin, et al., 2013; Castellaneta, et al., 2019).

It is worth noting that the structure of the PE funds influences the performance of the buyouts. The way in which they are evaluated, the likelihood to raise a subsequent fund, how they are rewarded lead General Partners to implements a series of instruments that are not always positive for their targets. The main measure of a private equity fund is the overall IRR of the fund. As a consequence, General Partners often apply a set of measure to increase it, that have no or negative impact on the portfolio firms.

Finally, fund characteristics are determinants in buyout returns and value creation. According to Kaplan and Schoar (2005), more established funds achieve higher returns; then, funds with fewer projects per manager achieve higher returns (Cumming, et al., 2007), allowing the General Partners to better focus on the targets. Co-localization of financial sponsor and targets gives to the former comparative advantage in dealing with asymmetric information and in offering privileged access to expert advice to realize growth opportunities, leading to higher potential value creation (Scellato & Ughetto, 2013).

In the following paragraphs, the most important aspects of PE firms affecting value creation are analyzed. First, reputation and experience of private equity firms are important factors in determining the performance of buyout firms during holding periods. The negotiation skills, the industry expertise of General Partners influence the operational aspects of the target firm, the cost of leverage and entry and exit multiples. Second, the central active role in capital markets of private equity firms allows them to build reputed relationships with banks, that favor them in terms of cost of lending and covenants offered to their target firms. Next, financial sponsors take advantage of timing tactics, but also the returns on the target investment push them to apply a set of measure to accelerate financing payments. Finally, the stage of the life cycle of fund seems to affect the riskiness of the deals in which private equity firms invest, their bargaining power and, consequently, the exit multiple, the exit pricing and equity returns.

1.3.1 Reputation and Experience

The reputation and experience of PE firms and their General Partners have a direct and indirect effect on value creation of their LBO targets. Even if they are strongly correlated, different studies analyze their effects on different aspects of the transaction and the application of their skills during the buyout period. The direct effects on value creation related to the experience of the Private Equity firm are explained by studies of Achleitner, et al., (2011) and Castellaneta, et al., (2018). They find that skills of PE directors, cross-utilization of their industry expertise and management talents are critical elements for their portfolios firms. In addition, the skills of GPs to restructure the target firm and their ability to select high potential target explain a considerable part of the overall value created by the private equity experience. (Castellaneta, et al., 2019)

Another aspect that needs to be considered is the information asymmetries faced by parties in the transaction: less experienced PE sponsors face stronger information asymmetries about the quality of a company to be sold, resulting in discounts on the purchase price (Achleitner, et al., 2011). Consistent with these findings, Castellaneta et al. (2018) state that GPs may have better access to investment, and higher bargaining power in buyout negotiations, that is based on factors such as expertise advantage, competition and seller’s time pressure.

Next, the experience of PE firms has also an indirect effect on value creation through the negotiation skills of the General Partners that lead to lower entry prices and maximize them at exit. This aspect is strongly related to the reputation of the PE firm, the type of exit chosen for the target company and the financial structure of the target. Demiroglu and James (2010) investigate whether the reputation of PE sponsors influence the structure of buyout financing; in particular, the amount, the cost, the maturity and covenant structure of traditional bank debt. Their findings, based on 180 transactions completed between 1997 and 2007 in the US, support different relevant hypothesis. Firstly, they reveal that the participation frequency of higher reputable PE firms is negatively related to credit spreads and the tightness of bank lending standards, consistent with the idea that reputable PE firms capitalize more on favorable credit market conditions, but at the same time, they are highly sensitive to them. Then, higher reputation is directly related to narrower bank and institutional loan spreads and lower level of traditional bank debt. (Demiroglu & James, 2010)

In addition, other two important aspects need to be highlighted: first, deals of higher reputation PE firms are perceived as less risky by banks and institutional investors. Consistent with this hypothesis, Demiroglu and James (2010) find that there is a negative relation between the reputation of PE group and borrowing costs: higher is the reputation of the sponsor, lower the borrowing costs for the target. Another potential explanation for this point is that higher reputable PE firms acquire better companies, which have higher creditworthiness. Next, highly reputed PE sponsors apply actively monitoring and control to their targets, that serves as substitute for bank activities. Therefore, it is possible to expect that bank debt negotiated by higher reputable PE firms have longer maturities: as Demiroglu and James (2010) reveal, there is positive and statistically significant relation between the maturity of the traditional bank loan and reputation measures. As a consequence, targets with longer debt bank maturities are less stressed in terms of interest and amortization payments, in particular during the first years after the buyout, thus allowing them to use their available cash flows for growth opportunities.

Finally, Achleitner, et al. (2011), Castellaneta et al. (2018), Demiroglu and James (2010), Kaplan and Strömberg (2009) highlight relationship between the level of LBO leverage and the reputation of PE firms. Especially, the researches based on different data point out that there is positive relationship between these two variables. As already stated previously, level of leverage is positively related to the pricing of the buyout, thus higher reputable PE sponsors have higher buyout prices. However, for a given level of debt, experienced PE sponsors are able to negotiate lower prices (Achleitner, et al., 2011). Therefore, the effect of higher prices is somewhat mitigated by the negotiation skills of the GPs.

As anticipated in the previous paragraph, another element to be considered is the ability of PE firms to arbitrage on exit multiples compared to the price paid at transaction entry (Achleitner, et al., 2011). They successfully generate positive value contribution through multiple expansion, regardless of the year of entry and the economic environment in which the deal is concluded. It is important to note this point because, in the paragraph 1.2.3, it has been written that an overall appreciation of market multiples can be classified as value capture driver rather than value creation driver. However, with reference to this point, an increase in the multiple is associated with the negotiation skills and likely all the measures implemented by PE sponsors to the target firm which affect the exit multiple expansion. Therefore, this type of increase can be considered by PEs as a manageable value creation driver, rather than only matter of luck.

Summarizing, the industry expertise, the specific knowledge, the negotiation skills of more reputed private equities have several impacts on the value created to the LBO targets through direct and indirect effects, in particular, leverage, bank debt conditions and exit multiples.

1.3.2 Bank Relationships

Another important aspect related to private equity firms is the relationship they develop with lenders, in particular banks. Private equities are one of the most active borrowers in the debt market, acting as financial intermediaries sponsoring LBO transactions. Consequently, they are important clients for banks because of the frequency and scale of their transactions. Different studies (Demiroglu & James, 2010; Ivashina & Kovner, 2011; Kaplan & Strömberg, 2009) confirm that the relationship between banks and private equity sponsor affects buyouts in terms of level of leverage, negotiation terms and covenants. The banking literature argues that repeated borrowing reduces asymmetric information about firms' quality, thereby improving terms and costs of financing (Ivashina & Kovner, 2011). The study conducted by Ivashina and Kovner (2011) asserts that PEs can achieve more leverage and on better terms than standalone borrowers due to their repeated relationships with senior lenders. The high frequency of interactions lowers the cost of debt because it reduces the asymmetric information between the financial sponsor and the bank, through the acquisition of private information about LBO sponsor from prior transactions (Ivashina & Kovner, 2011).

Essentially, there are two motives that lead banks to negotiate lower interest rates to PE firms with stronger and longer relationships. First, given the transformational nature of LBO, it is difficult for lenders to gather information about the credit worthiness of LBO target; however, they can observe the willingness of financial sponsor to contribute additional capital if trouble arises. As long as this information can be reused, each additional loan with the same PE sponsor has lower marginal cost of monitoring, thereby lowering interest rates (Ivashina & Kovner, 2011). Next, repeated interactions allow private equities to build reputation with banks, reducing the costs of asymmetric information. As already mentioned in the previous paragraph, higher reputable PEs can serve as substitute for senior lenders in activities such as monitoring and control, leading to lower covenants and more flexible contracting.

The research of Ivashina and Kovner (2011) is based on 1590 loans between 1993 and 2005 financing leveraged buyouts; the sample includes 124 private equity groups and 49 lead banks. They hypothesize that repeated interactions between the two parties are associated with better loan terms. Primary measures are spreads – the interest rate that the borrower pays on the loan, calculated in basis points and corresponds to the total cost (interest rate and fees) paid over LIBOR for each dollar drawn down under the loan commitment. The second measure is the maximum level of debt to EBITDA (Ivashina & Kovner, 2011). They find that a higher bank relationship between lead bank and financial sponsor is associated with lower loan spreads. In addition, the results suggest the terms that private equities receive on their bank loans are positively associated with equity returns. As a consequence, it is possible to confirm that the repeated interactions that allow PE firms to build relationships with senior lenders positively affect the valuation and returns of their investments. Nonetheless, another aspect needs to be considered. It is reasonable to assume that banks may offer better terms because they want to sell other fee-based services to private equities, for example M&A advising and securities underwriting (Demiroglu & James, 2010; Ivashina & Kovner, 2011). Therefore, repeated interactions and fee-based service can be seen as a complementary channel affecting loan terms; Ivashina and Kovner (2011) find that this different aspect positively affects loan terms.

Summarizing, it is important to understand the scale of the operations of private equity firms, given their role as a disciplinary force in public markets. There is evidence that repeated borrowing leads them to develop and build relationships with senior lenders, thus lowering the loan interest rates and improving terms and covenants. This in turn positively affects the returns of private equity funds, and allows LBO targets to have more relaxed terms on bank debt.

1.3.3 Timing Tactics

The experience and the ability of private equity companies and their General Partners can be recognized also in the timing tactics they put in place about when to enter and to exit from the deal in which they are involved, observing the overall trends of markets and trying to anticipate future possible scenarios, regardless of the type of investment they want to realize. As already discussed in previous paragraphs, general economic market conditions and specific industry characteristics, through multiple arbitrage, positively affect valuations and returns on investments. Furthermore, when debt is "cheap" compared to equity, that is when interest rates do not appropriately reflect the underlying risk, PE sponsors lever up as much as they can the deals in which they are involved. As a consequence, the timing of entry and exit, as well as the anticipation of boom and bust periods is an important factor that impacts on value creation (Axelson, et al., 2013; Castellaneta, et al., 2019; Kaplan & Strömberg, 2009). According to Kaplan and Strömberg (2009), managing and timing the valuation of buyout company is an important skill of the most successful PE firms rather than simply matter of luck.

Along with the exploitation of external market and industry specificities, in order to increase valuation and returns, PE sponsors can decrease the time in which implementing the mechanisms already discussed or accelerate financing payments, typically done through dividend recapitalization or share redemption. These two mechanisms can be easily seen in the IRR formula, reported here below, where at numerator there are disbursements that LBO sponsors receive, and at denominator the number of years of holding period.

$$NPV = \sum_{t=0}^{N} \frac{C_t}{(1+r)^t} = 0$$

Another aspect that affects valuation and returns is associated with the business cycle of private equity funds. Different studies have analyzed whether investors can time market entry and exit in order to achieve gains from business cycles. According to Kaplan and Schoar (2005), the vintage year return of private equity funds is associated with the business cycle of the private equity industry. The variation seems to be related to the availability of cheap debt financing, which rises the valuation multiples for buyout firms. As a consequence, the vintage year returns are likely to be low for funds raised in boom years.

1.3.4 Life-cycle Stage of the Fund

Finally, another element affecting valuation directly related to private equity firms is the stage of the life cycle of the fund. Different studies confirm that life cycle of the fund affects equity returns, but also the risk profile of the transaction (Achleitner, et al., 2011; Castellaneta, et al., 2019). Transactions conducted at the end of life of the fund have lower returns and are less risky: there are several motives that explain this behavior. First, PE sponsors do not want to risk an already positive achieved fund return by conducting excessive risky deals. Second, the remaining time to implement operating and governance mechanisms is lower. Third, they may face increasing pressure to invest the non-invested capital in order to achieve the targeted overall fund IRR. Fourth, PE sponsors usually earn an annual management fee calculated on the capital employed when investments are realized (Achleitner, et al., 2011). That is to say, they have incentive to pursue less risky and less attractive deals only to achieve greater fees. When potential buyers are aware of this situation, the negotiation power of private equity firm is lower, with two main consequences: according to the study conducted by Achleitner, et al. (2011) based on 1980 buyout transactions in North America and Europe between 1986 and 2010, the stage of the fund affects the exit multiples and exit prices. First, the more years have passed, the lower the exit multiple for a given transaction. Second, deals performed later are associated with lower exit pricing. Their findings are consistent with the idea that their negotiation power is weakened, and they are interested in defending the already achieved overall IRR of the fund. Therefore, given that the shortest the remaining life time of the fund the lower the returns of their investment, according to this studies, it is crucial for the funds to identify attractive investment opportunities as soon after the launch of the fund (Achleitner, et al., 2011).

1.4 Levers of Value Capture

Finally, it merits attention a correlated aspect, but slightly different from value creation – lever of value capture. Despite this topic has been briefly introduced in the paragraph 1.3.3 when explaining the effect of multiple arbitrage on valuation, here it will be further discussed. As Simon (2015) says: "Value capture is intrinsically and fundamentally different from the other drivers of value creation, as new value is not created, but merely won or lost in what fundamentally constitutes a zero-sum game. This value is determined by two distinct moments: the entry and the exit transaction". At the moment of entry, it is critical to have a consistent model that accurately reflects the intrinsic value of the target firm and its future business. The most common financial models, partially already discussed, are: Discounted Cash Flow analysis (DCF), the Adjusted Present Value (APV), and firm value multiples. According to the different available modes that private equity firms have to buy a potential target, the competitive auctions tend to maximize the acquisition price, negatively impact the performance of the PEs. As a general rule, the lower is the level of competition among buyers, the lower the transaction price.

Then, the moment of exit from an investment is particularly important for different reasons: first, private equity funds have a limited contractual lifetime, therefore they must close their deals. Second, the return earned on a buyout investment depends to a large extent on exit type, which in turn depends on the capital market situations too (Nikoskelainen & Wright, 2007). Therefore, maximizing value for Private Equities has always meant to think about the right exit strategy starting from the first day the of the investment in the target, and building value accordingly. There are several types of exit for a buyout target: public listing through Initial

Public Offering (IPO), sale to a strategic buyer, sale to another fund in a secondary leveraged buyout, bankruptcy or out of court restructuring (Ayash & Schütt, 2016; Kaplan & Strömberg, 2009). Different studies (Castellaneta, et al., 2019; Cumming, et al., 2007; Kaplan & Strömberg, 2009; Nikoskelainen & Wright, 2007) confirm that IPO exit outperforms the other modes of exit. However, as already highlighted in the paragraph 1.2.3, the multiples for private and public companies are narrowing, meaning that if private multiples remain relatively high, it becomes less attractive for PEs to exit via an IPO. In this scenario, the most attractive exit type for General Partners will come a strategic sale or a secondary buyout (Bain & Company, 2019). According to Castellaneta, et al. (2018), a common approach to maximize the exit value that PE firms adopt is the promotion of the portfolio firms through media events, interviews and press releases as soon after the transaction.

In this scenario, information asymmetries can explain part of the transfer of the value from one party to another. When one party possesses superior information compared to a counterpart, he or she can use it to gain from the losses sustained by the other party. For example, trade secret protection limits the amount of information available to potential buyers, increasing the information asymmetries with seller. The uncertainty about the value of the target firms leads the buyer to discount the offer as a compensation for pursuing a more uncertain and riskier acquisition (Castellaneta, et al., 2019). In conclusion, even if levers of value capture do not tangibly create value, they are important from a transactional point of view since potential value is realized and can be transferred from one party to another. The two relevant moments when it happens are at the entry and at the exit from the transaction. Consequently, the corresponding ways in which they are realized are critical for private equity firms. Nonetheless, the overall situation of the markets and specific industry characteristics affect the creation (destruction) of value through an increase (decrease) of EV/EBITDA multiple.

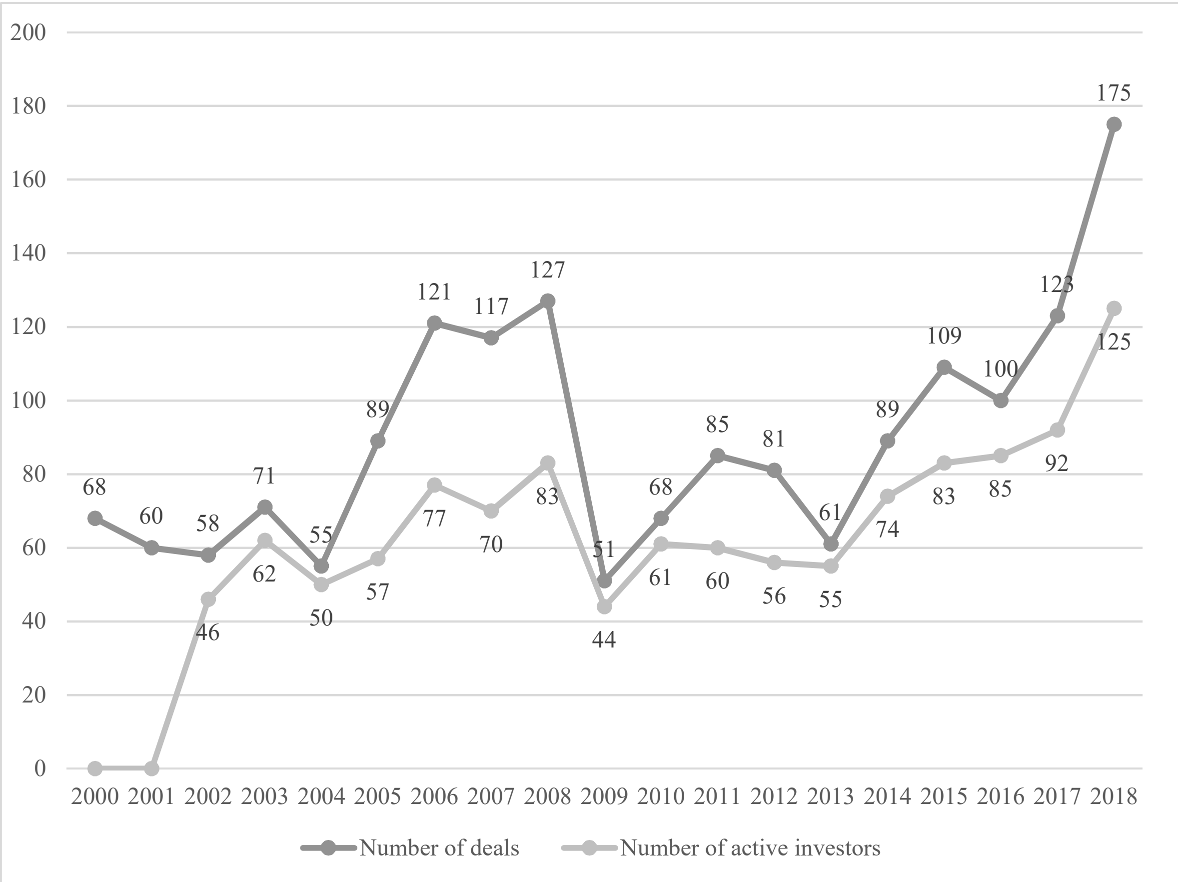
In this chapter, it has been performed a review of literature about LBO and value creation. The main drivers that allow PE firms to increase the value of their targets and the returns on their investments have been discussed. Overall, private equity firms create value in their LBO transactions. Related to firm factors, they create value reducing the agency costs of free cash flow and the agency conflicts between managers and owners. This is done through an increase of leverage in their targets, that produces a disciplining effect to not waste resources and invest in no profitable opportunities; a creation of capital structure that gives managers incentive to act in the best interests of the owners, not dissipating available cash flows. Through an accurate working capital management, PE firms are able to extract as much as they can free cash flows generated by the company, in order to meet interest and principal debt payments, and invest in growth opportunities. Then, private equity sponsors create value through the application of a set of governance engineering mechanisms that allow to monitor and control the activities of the target, accelerate decision-making process, realign the interests between management team and ownership. Finally, PEs adopt a series of operational engineering mechanisms following a strategy in the LBO targets through acquisition of portfolio firms and come to light their growth potential, positively affecting exit multiples, differently from the first wave of buyouts where the focus was on improvement of operating margin.

The characteristics, the knowledge, the industry expertise, the negotiation skills and the reputation of PE sponsors are strongly related to value creation. First, empirical evidence shows that General Partners have the ability to select good targets that, at the moment of the deal, are undervalued. Then, their superior access to resources and capabilities, their reputation and their expertise allow them to offer to their targets knowledge and instruments that are positively associated with value creation. In addition, they are one of the most active parties in capital markets, allowing them to build reputed relationships with senior lenders, thus positively affecting the cost, the covenants, the terms of bank debt of their targets. Further, different studies confirm that they are able at all times to receive higher exit multiple than entry, directly affecting the value of the firm. However, multiple arbitrage can be partially explained also by general economic conditions, specific industry situation – factors that do not directly depend on the firm or financial sponsors, nevertheless the transaction can benefit from them. Other factors related to the market that influence the LBO transactions are conditions on debt markets, and mispricing between debt and equity markets. Debt market conditions positively affect the size of the buyout activity, the amount of leverage used in the transactions, but negatively affect the pricing and returns on equity. The underlying reason is that, when debt is cheap, private equity lever up as much as they can the transaction, and are willing to overpay for deal, thus lowering the returns. Finally, a brief examination of the levers of value capture is performed. Despite they do not create value, they identify the tools and the moments in which the value is tangibly realized and transferred from one party to another. Specifically, multiple arbitrage originated by changes in market and industry conditions, the type of entry and the type of exit can be classified as levers of value capture.

Chapter 2 – The Italian Private Equity Market

In this section it is presented an analysis of the Italian private equity market from 2000 to 2018. The data are based on the reports published by AIFI (Italian Private Equity, Venture Capital and Private Debt Association) and Private Equity Monitor (PEM): while the former conducts an analysis on the overall private capital activity, jointly considering venture capital and private equity, the latter carries out a focused monitoring on private equity investments. The activity of the operators, the number of deals and the size of the investments are characterized by some peaks and downturns during the period of analysis, mainly due to the Italian and European economic situation.

Figure 1: Number of deals and number of active operators

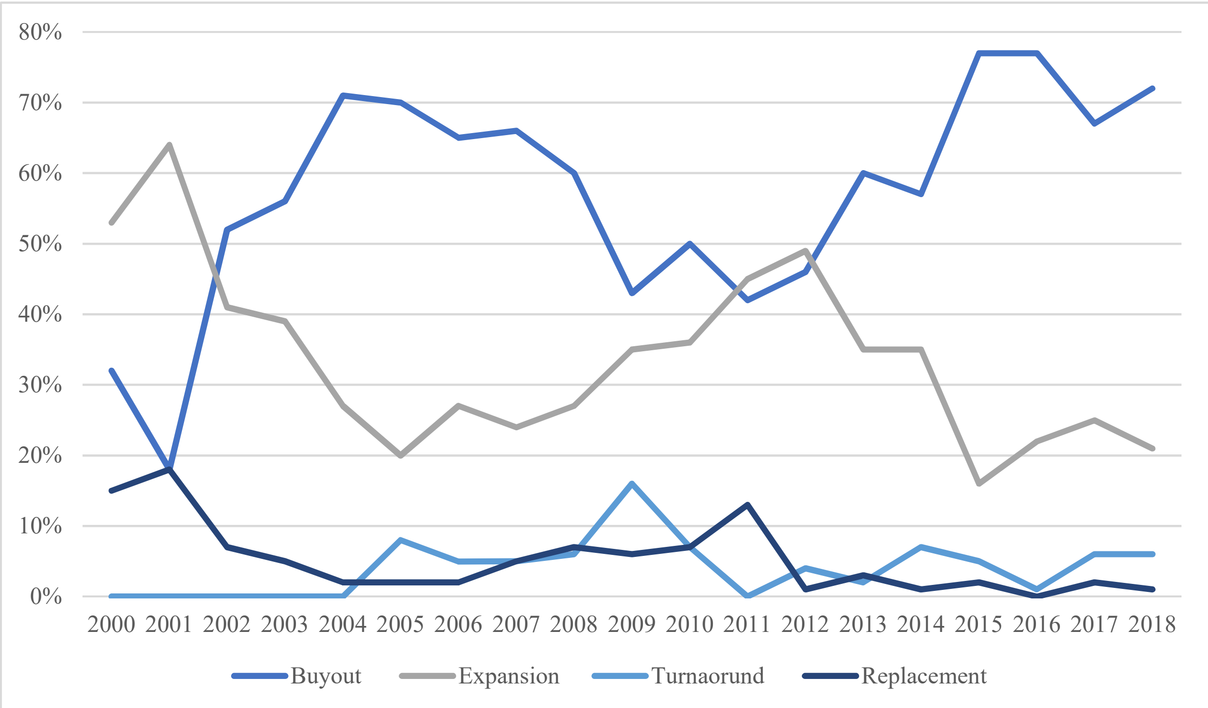


Source: Private Equity Monitor reports (2000-2018)

With reference to the number of deals realized by investors, as Figure 1 shows, there has been a thriving period between 2006 and 2008, followed by a downturn mainly due to financial crisis. After 2013, the private equity activity started to grow again, reaching the highest level in 2018 with 175 deals. The number of active operators in the market, which considers both lead investors and co-investors, shows strong symmetry with the number of deals performed.

In order to perform a more meaningful analysis, the data of private equity activity are broken down according to some significant variables, which are the investment stage in which operators invest and the deal origination type. Differently from venture capital activity that is mainly focused on early stage investments, private equity investors operate in 4 later stages: expansion, buyout, turnaround and replacement. As depicted in Figure 2, buyouts are the leading type of deals performed in Italy during the period of analysis. Except for some downturns after the financial crisis in the years 2009 – 2011, buyout deals always represent more than 50% of the overall market. The second most active stage in which private equities invest is expansion, with an overall stake fluctuating between 20% and 60%. In Figure 2 it is possible to identify an opposite trend between buyouts and expansion, meaning that when the former reaches peaks, the latter performs worse than the average. It might represent an overall feeling of investors who shift their activity from one stage to the other. Buyout and expansion investments jointly represent almost 80% of the overall market every year; the residual part is divided between turnaround and replacement activities, both fluctuating between 1% and 20% of the total investments in the country.

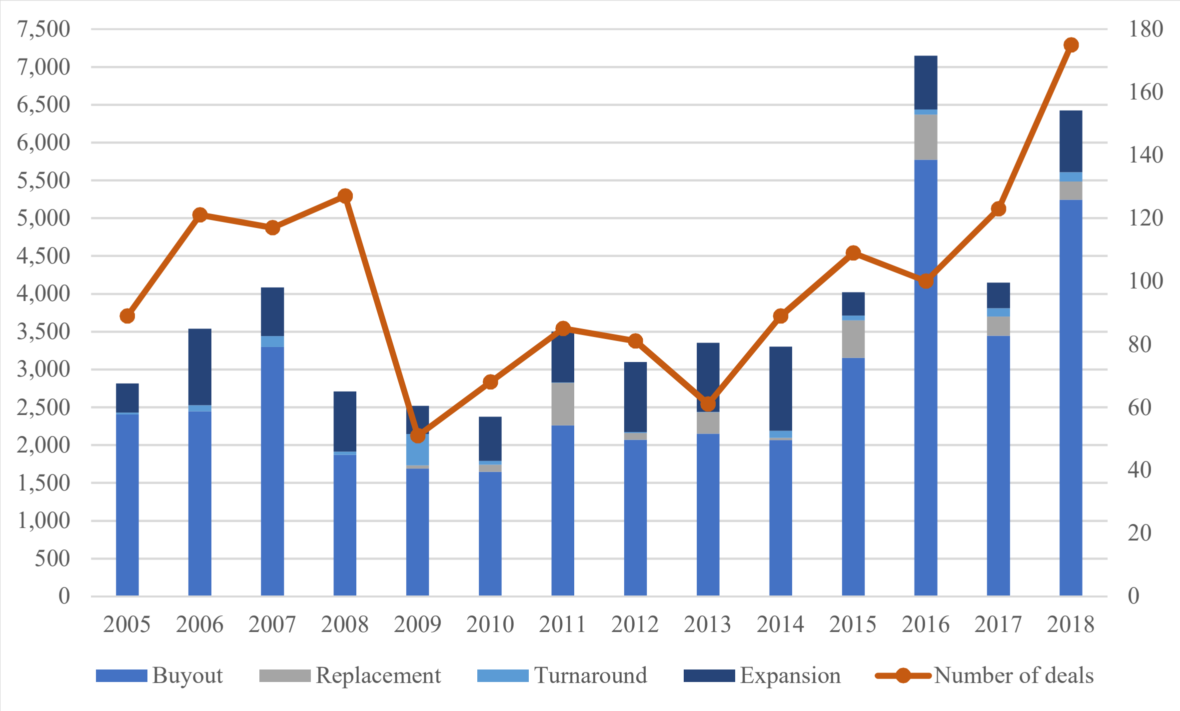
Figure 2: Italian private equity market distribution by stage of investment



Source: Private Equity Monitor reports (2000-2018)

With reference to the amount invested by stage of investment, the data have been collected by AIFI, which jointly analyses the private equity and venture capital markets. The oldest available data refer to 2005. Figure 3 shows the total amount invested by stage of investment, along with the number of deals. It confirms again the leading position of buyouts as the most active stage in which operators invest, followed respectively by expansion, replacement and turnaround. As it can be seen in the chart, in the period 2008 – 2014 the amount invested is lower than the years before financial crisis, highlighting the impact of the overall economic environment on the private equity activity. Only in 2016 the amount invested surpasses the level of 2007.

Figure 3: Total amount invested by stage of investment and number of deals (in million)



Source: AIFI and Private Equity Monitor reports (2005 – 2018)

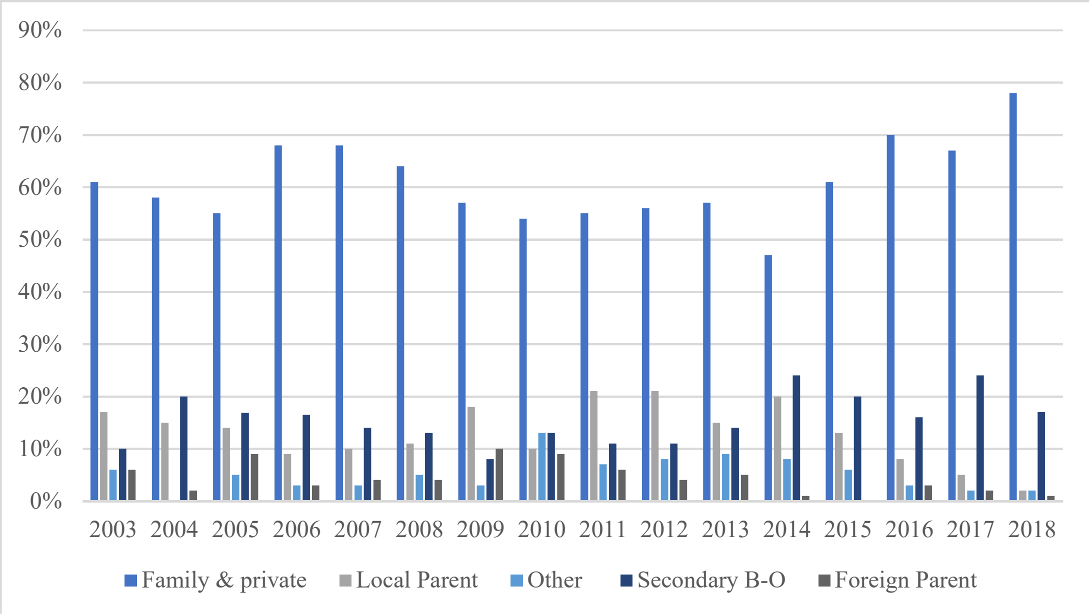
The amount invested and the number of deals follow a similar trend, meaning that the size of invested amount is proportionally captured by the number of deals. There are two type of exceptions on this trend: the first is when the amount invested seems to be lower than what is expected looking at the number of deals, as it can be seen in 2006 and 2008. The second exception is when the amount invested should lead to higher number of transactions than what is effectively happened, for example in 2016. Possible explanations can be related to the size of the target companies in which private equity operators invested: while for the former case it could be explained by a small deal size, for the latter it can be justified by consistent presence of large or mega deals, which capture a big stake of investment amount.

The second classification reported in both AIFI and PEM reports is related to the deal origination. The type of deals identified and shown in Figure 4 are:

- Family & private: private and family business companies;

– Local Parent: disposal of business units from national groups;
– Secondary Buyouts: acquisition of an already PE-backed firm;
– Foreign Parent: disposal of business units from foreign groups;
– Other: residual deals type not classified.

Figure 4: Distribution by deal origination

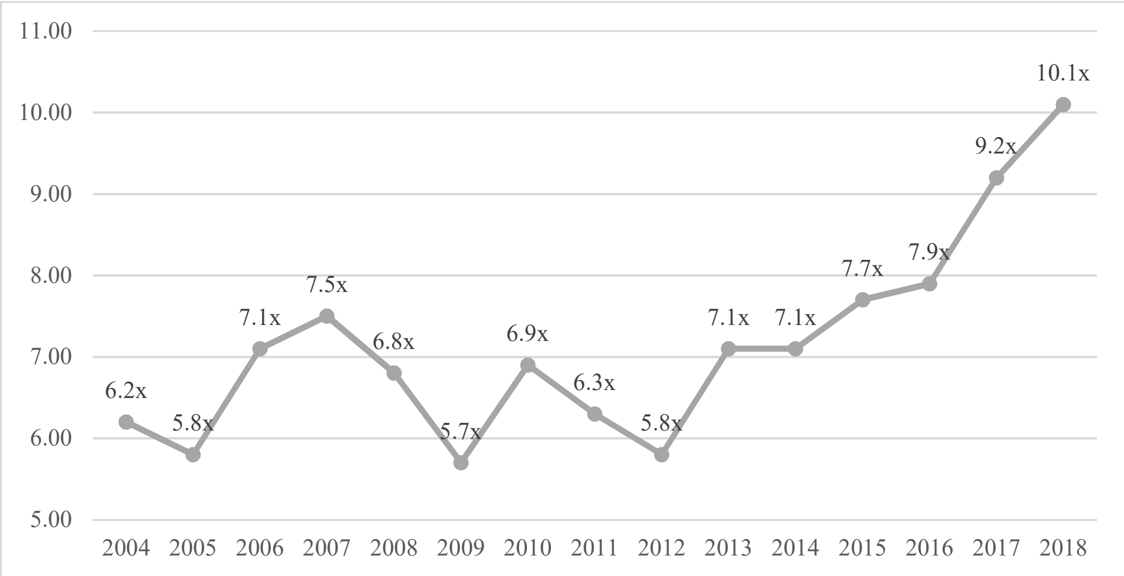


Source: Private Equity Monitor reports (2003 – 2018)

Since the Italian business environment is heavily composed by small-medium companies, most of the cases managed by the founder and his or her family, Family & private deal type always represents more than 50% of the entire activity of private equity operators during the period of analysis. This type of deal is respectively followed, in terms of greatness, by Local Parent and Secondary Buyouts, whose sizes are similar between 10% and 20%, and then Foreign Parent and Other types not detected or disclosed. It is possible to identify some trends in Figure 4: the size of Family & private deals follows the overall path of the private equity activity, with lower level during the years 2009 – 2014 than pre-financial crisis period, and a following recovery starting from 2015. With reference to Secondary Buyouts deals, it is recognized a descending trend from 2004 to 2011, and a subsequent growing path starting from 2012.

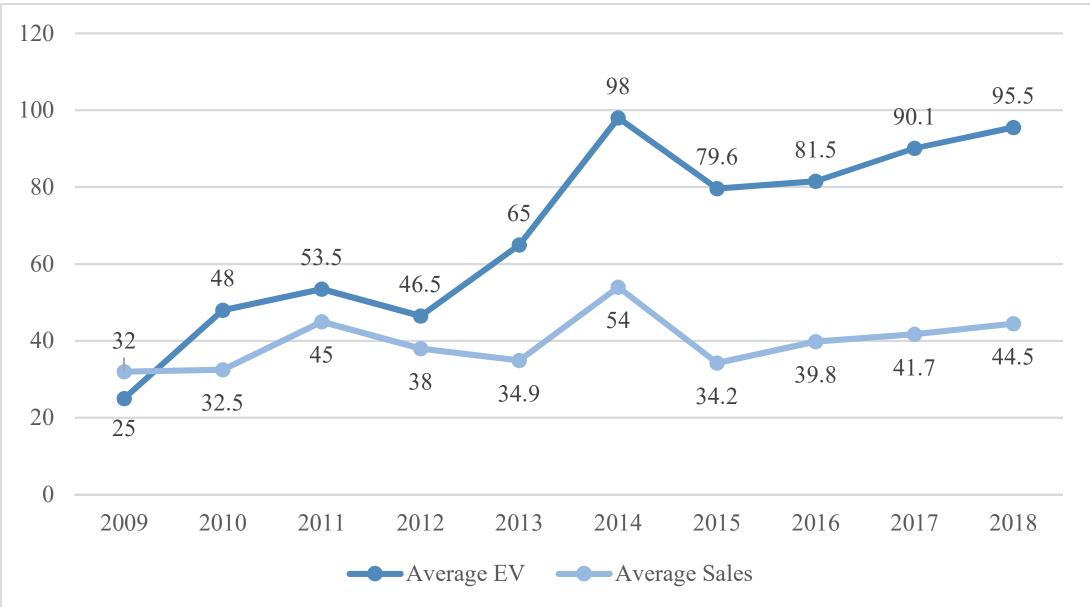
Another related analysis that can be performed in the Italian private equity market regards the average EV/EBITDA multiple of the transactions, and the size of the target companies in terms of Sales and Enterprise Value.

Figure 5: Average EV/EBIITDA Multiple



Source: Private Equity Monitor reports (2004 – 2018)

Figure 6: Average Enterprise Value and Average Sales



Source: Private Equity Monitor reports (2009 – 2018)

With reference to the average trade multiple represented in Figure 5, after one of the lowest years in 2012, the average EV/EBITDA started to increase, reaching the highest level in 2018 with a measure of 10.1x. It is worth noting that this average trade multiple takes into consideration all the deals detected by PEM, realized in every sector. Therefore, an increasing activity in an industry with high level of EV/EBITDA has a direct effect on the average measure. As the observatory reported, while there have been some changes in the percentage among sectors, the leading industries in which deals have been conducted are Industrial products, Consumer goods, and Food & Beverage during the entire period of analysis. Therefore, the increasing trend of average multiple is not explained by changes in the sectors involved. Rather, according to the analysis conducted by the PEM observatory, there are mainly two explanations for the expansion of the multiple: first, the increased competition among market players, due to larger presence of foreign investors, who are characterized by huge availability of financial resources; next, the realization of investments involving relevant firms in the Italian industrial overview, either because of their prestigious brands or their leadership position in the market in which they operate.

Finally, concerning the size of the company in terms of Sales and Enterprise Value, Figure 6 shows for both measures a constant increasing trend, with a peak in 2014 where EV and Sales are respectively €98 million and €54 million. However, it is worth noting that this increase is more prominent for EV than Sales. Indeed, the average Enterprise Value moved from €25 million in 2009 to €95.5 million in 2018, while Sales passed from €32 million to €44.5 million. This difference can be partially explained by the increase in the trade multiple, and by the higher quality of companies in which private equity operators invest.

In summary, the Italian private equity market is very active and represents an increasing portion of the private capital in which investors such as insurance companies, mutual funds and pension funds can invest. Its size, in terms of amount invested and number of deals performed has reached the highest level in 2018 and, despite large and mega deals capture a big portion, there is an overall broadening of this market. Buyouts consistently represent the preferred stage in which operators invest, followed by expansion and, as detected by AIFI, infrastructure investments started to become more relevant in the recent years. In terms of deal origination, Family & private deals exhibit the largest type of deal, reflecting the Italian business environment based on small and medium enterprises. With reference to the size of the targets, the average Sales and Enterprise Value show a slow increasing trend, partially due to the increase in EV/EBITDA multiple as well, and the higher level of competition among private equity operators, which leads them in looking for higher quality company targets.

Chapter 3 – Empirical Analysis: Italian Case Studies

In this chapter, it is presented an empirical analysis about 5 investments in Italian companies performed by both Italian and foreign private equities. It has been decided to adopt a different approach, since it is neither a statistical nor an econometric analysis, with the aim to figure out and display how private equity companies operate effectively in their targets, and confirm the drivers and the factors explained in Chapter 1, influencing value creation process and IRR in leveraged buyouts. In order to perform this type of analysis, only successful cases have been chosen, yet being aware of the higher number of failures that private equity funds undergo during the commitment period.

The underlying idea is that, despite in the first part of this work the factors have been classified and explained separately belonging to different macro-categories, PEs do not focus on a single aspect of the company, but operate at an higher integrated level, covering and embedding each part of the organization with the aim to improve its overall process and its positioning in the market in which operates.

The selected Italian companies refer to leveraged buyouts transactions executed between 2011 and 2015, and for which financial sponsors have already exited from the investment in the current year, 2019. For each case, it has been performed a brief presentation of the company, including its history, the sector in which operates, and its positioning before the entry of the private equity; then, the main data about the transaction are reported, the presentation of the activities performed during the holding period, following with the financial and economic data, in particular reclassified Balance Sheet, reclassified Income Statement, Cash Flows Statement, main ratios and other data elaboration in order to perform a meaningful analysis. After have collected data and information on the activities performed by the private equity, in the last part of each case, it is performed an analysis of what have been the drivers adopted and implemented by the sponsor(s) to contribute to create value in the target company and to generate the IRR, showing how the factors detected in the first Chapter are put in place.

The first research activity has been performed through Eikon database, looking at the companies' object of leveraged buyouts between 2010 and 2018. The data to build the case and the analysis are based on substantial information collected through:

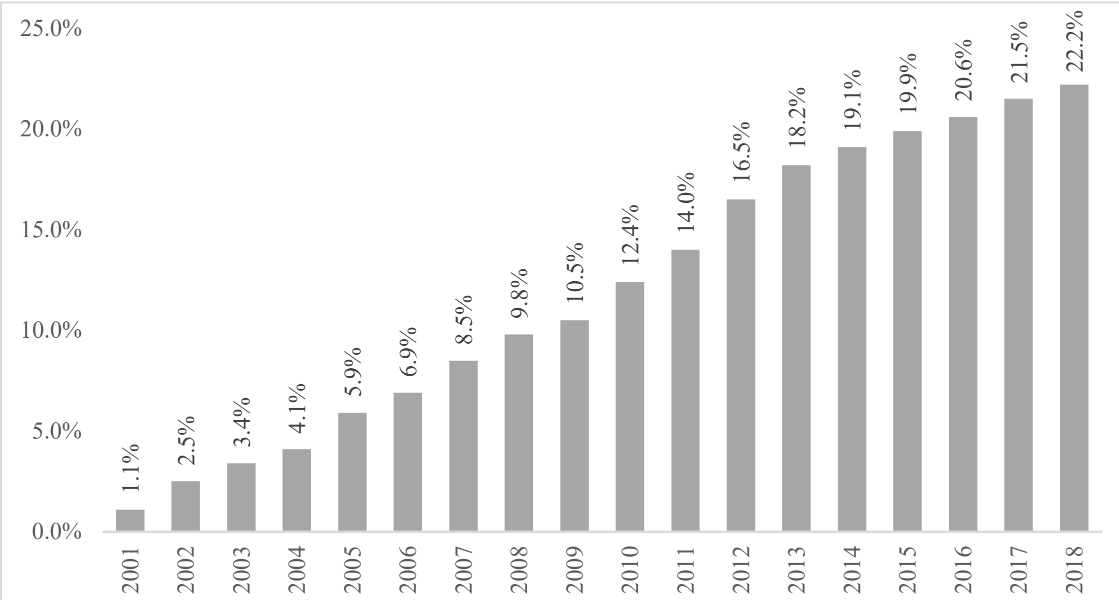
- Eikon database, mainly data on leverage financing;
- Bureau van Dijk (Aida) database, in particular Financial Statements and Ratios;
- Financial newspaper articles (BeBeez, IlSole24Ore, Milano-Finanza, Reuters), for data related to the transaction;
- Company's website, in particular the history, the business model, the products, the positioning;
- Press releases of the target companies and press releases of the private equities.

3.1 DOC Generici Srl

DOC Generici Srl is one of the leading producers in the Italian market of generic pharmaceutical products. It was founded in 1996, when the Italian Parliament issued a law which approved the use of equivalent medicines. The company was created by the joint efforts of three pharmaceutical groups: Chiesi Farmaceutici, Zambon and the Canadian group Apotex. Distribution of products started effectively in 2001 when pharmacists became obliged to provide an equivalent medicine with the lowest price amongst those available on the normal regional distributive network. In 2013 July 1st, DOC Generici was acquired by Charterhouse Capital Partners LLP, a British private equity firm, through its 9th fund in a leveraged buyout transaction. It was the first investment in Italy for the British firm. At the moment of the deal, the company was evaluated €340 million as reported by Milano-Finanza, traded at an EBITDA multiple of 7.6x based on 2012 EBITDA of €44.6 million. The transaction has been financed through €160 million loan package amount divided into two tranches, and €15 million of credit facility revolving not draw down for the acquisition.

With more than 15% of market share, DOC Generici is the biggest *independent* company in the generic pharmaceutical market. Despite the regulatory issues, this industry is constantly growing in the Italian environment: the market share of generic pharmaceuticals on the Italian retail market passes from 1.1% in 2001, to 22.2% in 2018.

Figure 7: Evolution of the market share of generic pharmaceuticals on the Italian retail market

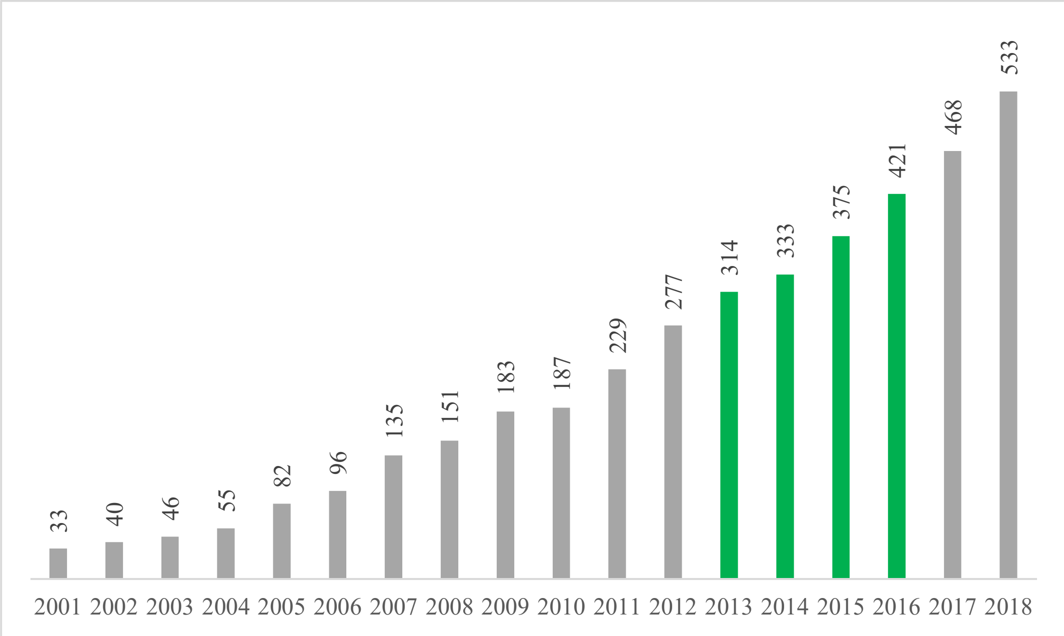


Source: DOC Generici company profile, 2018.

In this context, the British private equity firm detected the opportunity to invest in a highly cash-generative and well-established business led by a strong and experienced management team who has driven ongoing penetration of generics in the Italian market. During the holding period, July 2013 – June 2016, Charterhouse supported the Italian company in a number of initiatives, including bolster the expansion and growth strategy, diversification into the nutritional supplement sector, improvement of the supply chain, strengthening of the executive and non-executive management team, development of brand awareness.

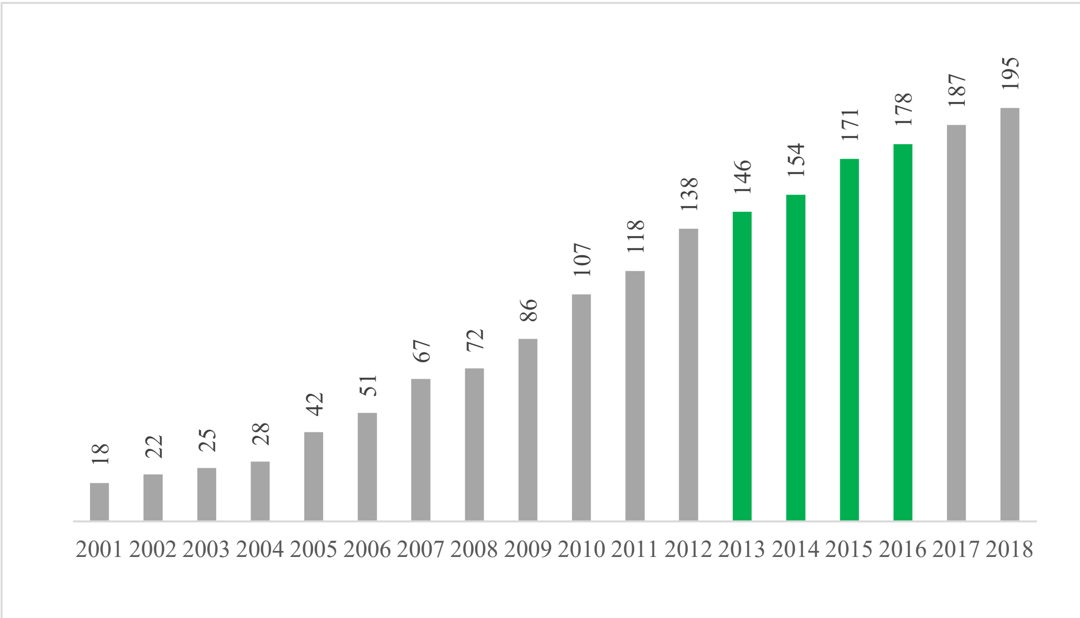
The strategy of DOC Generici is not built on research and development nor on a strong specific brand; rather, it buys active ingredients from other pharmaceutical companies especially when patents expire. The company targets both doctors and pharmacies as well as end-users and wholesalers and its strategy allow to offer to its customers the same drug at a price that is, on average, lower than 20%. Charterhouse strongly sustained DOC Generici in its growth and diversification strategy: as it can be seen in Figure 8 and Figure 9, during the holding period, the target company heavily increased both the number of products and active ingredients, passing from respectively 314 and 146, to 375 and 171 at the end of 2015.

Figure 8: Evolution of number of products of DOC Generici



Source: DOC Generici company profile, 2018.

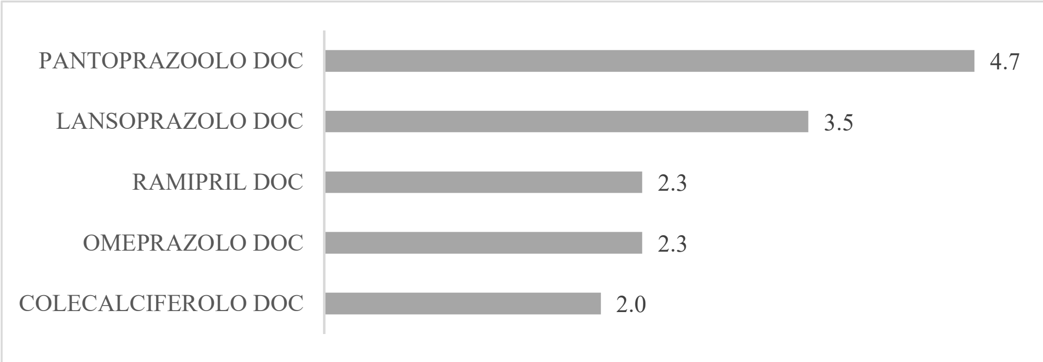
Figure 9: Evolution of number of active ingredients of DOC Generici



Source: DOC Generici company profile, 2018.

The products offered cover 13 different categories: Anti-infective drugs, Antineoplastic drugs, Cardiovascular drugs, Dermatological drugs, Hematological drugs, Gastroenterological and Metabolic drugs, Genitourinary drugs, Neurological drugs, Drugs for the Sensory Organs, Systemic Hormonal Preparations (excluding sex hormones and insulin), Respiratory drugs, Drugs for the Musculoskeletal System. In terms of volume, the top 5 products of DOC Generici are Pantoprazoolo DOC, Lansoprazolo DOC, Ramipril DOC, Omeprazolo DOC, Colecalciferolo DOC, as reported in Figure 10. The breakdown of revenues by therapeutic area consists of Cardiovascular for 31%, Gastroenterological and metabolic for 25%, Neurological 18%, Anti-infective 5% and the remaining 21% represents other areas.

Figure 10: The top five DOC Generici products by volume (million units)



Source: DOC Generici company profile, 2018

Another initiative promoted by Charterhouse during the holding period is related to the improvement of the supply chain. This is reflected in the mission and the key values of DOC Generici, which are quality, safety and efficacy. In particular, along with the expertise of Giuseppe Prestia, partner at Charterhouse, the executive and non-executive management team implemented a series of activities in operations and operating procedures which comprise the concept of quality in order to embed it in every part of the supply chain. Indeed, every stage of the production process is constantly monitored, from the development to the distribution. Quality is realized in checks, controls, specific choices and fixed in routine activities made on a daily basis. The concept of quality is also embedded in the development of a new project, whose aim is the production and marketing of an equivalent medicine of proven efficacy, and it is the evaluation parameter of all the phases of the project. With regards to production, it is concentrated in Italy (41% with 25 production plants) and Europe (47% with 25 production plants), while the residual is spread among Canada (7% with 2 production plants) and India (5% with 1 production plant).

In addition, Charterhouse strengthened the executive and non-executive management team, which already comprise professionals with extensive experience and specialization in chemistry and pharmaceutical sectors; however, the British private equity drove them in partial transformation of organizational model, adoption of new practices and transferred the experience of General Partners gained in previous deals. Immediately below the CEO of DOC Generici, who has not been changed during the holding period, there is the Managing Director who coordinates Sales Management, Administration and Finance, Industrial Operations, Regulatory Affairs, Business Development and Licensing.

Finally, Charterhouse strongly promoted the development of skills of human resources through training and refresher courses, scientific educational activities and the creation of a strong and widespread network of sales agents throughout Italy.

The British private equity exited from the investment in June 2016, when the Italian company was acquired by another British private equity, CVC Capital Partners in a secondary buyout transaction. Doc Generici has been estimated, at that time, about € 600 million, based on 2015 revenues of €170 ml and €60.5 million of EBITDA. All the activities promoted and implemented by Charterhouse in DOC Generici are reflected in economic and financial performance and, in order to further analyze the drivers of the value creation process and the returns for the British private equity, in the following tables are reported the Balance Sheet (Table 1), Income Statement (Table 2), Cash Flow Statements (Table 3), the most economic and financial relevant ratios (Table 4), the value creation analysis (Table 5) and value creation build (Table 6).

Table 1: DOC Generici reclassified Balance Sheet

DOC Generici Balance Sheet						
($ in million)			PE holding period			
	2012A	**PF 2012**	**2013**	**2014**	**2015**	**2016**
Assets						
Cash	$15.4	$15.4	$13.7	$13.5	$40.2	$14.8
Net Accounts Receivable	$38.9	$38.9	$43.2	$40.8	$42.2	$43.7
Inventory	$19.2	$19.2	$20.0	$19.0	$19.3	$16.5
Other Current Assets	$3.5	$3.5	$3.5	$5.1	$4.3	$7.7
Total Current Assets	**$76.9**	**$76.9**	**$80.4**	**$78.4**	**$105.9**	**$82.7**
Net PP&E and Intangibles (ex. Goodwill)	$9.3	$9.3	$17.5	$16.6	$15.5	$10.3
Goodwill	$0.0	$283.3	$282.7	$253.1	$223.4	$554.7
Other Noncurrent Assets	$0.0	$3.7	$0.0	$0.0	$0.0	$0.1
Total Assets	**$86.2**	**$373.2**	**$380.5**	**$348.0**	**$344.9**	**$647.8**
Liabilities & Shareholders' Equity						
Accounts Payable	$15.3	$15.3	$16.5	$17.7	$16.5	$17.8
Accrued Expenses	$0.0	$0.00	$0.02	$0.01	$0.01	$0.05
Other Current Liabilities	$4.0	$4.0	$10.3	$3.3	$18.7	$4.1
Total Current Liabilities	**$19.3**	**$19.3**	**$26.8**	**$21.0**	**$35.2**	**$21.9**
Total Debt	$0.0	$160.0	$150.4	$119.5	$94.8	$311.6
Other Noncurrent Liabilities	$10.2	$10.2	$9.0	$12.0	$12.6	$13.3
Total Liabilities	**$29.5**	**$189.5**	**$186.2**	**$152.6**	**$142.7**	**$346.8**
Shareholders' Equity	$56.7	$183.7	$194.4	$195.5	$202.2	$301.0
Total Liabilities & Shareholders' Equity	**$86.2**	**$373.2**	**$380.5**	**$348.0**	**$344.9**	**$647.8**

Source: Bureau van Dijk (Aida) database.

Table 2: DOC Generici reclassified Income Statement

DOC Generici Income Statement						
($ in million)			PE holding period			
	2011	2012	2013	2014	2015	2016
Revenue	**$123.1**	**$134.9**	**$158.2**	**$162.3**	**$169.1**	**$165.1**
(-) Costs of Goods Sold	($79.7)	($90.3)	($104.3)	($103.8)	($108.6)	($102.8)
EBITDA	**$43.4**	**$44.6**	**$53.9**	**$58.5**	**$60.5**	**$62.2**
(-) D&A	($3.1)	($3.2)	($17.6)	($34.1)	($34.4)	($70.8)
EBIT	**$40.3**	**$41.5**	**$36.3**	**$24.4**	**$26.1**	**($8.6)**
(-) Net Interest Expense	$0.3	$0.3	($5.3)	($9.9)	($4.6)	($11.8)
EBT	**$40.6**	**$41.8**	**$31.0**	**$14.4**	**$21.5**	**($20.5)**
(-) Tax Expense	($13.0)	($13.5)	($14.4)	($13.3)	($14.8)	($10.6)
Net Income	**$27.6**	**$28.3**	**$16.7**	**$1.1**	**$6.7**	**($31.0)**

Source: Bureau van Dijk (Aida) database

Table 3: DOC Generici Cash Flows Statement

DOC Generici Statement of Cash Flows					
($ in million)		PE holding period			
	2012	2013	2014	2015	2016
Cash from Operating Activities					
Net Income	$28.3	$16.7	$1.1	$6.7	$(31.0)
(+) D&A	$3.2	$17.6	$34.1	$34.4	$70.8
(+ / -) Change in NWC	$(6.7)	$2.3	($3.9)	$13.4	$(15.6)
Cash from Operating Activities	**$24.78**	**$36.5**	**$31.3**	**$54.6**	**$24.3**
(-) CapEx	$3.7	$11.4	$3.6	$3.8	$0.0
Levered Free Cash Flow	**$21.1**	**$25.1**	**$27.7**	**$50.8**	**$24.3**
Beginning Cash Balance	$18.6	$15.4	$13.7	$13.5	$40.2
(+) Levered Free Cash Flow	$21.1	$25.1	$27.7	$50.8	$24.3
Total Cash Available for Debt Repayment	**$39.7**	**$40.5**	**$41.4**	**$64.3**	**$64.5**

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

Table 4: DOC Generici Ratios

DOC Generici Ratios Analysis						
			PE holding period			
Financial ratios	2011	2012	2013	2014	2015	2016
Liquidity ratio	3.07	2.99	2.25	1.86	2.45	3.00
Current ratio	4.13	3.98	3.00	2.46	3.00	3.76
Leverage	1.45	1.52	1.96	1.78	1.71	2.15
Coverage of fixed assets	6.31	6.09	1.15	1.13	1.24	1.08
Interest/Operating profit	-	-	10.1%	6.7%	13.1%	5.2%
Interest/Turnover	-	-	3.4%	5.3%	2.8%	7.1%
Solvency ratio	69%	66%	51%	56%	59%	46%
Share funds/Liabilities	3.22	2.94	1.10	1.39	1.55	0.90
Debt/Equity ratio	-	-	0.81	0.61	0.54	1.04
Debt/EBITDA ratio	-	-	2.92x	2.04x	1.80x	5.01x
Management ratios						
Total assets turnover (times)	1.44	1.53	0.41	0.47	0.49	0.26
Working cap. turnover (times)	1.62	1.72	1.95	2.08	1.59	2.03
Stocks/Turnover (days)	56.44	52.26	45.97	41.82	41.42	35.64
Stocks/Cost goods sold (days)	124.36	125.89	114.42	112.84	114.53	107.13
Profitability ratios						
Return on asset (ROA)	50.3%	48.1%	9.5%	7.0%	7.6%	-1.3%
Return on investment (ROI)	n/a	n/a	10.3%	7.7%	8.4%	-1.4%
Return on sales (ROS)	n/a	n/a	23.1%	14.9%	15.5%	-5.1%
Return on equity (ROE)	49.8%	49.9%	8.6%	5.6%	3.3%	-10.3%
Net P&L / Operating P&L	68.5%	68.2%	45.9%	4.5%	25.7%	n/a
Productivity ratios						
Number of employees	52	57	62	66	68	76
Turnover per employee (in million)	2.25	2.35	2.54	2.47	2.48	2.21
Turnover/Staff Costs	21.9%	23.0%	17.9%	23.0%	23.1%	18.6%

Source: Bureau van Dijk (Aida) database.

Table 5: DOC Generici Value Creation Analysis

DOC Generici Value Creation Analysis (3 Years)				
($ in million)			Cumulative Change	
	Entry	Exit	$	%
LTM Revenue	**$135**	**$169**	**$34**	**25.4%**
LTM EBITDA	**$45**	**$61**	**$16**	**35.6%**
% Margin	*33.1%*	*35.8%*	*2.7%*	
Transaction Multiple	**7.6x**	**9.9x**	**2.3x**	**29.9%**
Transaction Value	**$340**	**$599**	**$259**	**76.2%**
Net Debt	($160)	($55)	$105	(65.9%)
Fees	4	--	(4)	
Sponsor Equity	**$184**	**$545**	**$361**	**196.2%**

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database.

Table 6: DOC Generici Value Creation Build

DOC Generici Value Creation Build		
($ in million)		
Starting Equity Value	**$184**	*%*
(-) Fees	(4)	*(1.0%)*
(+) EBITDA Growth	121	*33.6%*
(+) Multiple Expansion	138	*38.2%*
(+) Debt Paydown	105	*29.2%*
Total Value Creation	**$361**	*100.0%*
Ending Equity Value	**$545**	
Multiple on Invested Capital	***2.96x***	
IRR	***43.6%***	

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database.

Since the transaction has been financed by €160 ml debt, and the company was evaluated about €340 ml, the investment made by Charterhouse in 2013 has been €180 ml. As reported in EIKON sheet of the exit transaction, in 2016 Doc Generici was evaluated about €600 ml, traded at a multiple of 9.9x times 2015 EBITDA of €60.5 ml. Based on the last available data – Debt of €95 million and Cash and Cash Equivalents of €40 ml at the end of 2015, Equity value at the exit was about € 545 ml, allowing Charterhouse to earn 3.0x cash multiple on initial investment, and an IRR of 43.6%, as shown in Table 6. In the analysis of the drivers that generated the extremely high IRR of Charterhouse in DOC Generici investment, financial, governance and operational engineering, improvement of cash flows and working capital management, multiple arbitrage, the reputation and the experience of the private equity contributed to achieve the exceptional performance.

Table 7: DOC Generici Revenues growth, EBITDA margin and growth

			PE holding period				
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	***CAGR***
Revenue	$123.1	$134.9	$158.2	$162.3	$169.1	$165.1	
% Growth		***9.5%***	***17.3%***	***2.6%***	***4.2%***	***(2.4%)***	***7.8%***
EBITDA	$43.4	$44.6	$53.8	$58.5	$60.5	$62.2	
% Margin	***35.2%***	***33.1%***	***34.1%***	***36.1%***	***35.8%***	***37.7%***	
% Growth		***2.8%***	***20.8%***	***8.6%***	***3.4%***	***2.8%***	***10.7%***

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

In terms of operational engineering, Charterhouse supported the growth and diversification strategy of the target company, worked on efficiency and effectiveness, through the improvement of the supply chain, the introduction of the concept of quality in every part of the organization, the development of the skills of employees and the investment in a widespread sale network. With reference to employees, as Table 4 shows, the number constantly increased during the holding period, as well as the turnover per employee with respect to the previous and following periods. All these activities are reflected in the growth of revenues and EBITDA, and enhancement of operating margin. Table 7 reports an increase in revenues by more than 25%, with a compounded annual growth rate of 8%, increase of EBITDA by 36%, with CAGR of more than 10%. Finally, EBITDA margin was more than 34%, reaching a peak of 36.1%.
The growth of EBITDA is one of the major drivers of the Equity value increase during the holding period, as it is represented in Table 6, contributing for more than 33% to the overall value creation.

Table 8: DOC Generici Working Capital and Working Capital Ratios

DOC Generici Working Capital						
($ in million)			PE holding period			
	2011	**2012**	**2013**	**2014**	**2015**	**2016**
Days Sales Outstanding (DSO)	94.8	105.2	99.7	91.9	91.0	96.6
Days Inventory Held (DIH)	83.6	77.6	69.8	66.8	64.7	58.6
Days Payable Outstanding (DPO)	61.0	61.8	57.6	62.4	55.5	63.0
Cash Conversion Cycle	**117.4**	**120.9**	**111.9**	**96.3**	**100.2**	**92.2**
Calculated NWC						
Net Accounts Receivable	$32.0	$38.9	$43.2	$40.8	$42.2	$43.7
Inventory	$18.3	$19.2	$20.0	$19.0	$19.2	$16.5
Other Current Assets	$2.5	$3.4	$3.5	$5.1	$4.3	$7.7
Current Assets	**$52.8**	**$61.5**	**$66.7**	**$64.9**	**$65.7**	**$67.9**
Accounts Payable	$13.3	$15.3	$16.5	$17.7	$16.5	$17.8
Accrued Expenses	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other Current Liablities	$3.9	$4.0	$10.3	$3.3	$18.7	$4.1
Current Liabilities	**$17.2**	**$19.3**	**$26.8**	**$21.0**	**$35.2**	**$21.9**
Net Working Capital (NWC)	**$35.5**	**$42.2**	**$40.0**	**$43.9**	**$30.5**	**$46.0**
(Increase) Decrease in NWC		($6.7)	$2.3	($3.9)	$13.4	($15.5)

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

With reference to cash flows, as depicted in Table 13, DOC Generici performed well during the holding period: the company generated every year more than €40 million of cash flows available for debt repayment. This has been possible due to the improvement of working capital management, as ratios in Table 4 and changes in Net Working Capital in Table 18 show: Days Dales Outstanding, Stock over Turnover ratio and Days Inventory Held have been decreased, meaning that the company improved the terms of Accounts Receivables, and inventory management through the reduction of days in which the cash is tied up in inventory.

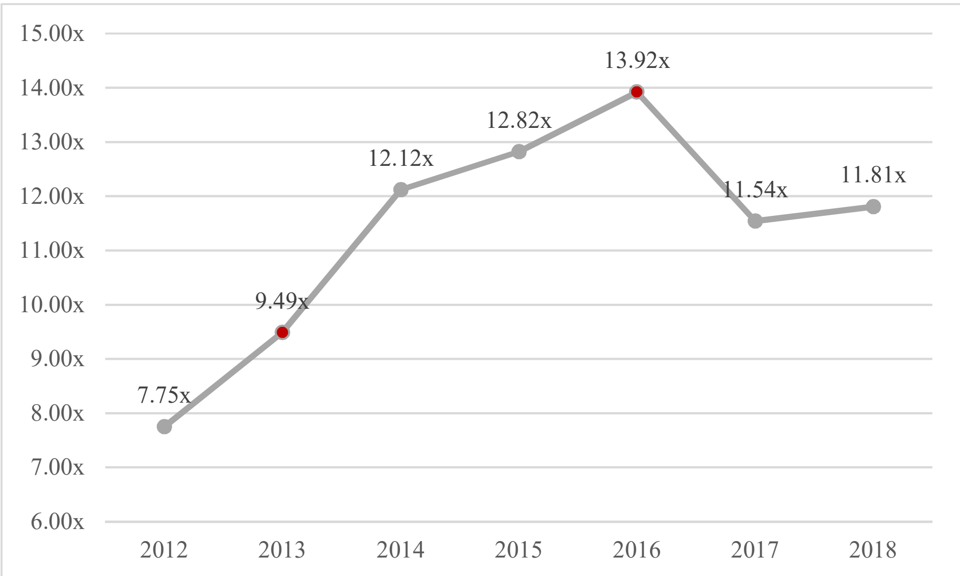
About investing activities, DOC Generici has an asset-light model based on outsourced manufacturing. Nevertheless, in the first year of PE holding period, Charterhouse invested in fixed assets, slightly increasing and renovating Property, Plant and Equipment, as it can be seen in the level of Capex that, in 2011, has been 7% of total sales. In the following years it was lower, about 2% of sales, displaying just a maintenance activity of PPE.

With regards to financing activities, together with the positive cash flow highlighted in Table 13, the reclassified Balance Sheet in Table 1 shows a constant decrease of long-term debt, from €160 million at the moment of the transaction to €95 million at the end of 2015, meaning that DOC Generici has been able to meet its financial commitments, both interest payment and pay down of the principal, during the holding period. The reduction of outstanding debt used to finance the transaction has a positive impact on the IRR of Charterhouse, as it has been also shown in the Value Creation Build in Table 6, raising the Equity value at the moment of divestment.

Governance engineering measures, the reputation and the experience of Charterhouse can be recognized in the strengthening of non-executive and executive management team, in particular through the transfer of knowledge of the General Partners gained in previous transactions; in the ability of private equity to select a high potential target company, in terms of cash-generation and identification of a growing market in the Italian environment, despite the regulatory issues that govern it.

Finally, other two elements need to be considered in the analysis of Charterhouse's IRR in DOC Generici: the multiple expansion and the value creation at the entry and exit moment. Multiple arbitrage can be determined by an overall increase of the average multiple in the generic pharmaceutical sector, but also on the negotiation skills and the ability of the British private equity to boost it. While a specific multiple for the generic drug production sector is not available, it is possible to refer to the overall drug pharmaceutical sector multiple, which is useful to analyze the trend of the industry.

Figure 11: Drug Pharmaceutical Multiple



Source: Damodaran.

As it can be seen in Figure 11, since 2013, the year of entry for Charterhouse, the multiple has increased, reaching in 2016, the year of exit, the highest level of 13.92x. Therefore, the value created in DOC Generici by the multiple arbitrage can be attributed to the growth of the overall sector, but also, as already said above, to the ability of the General Partners to detect a growing market and take advantage of timing of entry and exit. Furthermore, as reported by related articles of Milano-Finanza and BeBeez, in the acquisition process Charterhouse was the only potential acquirer for DOC Generici, while at the exit, there was competition among CVC and other PEs, in particular Blackstone, thanks to the promotion activity of the target company made by the private equity started in 2015. These factors allow Charterhouse to not bid at the entry, which would have increased the acquisition price, and to create competition among other funds at the sale, thus raising the value of the divestment. Finally, in Table 9 and Table 10 are exhibited, respectively, the main data of entry and exit transaction and debt financing information.

Table 9: Main data on DOC Generici transaction

DOC Generici	Entry	Exit
Year	2013	2016
Seller	Chiesi, Zambon, Apotex	Charterhouse Capital Partners
Acquirer	Charterhouse Capital Partners	CVC Capital Partners
Fund	9th fund	Fund VI
Transaction Value (with Fees)	€ 344 ml	€ 600 ml
Revenues	€ 131.8 ml	€ 170 ml
EBITDA	€ 44.6 ml	€ 60.5 ml
EV/EBITDA Multiple	7.6x	9.9x
PE Investment / Exit	€ 184 ml	€ 545 ml
Debt financing	€160 ml	-
D/EBITDA	3.6x	-

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, DOC Generici website, DOC Generici company profile 2018, Eikon database, Milano-Finanza articles.

Table 10: DOC Generici Loans Tearsheet

Loan Package Amount	Tranche 1	Tranche 2	Tranche 3
Amount	€80 ml	€80 ml	€15 ml
Issue date	15/07/2013	15/07/2013	15/07/2013
Closing date	15/07/2019	15/07/2020	15/07/2020
Type	Term Loan A	Term Loan B	Revolving Credit Facility
Interest rate	Floating EURIBOR + 500bps	Floating EURIBOR + 500bps	Floating EURIBOR + 500bps
Use of Proceeds	Leveraged Buyout	Leveraged Buyout	Leveraged Buyout
Arrangers	UniCredit Credit Agricole HSBC Holding PLC Mizuho Bank Ltd Natixis Banca IMI	UniCredit Credit Agricole HSBC Holding PLC Mizuho Bank Ltd Natixis Banca IMI	UniCredit Credit Agricole HSBC Holding PLC Mizuho Bank Ltd Natixis Banca IMI

Source: Eikon database.

3.2 Rollon Spa

Founded in 1975, Rollon Spa is a global provider of solutions for application of linear motion; it designs, produces and markets a complete range of products, including linear guides, telescopic guides, linear actuators and systems for automation for linear motion industry. In November 2013, it was acquired by two private equity funds, Chequers Capital and Igi Sgr, and by the incumbent management team lead by the CEO Eraldo Bianchessi. They respectively bought 70%, 20% and 10% in a leveraged buyout transaction. At the moment of the deal, the company was evaluated about €110.4 million, traded at an EBITDA multiple of 10.6x based on the 2012 EBITDA of €10.4 million. The transaction has been financed through €52.5 million loan package amount divided into two tranches, and €5 million of credit facility revolving not draw down for the acquisition.

Rollon is one of the leading companies in the industrial automation sector, ensuring local presence with its Italian production sites, and has an international broad base with branches and offices throughout the world. In particular, it has 7 production sites among the European area including, other than Italy, Germany, France, Netherlands, Poland, Great Britain and Russia; 1 production site respectively in Japan, in China, in India, in Brazil and 2 production sites in the East side of the USA (New Jersey and North Carolina). In addition, it is present with more than 180 importers and main distributors in Australia, Czech Republic, Colombia, New Zealand, South Africa, South Korea, Spain and Turkey. With reference to the products offered by Rollon, they can be divided in 4 different lines:

- Linear line: it refers to linear motion guides and systems, and includes linear caged ball bearings and recirculating ball bearings rails;
- Telescopic line: it refers to telescopic guides for linear motion, and includes full and partial extraction telescopic guides, available in different rail profiles and features like load capacity, rigidity and smooth operation;
- Actuator line: it refers to linear actuators and linear motion systems, and includes linear units available in different typed of belt and ball screw driven models and configurations, with high load capacity and precision;
- Actuator System line: it is a series of industrial automation solutions, evolving over time in order to meet the most demanding needs of its customer.

The solutions offered by Rollon find application in a wide variety of industrial sectors, specifically industrial machines, railway, packaging and logistics, aeroSpace, building and furniture, special vehicles, and medical, allowing the company to diversify its customers' broad base.

The private equity companies supported the growth and diversification strategy of Rollon, its international expansion and development, in order to strengthening its position in the industry in which operates, and allowing it to compete on an international wide basis, also by means of acquisitions. Practically, in 2014, there have been the openings of 2 new subsidiaries, one in China (Shanghai), and one in India (Bangalore), in order to reach a widespread presence all over the world, as announced by the General Partners of both private equities. In January 2015, Rollon performed the acquisition of the branch of Tecno Center, a Turin based company, which produces linear actuators and components for linear motion systems. This acquisition allowed the target company to boost further organic growth at European level, expanding the range of complementary and technologically more complex products. The strategy of General Partners was to purchase an industrial production company which can perfectly integrate with Rollon, and leverage on the commercial synergies originated by the combination. The first acquisition was followed by another one in the same year, announced in October, in which the target company acquired Hegra, a German based company, in order to expand its range of telescopic rails with new profiles and materials. The business combination allowed Rollon to expand the product range, introducing a completely new family of products, including 11 telescopic rails with new profiles. This acquisition has been particularly relevant for Rollon because it allowed to reinforce its presence in the sector of medium load guides and heavy-duty equipment, and allowed the target company to provide a more sophisticated offer that can meet the application needs of the customers. In March 2017, thanks to the acquisition of the Milan based company TMT, Rollon introduced a completely new offer, Speedy Rail: it is a complementary solution to the other products already sold by acquirer. This new offer has several significant benefits from a technical point of view, since it gives more flexibility to customers, ensuring at the same time higher cost savings. Again, it allowed Rollon to offer a more comprehensive and complementary range of products for different applications and different market needs, according to its consolidation strategy. The last of four acquisitions performed by Rollon during the PE holding period was announced in October 2017 with the acquisition of T Race, a Milan based company with subsidiaries in Germany and China. T Race produces telescopic and linear guides, which are products already offered by Rollon, but the combination allows it to strengthen and further diversify its offer. Finally, in March 2018, as stated in the press release published by Rollon, there has been the opening of a new division in Italy (Arcore), specifically dedicated to actuators and integrated systems, and one new factory in Germany confirming the evolution of Rollon in producing mechanical components to create functional automation systems and to respond in more efficient ways to market demand.

All these actions undertaken during the holding period allow Rollon to put into effect a strong and sustainable growth and diversification strategy, exploit synergies with the companies and branches it acquired, reduce the operating risk given the expansion of customer base in terms of diversification of the sectors for which the products can be used. Then, it strengthens and consolidates the position in the market, thus increasing the bargaining power with both suppliers and customers, because of the wider offer of complementary products and the introduction of complete offers (e.g. Speedy Rail), representing Rollon as an ideal partner for everyone.

The private equity companies and the management exited from the investment in September 2018, when the Italian company was acquired in a strategic sale by Timken, an American listed company world leader in engineering bearings and power transmission products. As reported in the press release of the acquisition, the combination allows the American company, which recognizes the proven operating model and value proposition of the Rollon, to expand its portfolio of leading industrial brands and open up new opportunities. Rollon has been estimated, at that time, € 428 million, based on 2017 revenues of €67.7 million and €21 million of EBITDA. All the activities promoted and implemented by Chequers Capital and IGI Sgr in Rollon are reflected in economic and financial performance and, in order to further analyze the drivers of the value creation process and the returns for the two private equities, in the following tables are reported the Balance Sheet (Table 11), Income Statement (Table 12), Cash Flow Statements (Table 13), the most economic and financial relevant ratios (Table 14), the value creation analysis (Table 15) and value creation build (Table 16).

Table 11: Rollon Spa reclassified Balance Sheet

Rollon Spa Balance Sheet								
($ in million)				PE holding period				
	2012A	**2013A**	**PF 2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Assets								
Cash	$3.0	$1.5	$1.5	$5.3	$3.8	$5.5	$5.3	$5.0
Net Accounts Receivable	$4.4	$4.7	$4.7	$5.1	$6.1	$7.4	$8.8	$9.7
Inventory	$5.7	$5.9	$5.9	$5.8	$9.0	$10.2	$10.9	$14.7
Other Current Assets	$4.3	$4.0	$4.0	$4.4	$6.0	$7.1	$10.6	$12.6
Total Current Assets	**$17.5**	**$16.0**	**$16.0**	**$20.6**	**$24.9**	**$30.2**	**$35.6**	**$42.0**
Net PP&E and Intangibles	$1.9	$3.1	$3.1	$6.3	$7.9	$7.8	$7.4	$7.0
Goodwill	$27.6	$23.9	$85.0	$72.3	$67.1	$58.8	$51.3	$48.4
Other Noncurrent Assets	$16.4	$18.7	$19.9	$18.0	$17.8	$18.3	$23.9	$16.5
Total Assets	**$63.4**	**$61.7**	**$124.0**	**$117.2**	**$117.7**	**$115.1**	**$118.1**	**$113.9**
Liabilities & Shareholders' Equity								
Accounts Payable	$4.4	$4.1	$4.1	$6.4	$7.8	$7.7	$10.6	$10.7
Accrued Expenses	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.1
Other Current Liabilities	$6.4	$2.6	$2.6	$6.3	$9.3	$8.7	$8.7	$24.8
Total Current Liabilities	**$10.7**	**$6.8**	**$6.8**	**$12.7**	**$17.1**	**$16.5**	**$19.3**	**$35.6**
Total Debt	$11.9	$10.4	$52.5	$44.7	$40.3	$35.3	$44.6	$0.0
Other Noncurrent Liabilities	$2.1	$5.6	$5.6	$1.3	$1.3	$1.3	$1.3	$1.6
Total Liabilities	**$24.7**	**$22.7**	**$64.8**	**$58.8**	**$58.7**	**$53.0**	**$65.2**	**$37.2**
Shareholders' Equity	$38.7	$38.9	$59.1	$58.4	$58.9	$62.1	$53.0	$76.8
Total Liabilities & Shareholders' Equity	**$63.4**	**$61.7**	**$124.0**	**$117.2**	**$117.7**	**$115.1**	**$118.1**	**$113.9**

Source: Bureau van Dijk (Aida) database.

Table 12: Rollon Spa reclassified Income Statement

Rollon Spa Income Statement								
($ in million)				PE holding period				
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Revenue	**$30.2**	**$37.2**	**$37.8**	**$39.9**	**$50.7**	**$56.2**	**$67.7**	**$78.8**
(-) Costs of Goods Sold	($21.0)	($26.9)	($31.9)	($28.1)	($36.6)	($38.9)	($46.7)	($55.5)
EBITDA	**$9.3**	**$10.4**	**$5.9**	**$11.8**	**$14.1**	**$17.3**	**$21.0**	**$23.4**
(-) D&A	($3.9)	($4.6)	($4.5)	($9.7)	($10.3)	($10.6)	($11.6)	($11.6)
EBIT	**$5.4**	**$5.8**	**$1.4**	**$2.1**	**$3.8**	**$6.8**	**$9.4**	**$11.8**
(-) Net Interest Expense	($1.2)	($1.0)	($1.0)	($3.2)	($2.7)	($2.0)	($1.5)	($1.5)
(+ / -) Other Fin. Income	$3.0	$2.6	$1.3	$2.2	$2.3	$2.3	$1.9	$19.3
EBT	**$7.2**	**$7.5**	**$1.7**	**$1.1**	**$3.4**	**$7.1**	**$9.7**	**$29.6**
(-) Tax Expense	($2.6)	($3.1)	($1.5)	($2.1)	($2.9)	($3.9)	($3.9)	($5.8)
Net Income	**$4.6**	**$4.4**	**$0.2**	**($1.0)**	**$0.5**	**$3.2**	**$5.8**	**$23.8**

Source: Bureau van Dijk (Aida) database.

Table 13: Rollon Spa Cash Flow Statement

Rollon Spa Statement of Cash Flows							
($ in million)			PE holding period				
	2012	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Cash from Operating Activities							
Net Income	$4.4	$0.2	($1.0)	$0.5	$3.2	$5.8	$23.8
(+) D&A	$4.6	$4.5	$9.7	$10.3	$10.6	$11.6	$11.6
(+ / -) Change in NWC	($4.2)	($4.1)	$5.2	($1.4)	($4.3)	($2.7)	$9.5
Cash from Operating Activities	**$4.7**	**$0.6**	**$13.9**	**$9.4**	**$9.5**	**$14.7**	**$44.9**
(-) CapEx	$0.6	$1.9	$12.9	$6.7	$2.2	$3.6	$8.3
Levered Free Cash Flow	**$4.2**	**($1.3)**	**$1.0**	**$2.7**	**$7.3**	**$11.1**	**$36.6**
Beginning Cash Balance	$2.4	$3.0	$1.5	$5.3	$3.8	$5.5	$5.3
(+) Levered Free Cash Flow	$4.2	($1.3)	$1.0	$2.7	$7.3	$11.1	$36.6
Total Cash Available for Debt Repayment	**$6.6**	**$1.7**	**$2.5**	**$8.0**	**$11.1**	**$16.6**	**$41.9**

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

Table 14: Rollon Spa Ratios

Rollon Spa Ratios Analysis								
				PE holding period				
Financial ratios	2011	2012	2013	2014	2015	2016	2017	2018
Liquidity ratio	0.75	1.06	1.50	1.14	0.91	1.18	1.23	0.74
Current ratio	1.11	1.60	2.37	1.60	1.44	1.80	1.79	1.16
Leverage	1.91	1.64	1.58	2.01	2.00	1.85	2.23	1.48
Coverage of fixed assets	1.00	1.10	1.16	1.07	1.07	1.14	1.17	1.07
Interest/Operating profit	7.9%	10.9%	5.9%	3.7%	5.2%	8.8%	13.6%	15.8%
Interest/Turnover	3.9%	2.6%	2.7%	8.0%	5.5%	3.5%	2.3%	1.9%
Solvency ratio	52.4%	61.0%	63.1%	49.8%	50.1%	54.0%	44.8%	67.4%
Share funds/Liabilities	1.18	1.71	1.85	1.02	1.03	1.20	0.83	2.16
Debt/Equity ratio	0.62	0.40	0.29	0.83	0.76	0.65	0.95	0.00
Debt/EBITDA ratio	2.3x	1.5x	1.9x	4.1x	3.2x	2.3x	2.4x	0.0x
Management ratios								
Total assets turnover (times)	0.46	0.57	0.60	0.33	0.41	0.48	0.57	0.67
Working cap. turnover (times)	2.01	2.12	2.31	1.92	1.96	1.87	1.93	1.86
Stocks/Turnover (days)	59	57	57	53	67	66	59	69
Stocks/Cost goods sold (days)	223	191	199	186	215	225	203	232
Profitability ratios								
Return on asset (ROA)	8.2%	9.2%	2.3%	1.8%	3.3%	5.9%	8.0%	10.4%
Return on investment (ROI)	9.6%	10.7%	2.9%	2.0%	3.7%	6.6%	9.1%	15.4%
Return on sales (ROS)	17.6%	15.9%	3.9%	5.2%	7.8%	12.1%	13.9%	15.3%
Return on equity (ROE)	13.4%	11.3%	0.5%	-1.7%	0.9%	5.1%	11.0%	31.1%
Net P&L / Operating P&L	85.7%	75.3%	13.6%	-48.7%	13.3%	47.0%	62.1%	201.6%
Productivity ratios								
Number of employees	126	152	172	171	196	259	272	347
Turnover per employee (in thousands)	242.3	240.7	216.8	233.0	250.0	215.8	248.9	223.0
Added value per employee (in thousands)	128.8	126.6	100.0	126.6	135.1	119.5	138.4	126.8
Staff Costs per employee (in thousands)	55.1	58.3	63.1	57.5	63.1	52.6	61.3	59.2
Turnover/Staff Costs	4.4	4.1	3.4	4.1	4.0	4.1	4.1	3.8

Source: Bureau van Dijk (Aida) database.

Table 15: Rollon Spa Value Creation Analysis

Rollon Spa Value Creation Analysis (5 Years)					
($ in million)				**Cumulative Change**	
	Entry	**Exit**		**$**	**%**
Revenue	**$37**	**$68**		**$30**	**81.8%**
EBITDA	**$10**	**$21**		**$11**	**102.0%**
% Margin	*27.9%*	*31.0%*		*3.1%*	
Transaction Multiple	**10.6x**	**22.3x**		**11.7x**	**109.6%**
Transaction Value	**$110**	**$468**		**$357**	**323.4%**
Net Debt	($53)	($39)		$13	(25.2%)
Fees	2	--		(2)	
Sponsor Equity	**$60**	**$428**		**$368**	**612.5%**

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database.

Table 16: Rollon Spa Value Creation Build

Rollon Spa Value Creation Build		
($ in million)		
Starting Equity Value	**$60**	*%*
(-) Fees	(2)	*(0.6%)*
(+) EBITDA Growth	113	*30.6%*
(+) Multiple Expansion	244	*66.4%*
(+) Debt Paydown	13	*3.6%*
Total Value Creation	**$368**	*100.0%*
Ending Equity Value	**$428**	
Multiple on Invested Capital	***7.13x***	
IRR	***48.1%***	

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database.

Since the transaction has been financed by €53 ml debt, and the company was evaluated about €110 million, considering transaction and financing fees for a total amount of €3 ml, the investment made by Chequers Capital, IGI Sgr and the management team in 2013 has been €60 ml. As reported in EIKON sheet of the exit transaction, in 2018 Rollon was evaluated €468 ml, traded at a multiple of 22.3x times 2017 EBITDA of €21.0 ml. Based on the last available data – Net Debt of €39 million at the end of 2017, Equity value at the exit was about € 428 ml, allowing the investors to earn an exceptional 7.1x cash multiple on initial investment, and an IRR of 48.1%, as shown in Table 16. In the analysis of the drivers that generated the extremely high IRR of the private equities in Rollon investment, financial, governance and operational engineering, generation of cash flows to meet financing obligations, multiple arbitrage, the execution of buy and build strategy, the reputation and the experience of the private equity contributed to achieve the exceptional performance.

In terms of operational engineering, Chequers Capital and IGI Sgr supported the growth and diversification strategy of the target company, in particular with 4 add-ons acquisition, the opening of new subsidiaries to reach a more widespread presence all over the world, together with the expansion of an already strong sale network, the opening of new division in Italy, and one new factory in Germany. Despite the overall efficiency of the assets has been slightly decreased, as it can be seen in the total asset turnover ratio in Table 14, operating margin improved. Nevertheless, it is worth noting that the effects of the acquisitions performed during the holding period have a longer-term horizon, therefore it is not possible to recognize cost synergies in the nearest term. As reported in paragraph 1.1.3, this a typical operation where it is much more effective the exploitation of growth sales, rather than the improvement of operating margin, and this can be recognized in the high exit price and gains of the investors. With reference to employees, as Table 14 shows, the number constantly increased during the holding period, as well as the turnover and value added per employee with respect to the previous and following periods.

Table 17: Rollon Spa Revenue growth, EBITDA margin and growth

				PE holding period					
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	***CAGR***
Revenue	$30.2	$37.2	$37.8	$39.9	$50.7	$56.2	$67.7	$78.8	
% Growth	***26.1%***	***23.1%***	***1.4%***	***5.6%***	***27.1%***	***10.9%***	***20.4%***	***16.4%***	***15.71%***
EBITDA	$9.3	$10.4	$5.9	$11.8	$14.1	$17.3	$21.0	$23.4	
% Margin	***30.7%***	***27.9%***	***15.6%***	***29.6%***	***27.9%***	***30.8%***	***31.0%***	***29.7%***	
% Growth		***11.9%***	***-43.1%***	***100.3%***	***19.5%***	***22.7%***	***21.0%***	***11.5%***	***26.88%***

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

As Table 17 shows, during the holding period there has been an increase in revenues by more than 81%, with a compounded annual growth rate of 15.7%, increase of EBITDA by more than 100%, with CAGR of more than 26%. Finally, EBITDA margin improved with respecting to the previous period, aligning its value between 29% and 31% of sales. In addition, the growth of EBITDA contributed to more than 30% of Equity value increase, as it is represented in Table 17.

Table 18: Rollon Spa Working Capital and Working Capital Ratios

Rollon Spa Working Capital								
($ in million)				PE holding period				
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Days Sales Outstanding (DSO)	61.3	42.9	45.5	46.7	44.0	48.4	47.7	44.8
Days Inventory Held (DIH)	85.5	78.0	67.3	75.1	89.7	95.6	85.0	96.8
Days Payable Outstanding (DPO)	82.5	59.2	47.0	83.4	78.3	72.3	82.9	70.4
Cash Conversion Cycle	**64.2**	**61.7**	**65.8**	**38.4**	**55.4**	**71.6**	**49.7**	**71.3**
Calculated NWC								
Net Accounts Receivable	$5.1	$4.4	$4.7	$5.1	$6.1	$7.4	$8.8	$9.7
Inventory	$4.9	$5.7	$5.9	$5.8	$9.0	$10.2	$10.9	$14.7
Other Current Assets	$3.1	$4.3	$4.0	$4.4	$6.0	$7.1	$10.6	$12.6
Current Assets	**$13.1**	**$14.4**	**$14.6**	**$15.3**	**$21.1**	**$24.7**	**$30.3**	**$37.0**
Accounts Payable	$4.7	$4.4	$4.1	$6.4	$7.8	$7.7	$10.6	$10.7
Accrued Expenses	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.1
Other Current Liabilities	$8.8	$6.4	$2.6	$6.3	$9.3	$8.7	$8.7	$24.8
Current Liabilities	**$13.6**	**$10.7**	**$6.8**	**$12.7**	**$17.1**	**$16.5**	**$19.3**	**$35.6**
Net Working Capital (NWC)	**($0.5)**	**$3.7**	**$7.8**	**$2.6**	**$4.0**	**$8.2**	**$11.0**	**$1.4**
(Increase) Decrease in NWC		($4.2)	($4.1)	$5.2	($1.4)	($4.3)	($2.7)	$9.5

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

With reference to cash flows, as depicted in Table 13, despite Net Income has not been high, Rollon performed well during the holding period: the company generated every year enough cash flow to cover the interest payment and the mandatory amortization of Term Loan A, that is, considering the term of the loan, about €4.8 million. Days Payable Outstanding slightly increased, meaning that Rollon improved the terms with its suppliers on its favor, while Days Sales Outstanding and Days Inventory Held remain at the same level of the previous period. About investing activities, there have been some investments in Capital Expenditures, in addition to the enlargement of fixed assets resulted by the add-ons acquisition activities. As a matter of fact, during the first year of the holding period, the Capex was about €12 million, and in the following years it fluctuated between €2 million and €6 million, with a corresponding level about 10% of sales.

With regards to financing activities, together with the positive cash flow highlighted in Table 13, the reclassified Balance Sheet in Table 11 shows a constant decrease of long-term debt until 2016, from €52.5 million at the moment of the transaction to €35 million at the end of 2016. Rather, in 2017 there has been a further increase in the long-term debt with banks; however, this fact can be reasonably explained by the acquisition of T Race performed in the same year, assuming the use of debt financing to perform it.

About governance engineering, a relevant measure adopted by the private equities lie in the investment of the management team in the equity of the company, in order to increase their involvement and commitment, and give them incentive to run well the company. Considering this, there have not been changes within the management team during the holding period. Finally, the reputation, the experience and the negotiation skills of the General Partners of both Chequers Capital and IGI Sgr can be recognized in the support given to perform the add-ons acquisitions; in their ability to select a company with an exponential future growth potential, with a clear and well-defined value proposition, and strong know-how in the linear motion production. The huge multiple arbitrage recorded between 2013 (10.6x) and 2018 (22.3x) can be the result, at least in part, of an overall increase in the average industry EV/EBITDA multiple, but it surely captures the future growth potential of Rollon, reflecting also the negotiation skills and the reputation of the private equities to leverage and capture value at the moment of exit. Table 19 and Table 20 exhibit, respectively, the main data of entry and exit transaction and debt financing information.

Table 19: Rollon Spa main data of transaction

Rollon Spa	Entry	Exit
Year	2013	2018
Seller	Ardian Consilium SGR	Chequers Capital (70%) IGI Sgr (20%) Management Team (10%)
Acquirer	Chequers Capital (70%) IGI Sgr (20%) Management Team (10%)	Timken
Fund	Chequers Capital XVI IGI Investimenti Cinque	Strategic sale
Transaction Value (with Fees)	€ 110 ml	€ 468 ml
Revenues	€37.2 ml	€ 67.7 ml
EBITDA	€ 10.4 ml	€ 21.0 ml
EV/EBITDA Multiple	10.6x	22.3x
PE Investment / Exit	€ 60ml	€ 428 ml
Debt financing	€52.5 ml	-
D/EBITDA	5.1x	-

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database, Milano-Finanza and BeBeez articles.

Table 20: Rollon Spa Loan Tearsheet

Loan Package Amount	**Tranche 1**	**Tranche 2**	**Tranche 3**
Amount	€28.75 ml	€23.75 ml	€5 ml
Issue date	31/10/2013	31/10/2013	31/10/2013
Closing date	31/10/2019	31/10/2020	31/10/2019
Type	Term Loan A Amortizing	Term Loan B Bullet	Revolving Credit Facility
Interest rate	Fixed	Fixed	Fixed
Use of Proceeds	Leveraged Buyout	Leveraged Buyout	Leveraged Buyout
Arrangers	Unicredito Banca d'Impresa GE Corporate Finance Bank SCA	Unicredito Banca d'Impresa GE Corporate Finance Bank SCA	Unicredito Banca d'Impresa GE Corporate Finance Bank SCA

Source:Eikon database.

3.3 Cellular Italia Spa

Cellular Italia is one of the leading companies in the creation, production and sale of accessories for smartphone and tablets, promoted through the main brand Cellularline. Located in Reggio Emilia, it was founded in 1990 by Piero Foglio and Stefano Aleotti, conceived as distributor for the first mobile phones; since 1995, the company started an expansion process of the range of products, in order to detect and satisfy the needs of an increasing number of customers. In particular, it was the lack of autonomy of the E-TACS phones in the early years, that drove Cellular Italia to start producing mobile phone accessories, in particular the car charger, launching a dedicated brand. Shortly thereafter, thanks to success of this project, Cellular Italia began focusing its production on mobile phone accessories, abandoning the distribution of phones, consolidated its presence in Italy and began to export products abroad. In 2005, Cellular Italia S.p.A. became a group, successfully imposing its leadership position in new distribution channels and new sectors, with accessories for, in addition to smartphones, also tablets and MP3 players. In July 2013, L Capital (fund sponsored by LVMH) and Dvr Capital acquired a majority stake in Cellular Italia, in a leveraged buyout transaction. At the moment of the deal, the company was evaluated €180 million as reported by Milano-Finanza, traded at an EBITDA multiple of 6.3x based on 2012 EBITDA of €28.6 million. The transaction has been financed through €850 million loan package amount divided into two tranches, together with €10 million of Credit Facility revolving and €10 million for Capital Expenditures facility, not draw down for the acquisition. In addition, during 2014, the private equity Motion Equity Partners acquired a minority stake in Cellular Italia.

Cellular Italia is the leader company in Italy (38% of market share) and Austria, while it is positioned among the first three operators in Germany, Netherlands, and Belgium; notwithstanding, it is one of the main operators in Switzerland, Spain, Scandinavian countries, Baltic Republics and some of the East European countries. Overall, the Cellularline products are sold in 60 different countries. Given the huge range of products offered by Cellular Italia, they can be classified in 3 main categories:

- Charge & Utility: it includes battery chargers, car accessories, cables;
- Voice & Sport: it includes earphones, headphones, wired and Bluetooth® speakers, and sport accessories;
- Protection & Style: it includes cases and screen protectors.

In addition, the production within Cellular Italia is divided into 3 different divisions, which correspond to 3 product lines:

- Red line: it can be further divided into:

- “Protezione e stile”: it represents 37% of the total revenues of the company, comprising, covers, glass protector, tempered glass, plastic protection for smartphone and tables;
- “Ricarica e utilità”: it represents 35% of the total revenues of the company, comprising chargers, battery chargers, car support accessories, selfie stick pocket, converters, and others;
- “Voce e audio”: it represents 14% of the total revenues of the company, comprising earphone, headphones, Bluetooth headphones and audio cables,
- “Accessori indossabili”: it represents 2% of the total revenues of the company, comprising wearable products which support and facilitate the use of smartphone and tables during daily activities and sport activities, and some products related to the virtual reality technology;

- Black line: it represents 6% of the total revenues of the company, comprising all products and accessories to be used in cycles and motorcycles;
- Blue line: it represents 6% of the total revenues of the company, comprising all products sold in Italy with a different brand than Cellularline – SanDisk and Vivanco.

The vision and mission of Cellular Italia are respectively “*be the European point of reference in the market of smartphones accessories, distinguishing ourselves through quality and passion for innovation*” and “*provide end users with accessories that combine excellent performance and quality with simplicity, to ensure a unique experience*”. They are actualized by the strategy of the company, which focuses on the development of products, international expansion, distribution channels development, and inorganic growth in order to pursue the vision and the mission. With particular reference to the products, Cellular Italia builds the development of its product on excellence in quality, design and innovation, which allow it to offer solutions that meet the latest technological trends, together with the highest level of performance. The values on which Cellular Italia grounds every day-to day activity are passion and enthusiasm of the staff, reliability towards its partners and users, quality in every aspect of the business, profit and reinvestment to ensure growth, research and innovation. The value chain of Cellular Italia is represented in Figure 12:

Figure 12: Cellular Italia Value Chain

Source: “Documento informativo: Fusione per incorporazione di Cellular Italia Spa e Ginetta Spa in Crescita Spa”, 2018.

As it can be seen, the organizational model and the activity of Cellular Italia are strongly focused on the research and development of innovative products, in terms of technology and material, market researches in order to catch new trends and deeply understand the needs and desires of customers, and on the distribution activity and expansion of the knowledge of the brand Cellularline.

During the holding period, the private equity funds supported Cellular Italia in its strategy strongly oriented to internationalization expansion and brand statement: indeed, there has been the opening of 3 European branch offices (France, Spain, Switzerland), other than Italy, and expanded the intercontinental distribution of Cellularline brand in more than 60 countries, reaching in 2015 the European leading position in the market of accessories for mobile devices. In addition, there has been the reinforcement of research on new market trends, the innovation activities within the R&D department, the focus on the offer of excellent quality products, introduction of new offers, and investment in Property, Plant and Equipment and Intangibles, especially during 2014 and 2015. In particular, there has been the implementation of a new software system in order to make day-to-day activities and processes more efficient, the acquisition of a new building, purchase of new machinery, industrial and commercial equipment. Along with these investments, in the R&D department Cellular Italia established new projects finalized to the development of new products, but also promoted research to deeply investigate the best way to manage the project development. Finally, the private equities supported Cellular Italia in the expansion of all the brands of the group, with particular attention to Cellularline, in order to increase the brand awareness, coherently with the importance that the brand and marketing have on the organizational model and value chain of the company. According to a research conducted by the target, the brand Cellularline reached a brand awareness of 63%, confirming to be the most known brand in its market. With reference to the extension of product range, in 2017 the group launched the AQL (Audio Quality Lab) brand, a product range dedicated to music which interprets and meets the needs of all different music lovers: people of all ages, genders and economic backgrounds, joined by a love of listening to music on the go. Together with AQL, Interphone Stay In Touch (products for motorcycle's communication) and Nova (product for Telecom Service Providers) are the brands under the umbrella of Cellular Italia group.

L Capital and DVR Capital (partially) exited from the investment between 2018 and 2019, when the Cellular Italia has been incorporated in Crescita S.p.A, a Special Purpose Acquisition Entity ("SPAC"), in order to be listed in the **AIM Italia** segment (Mercato Alternativo del Capitale) managed by Borsa Italiana S.p.A. To perform the listing process, on March 20th, 2018 there has been the business combination between Ginetta S.p.A (the holding company which has 100% of Cellular Italia) and Cellular Italia, and the following merger by incorporation of the two above in Crescita Spa. To this purpose, the company has been evaluated €244.4 million, based on 2017 revenues of €162 million and €40 million of EBITDA. It was a partial exit of the private equity fund because, as stated in the press release of Crescita, they will maintain an overall equity stake of 13% in the capital after the merger, and will be subject to a lock-up provision of 18 months. All the activities promoted and implemented by L Catterton and DVR capital are reflected in economic and financial performance and, in order to further analyze the drivers of the value creation process and the returns for the private equities, in the following tables are reported the Balance Sheet (Table 21), Income Statement (Table 22), Cash Flow Statements (Table 23), the most economic and financial relevant ratios (Table 24), the value creation analysis (Table 25) and value creation build (Table 26).

Table 21: Cellular Italia reclassified Balance Sheet

Cellular Italia Balance Sheet								
($ in million)			PE holding period					
	2012A	**PF 2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
<u>**Assets**</u>								
Cash	$0.40	$0.4	$1.4	$3.6	$1.2	$10.0	$11.2	$40.9
Net Accounts Receivable	$45.6	$45.6	$50.9	$61.9	$63.8	$65.9	$64.6	$56.6
Inventory	$12.7	$12.7	$15.3	$13.3	$16.7	$15.7	$17.4	$21.3
Other Current Assets	$8.0	$8.0	$7.8	$10.3	$12.0	$12.7	$13.6	$24.1
Total Current Assets	**$66.7**	**$66.7**	**$75.4**	**$89.0**	**$93.7**	**$104.3**	**$106.8**	**$142.9**
Net PP&E and Intangibles	$7.1	$7.1	$13.4	$12.9	$12.7	$9.7	$8.0	$27.2
Goodwill	$0.0	$147.7	$118.0	$104.6	$91.5	$78.5	$65.4	$57.1
Other Noncurrent Assets	$1.7	$3.4	$0.1	$0.2	$0.6	$0.6	$1.2	$1.2
Total Assets	**$75.4**	**$224.8**	**$206.9**	**$206.7**	**$198.6**	**$193.1**	**$181.4**	**$228.4**
<u>**Liabilities & Shareholders' Equity**</u>								
Accounts Payable	$17.1	$17.1	$19.2	$23.1	$26.3	$29.5	$27.5	$28.9
Accrued Expenses	$0.9	$0.9	$1.6	$1.5	$0.4	$0.4	$0.1	$0.1
Other Current Liabilities	$23.9	$23.9	$19.8	$20.5	$18.5	$17.1	$15.8	$18.1
Total Current Liabilities	**$41.8**	**$41.8**	**$40.6**	**$45.1**	**$45.2**	**$47.0**	**$43.4**	**$47.1**
Total Debt	$0.0	$90.0	$71.0	$57.9	$40.5	$24.5	$65.0	$51.7
Other Noncurrent Liabilities	$1.3	$1.3	$1.5	$1.9	$2.2	$2.1	$2.3	$4.1
Total Liabilities	**$43.1**	**$133.1**	**$113.2**	**$104.9**	**$87.8**	**$73.6**	**$110.7**	**$102.9**
Shareholders' Equity	$32.3	$91.7	$93.7	$101.9	$110.8	$119.5	$70.7	$125.5
Total Liabilities & Shareholders' Equity	**$75.4**	**$224.8**	**$206.9**	**$206.7**	**$198.6**	**$193.1**	**$181.4**	**$228.4**

Source: Bureau van Dijk (Aida) database.

Table 22: Cellular Italia reclassified Income Statement

Cellular Italia Income Statement								
($ in million)			PE holding period					
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Revenue	**$77.1**	**$106.3**	**$134.8**	**$156.7**	**$158.8**	**$161.4**	**$161.9**	**$150.5**
(-) COGS	($60.0)	($77.7)	($105.7)	($117.7)	($120.9)	($121.5)	($122.2)	($123.2)
EBITDA	**$17.1**	**$28.6**	**$29.1**	**$39.0**	**$37.9**	**$39.9**	**$39.7**	**$27.3**
(-) D&A	($1.2)	($1.4)	($15.0)	($17.5)	($17.3)	($19.8)	($16.7)	($11.7)
EBIT	**$15.9**	**$27.2**	**$14.1**	**$21.6**	**$20.6**	**$20.1**	**$22.9**	**$15.7**
(-) Net Int. Expense	($0.2)	($0.2)	($1.2)	($4.5)	($3.5)	($2.0)	($2.1)	($15.1)
(+ / -) Other Fin. Inc.	($0.0)	$0.4	$0.2	($0.1)	$0.4	($0.3)	$0.0	$1.7
EBT	**$15.7**	**$27.4**	**$13.0**	**$16.9**	**$17.5**	**$17.8**	**$20.8**	**$2.3**
(-) Tax Expense	($5.3)	($8.8)	($8.8)	($8.8)	($8.6)	($9.0)	($9.6)	$5.7
Net Income	**$10.4**	**$18.6**	**$4.2**	**$8.1**	**$8.9**	**$8.8**	**$11.2**	**$8.0**

Source: Bureau van Dijk (Aida) database.

Table 23: Cellular Italia Cash Flows Statement

Cellular Italia Statement of Cash Flows								
($ in million)			PE holding period					
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Cash from Operating Activities								
Net Income	$10.4	$18.6	$4.2	$8.1	$8.9	$8.8	$11.2	$8.0
(+) D&A	$1.2	$1.4	$15.0	$17.5	$17.3	$19.8	$16.7	$11.7
(+ / -) Change in NWC	$0.0	($9.8)	($9.0)	($7.0)	($6.9)	$0.0	($4.9)	($2.8)
Cash from Operating Activities	$9.6	**$9.2**	**$10.3**	**$18.6**	**$19.3**	**$28.6**	**$23.0**	**$16.9**
(-) CapEx	($7.2)	($2.5)	($8.2)	($1.4)	($3.4)	($3.7)	($1.4)	($22.6)
Levered Free Cash Flow	**$2.4**	**$6.7**	**$2.1**	**$17.2**	**$15.9**	**$24.9**	**$21.6**	**($5.7)**
Beginning Cash Balance	$2.0	$0.5	$0.4	$1.4	$3.6	$1.2	$10.0	$11.2
(+) Levered Free Cash Flow	$2.4	$6.7	$2.1	$17.2	$15.9	$24.9	$21.6	($5.7)
Total Cash Available for Debt Repayment	**$4.4**	**$7.2**	**$2.5**	**$18.6**	**$19.4**	**$26.1**	**$31.6**	**$5.5**

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

Table 24: Cellular Italia Ratios

Cellular Italia Ratios Analysis						
	PE holding period					
Financial ratios	2013	2014	2015	2016	2017	2018
Liquidity ratio	1.47	1.70	1.69	1.86	2.01	2.39
Current ratio	1.86	2.00	2.06	2.20	2.42	2.83
Leverage	2.21	2.03	1.79	1.62	2.56	1.82
Coverage of fixed assets	1.23	1.34	1.43	1.60	1.79	2.04
Interest/Operating profit	24.1%	8.7%	10.8%	19.5%	18.6%	1.8%
Interest/Turnover	0.9%	2.9%	2.2%	1.3%	1.3%	10.1%
Solvency ratio	45.3%	49.3%	55.8%	61.9%	39.0%	55.0%
Share funds/Liabilities	0.85	1.00	1.30	1.68	0.65	1.25
Debt/Equity ratio	0.93	0.73	0.50	0.31	1.09	0.51
Debt/EBITDA ratio	3.0x	1.9x	1.5x	0.9x	1.9x	2.3x
Management ratios						
Total assets turnover (times)	0.6	0.7	0.8	0.8	0.9	0.6
Working cap. turnover (times)	1.8	1.8	1.7	1.5	1.5	1.1
Stocks/Turnover (days)	39	29	37	34	36	50
Stocks/Cost goods sold (days)	108	75	92	86	90	125
Profitability ratios						
Return on asset (ROA)	6.8%	10.4%	10.4%	10.4%	12.7%	6.9%
Return on investment (ROI)	7.8%	12.2%	12.4%	12.8%	15.5%	8.2%
Return on sales (ROS)	10.5%	13.8%	13.0%	12.5%	14.2%	10.5%
Return on equity (ROE)	4.5%	8.0%	8.1%	7.3%	15.8%	6.4%
Net P&L / Operating P&L	30.0%	37.7%	43.2%	43.6%	48.7%	50.9%
Productivity ratios						
Number of employees	165	177	176	184	193	202
Turnover per employee (in thousands)	816.9	885.2	902.1	877.3	835.9	742.3
Added value per employee (in thousands)	281.7	294.1	291.2	294.3	280.7	210.9
Staff Costs per employee (in thousands)	n/a	73.1	75.1	77.6	75.0	75.5
Turnover/Staff Costs	7.9	12.1	12.0	11.3	11.1	9.8

Source: Bureau van Dijk (Aida) database.

Table 25: Cellular Italia Value Creation Analysis

Cellular Italia Value Creation Analysis (5 Years)					
($ in million)				**Cumulative Change**	
	Entry	**Exit**		**$**	**%**
Revenue	**$106**	**$162**		**$56**	**52.3%**
EBITDA	**$29**	**$40**		**$11**	**38.9%**
% Margin	*26.9%*	*24.5%*		*(2.4%)*	
Transaction Multiple	**6.3x**	**6.2x**		**(0.1x)**	**(2.2%)**
Transaction Value	**$180**	**$244**		**$65**	**35.9%**
Net Debt	($90)	($54)		$36	(40.2%)
Fees	2	--		(2)	
Sponsor Equity	**$92**	**$191**		**$99**	**108.2%**

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database.

Table 26: Cellular Italia Value Creation Build

Cellular Italia Value Creation Build		
($ in million)		
Starting Equity Value	**$92**	*%*
(-) Fees	(2)	*(1.7%)*
(+) EBITDA Growth	70	*70.6%*
(+) Multiple Expansion	(5)	*(5.4%)*
(+) Debt Paydown	36	*36.6%*
Total Value Creation	**$99**	*100.0%*
Ending Equity Value	**$191**	
Multiple on Invested Capital	***2.08x***	
IRR	***15.8%***	

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database.

Since the transaction has been financed by €90 ml debt, and the company was evaluated about €182 ml, the investment made by the private equities in 2013, considering transaction fees, has been €92 ml. As reported in the informative document of the merger by incorporation into Crescita, in 2018 Cellular Italia was evaluated €244 ml, traded at a multiple of 6.2x times 2017 EBITDA of €39.7 ml. Based on the last available data – Net Debt of €54 million at the end of 2017, Equity value at the exit was about €191 ml, allowing Charterhouse to earn 2.1x cash multiple on initial investment, and, at that time, an IRR of 15.8%, as shown in Table 6. It is worth noting that the private equity funds are subject to a lock-up provision of 18 months, meaning that they cannot cash out their investment before this period. In the analysis of the drivers that generated the moderate IRR of the private equities in Cellular Italia investment, financial, operational engineering, improvement of cash flows and working capital management, strong support to the international expansion of the company contributed to achieve a valuable performance.

In terms of operational engineering, the private equities supported the internationalization process and the extension of the range of products of the target company, sustained the research of new market trends and the innovation activities finalized to reach the highest quality level, worked and sustained the company to increase the brand awareness of Cellularline. With reference to employees, as Table 24 shows, there has been a constant increase during the holding period, which continues also after the exit of the funds.

Table 27: Cellular Italia Revenue growth, EBITDA growth and margin

			PE holding period						
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	***CAGR***
Revenue	$77.1	$106.3	$134.8	$156.7	$158.8	$161.4	$161.9	$150.5	
% Growth			***26.8%***	***16.2%***	***1.3%***	***1.7%***	***0.3%***	***(7.0%)***	***8.8%***
EBITDA	$17.1	$28.6	$29.1	$39.0	$37.9	$39.9	$39.7	$27.3	
% Margin	***22.1%***	***26.9%***	***21.6%***	***24.9%***	***23.9%***	***24.7%***	***24.5%***	***18.2%***	***6.8%***
% Growth		***67.4%***	***1.9%***	***34.0%***	***-2.9%***	***5.2%***	***-0.5%***	***-31.1%***	

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

These activities are reflected in the growth of revenues and EBITDA, and the stabilization of operating margin to the level of the previous period. Table 7 reports an increase in revenues by more than 52%, with a compounded annual growth rate of almost 9%, increase of EBITDA by 39%, with CAGR of more than 6%, despite it has remained stable since 2014. Finally, EBITDA margin was about 22% and 25%. The cumulated growth of EBITDA is one of the major drivers of the Equity value increase during the holding period, as it is represented in Table 6, contributing for more than 70% to the overall value creation.

Table 28: Cellular Italia Working Capital and Working Capital Ratios

Cellular Italia Working Capital								
($ in million)			PE holding period					
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Days Sales Outstanding (DSO)	156.6	156.7	137.8	144.1	146.6	149.0	145.7	137.3
Days Inventory Held (DIH)	46.9	59.6	53.0	41.2	50.3	47.1	51.9	63.2
Days Payable Outstanding (DPO)	64.7	80.2	66.2	71.5	79.3	88.5	82.2	85.7
Cash Conversion Cycle	**138.8**	**136.1**	**124.6**	**113.8**	**117.6**	**107.6**	**115.5**	**114.8**
Calculated NWC								
Net Accounts Receivable	$33.1	$45.6	$50.9	$61.9	$63.8	$65.9	$64.6	$56.6
Inventory	$7.7	$12.7	$15.3	$13.3	$16.7	$15.7	$17.4	$21.3
Other Current Assets	$5.5	$8.0	$7.8	$10.3	$12.0	$12.7	$13.6	$24.1
Current Assets	**$46.3**	**$66.3**	**$74.0**	**$85.5**	**$92.5**	**$94.3**	**$95.6**	**$102.0**
Accounts Payable	$10.6	$17.1	$19.2	$23.1	$26.3	$29.5	$27.5	$28.9
Accrued Expenses	$0.7	$0.9	$1.6	$1.5	$0.4	$0.4	$0.1	$0.1
Other Current Liabilities	$20.3	$23.9	$19.8	$20.5	$18.5	$17.1	$15.8	$18.1
Current Liabilities	**$31.6**	**$41.8**	**$40.6**	**$45.1**	**$45.2**	**$47.0**	**$43.4**	**$47.1**
Net Working Capital (NWC)	**$14.7**	**$24.5**	**$33.4**	**$40.4**	**$47.3**	**$47.3**	**$52.2**	**$54.9**
(Increase) Decrease in NWC		($9.8)	($9.0)	($7.0)	($6.9)	$0.0	($4.9)	($2.8)

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

With reference to cash flows and financing engineering, as depicted in Table 23, Cellular Italia performed extremely well during the holding period: as reported in the 2017 annual review, given the optimal financial performance, the company was able to completely repay the residual of €37.5 million of the loan used to finance the transaction in 2013, and underwrites a new loan of €85 million at better negotiation terms. It means that every year the company has been able to generate enough cash flows not only to meet interest and principal payments, but also to optionally repay debt ahead of time, according to a cash sweep provision. The reduction of the debt has a positive impact on the overall value creation process for the private equity funds, as it is reflected in the Value Creation Build in Table 26. This has been possible also due to the improvement of working capital management, as ratios in Table 24 and changes in Net Working Capital in Table 28 show: Days Dales Outstanding decreased, Days Payable Outstanding increased, meaning that the company improved the terms with both customers and suppliers. Finally, in Table 29 and Table 30 are exhibited, respectively, the main data of entry and exit transaction and debt financing information.

Table 29: Cellular Italia main transaction data

Cellular Italia	Entry	Exit
Year	2013	2018
Seller	Foglio family Aleotti family	L Catterton DVR Capital Motion Equity Partners
Acquirer	L Capital (LVMH) DVR Capital Motion Equity Partners (2014)	Crescita Spa
Fund	Not disclosed	SPAC
Transaction Value (with Fees)	€182 ml	€244 ml
Revenues	€106 ml	€162 ml
EBITDA	€29 ml	€40 ml
EV/EBITDA Multiple	6.3x	6.2x
PE Investment / Exit	€92 ml	€191 ml
Debt financing	€ 90ml	-
D/EBITDA	3.1x	-

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database, BeBeez and Milano-Finanza articles.

Table 30: Cellular Italia Loan Tearsheet

Loan Package Amount	Tranche 1	Tranche 2	Tranche 3
Amount	€56 ml	€24 ml	€10 ml
Issue date	06/09/2013	06/09/2013	06/09/2013
Closing date	06/09/2018	06/09/2019	06/09/2018
Type	Term Loan A	Term Loan B	Revolving Credit Facility (draw down)
Interest rate	EURIBOR + 475bps	EURIBOR + 475bps	EURIBOR + 475bps
Use of Proceeds	Leveraged Buyout	Leveraged Buyout	Leveraged Buyout
Arrangers	Banca IMI Banca Pop. di Milano IKB Deutsche Industriebank Unicredit S.p.A	Banca IMI Banca Pop. di Milano IKB Deutsche Industriebank Unicredit S.p.A	Banca IMI Banca Pop. di Milano IKB Deutsche Industriebank Unicredit S.p.A

Source: Eikon database.

3.4 Bormioli Rocco Spa

Bormioli Rocco is an Italian leading glass and plastic manufacturer operating at global level with production plants, flagship stores and sales subsidiaries throughout the world. Bormioli company was founded in 1825, located in the Parma area, performed both organic and inorganic growth, through the acquisition of REALE FABBRICA DELLE MAIOLICHE and VETRO IN PARMA. Between 1900 and 1910 the staff increased from 100 to more than 300 and, during this period, the Bormioli started to produce food containers. During the 20th century there have been several acquisitions of small Italian glass producer companies, and along with the expansion, the development and purchase of specific machinery and equipment which allow to perform particular production steps for glasswork. In 1976, the company created the first jar for domestic use suitable for pasteurization, with a brand that is still a famous icon all over the world: Quattro Stagioni. Bormioli Rocco was born from the split of the Bormioli company during 1980s between Bormioli Rocco, specialized in tableware, and Bormioli Luigi, specialized in high quality products also for cosmetic industry. In 2011, Vision Capital LLC, a British private equity company, acquired 95.4% interest in Bormioli Rocco, from Banco Popolare di Milano in a leveraged buyout transaction. At the moment of the deal, the company was evalutated €357.3 million, with an equity value of €250 million, as reported by Reuters, traded at an EBITDA multiple of 4.2x based on 2010 EBITDA of €85.9 million. The transaction has been financed through €250 million high yield bond issued at July 26th, 2011 and final maturity date august 1st, 2018.

Bormioli Rocco is one of the leading companies in the production and distribution of food containers, tableware and pharmaceutical packaging, which followed a strong internationalization process starting from 1980s. It exports its products to more than 10 countries, and operates with 3 production plants, 2 in Italy and 1 in Spain, 2 decoration studios in Italy, 6 commercial branches in Italy, Spain, Germany, France, USA (New-York), and Hong Kong, and 6 flagship stores. The company works in both B2C channel, offering directly products to final customers through its shops, groceries, and other types of distributors; and in B2B channel, offering customized solutions, through different product lines, according to the needs of the corporate clients. Bormioli Rocco has developed throughout the years the skills and expertise to get closer to consumers and businesses, and its activities are oriented to a high-level personalization of project for each costumers, with the aim to increase the value of the company and its brands, which are Bormioli Rocco, Quattro Stagioni, Fido and Frigoverre. In addition, Bormioli Rocco strongly focuses on technology and innovation: indeed, the research and development team of the company is constantly working on materials, processing, production technologies to satisfy the most demanding restaurant owners. With particular regards to raw materials, the Italian company developed two special chemical compositions completely recyclable: OPAL GLASS and Starglass. While the former provides high resistance to mechanical stress and is microwave-safe, the latter is ultra-clear and ultra-pure glass comparable to crystal, but lighter and more practical.

During the holding period with Vision Capital, which adopted an active ownership model, there have been both acquisition and divestments, and reorganization of the structure, in particular the divisions, of Bormioli Rocco. With reference to these activities, in 2011, the year of investment, the private equity company appointed Antonietti Paolo, General Partner of the fund, as president of the target company; the CEO Francesco De Bartolomeis has not been changed. One of the first actions taken during the holding period was the merger of plastic and glass products to create the pharmaceutical packaging group. Next, in 2013, the target company acquired Neubor Glass, a San Vito al Tagliamento based company that manufactures glass products, in order to reinforce its production footprint. In the same year, the Austrian Stölzle-Oberglas GmbH acquired Verreries de Masnieres SA, a French subsidiary of Bormioli Rocco, which operates in the packaging sector, in particular for perfumes and cosmetic products. Similarly to this year, in 2014, Bormioli Rocco undertook several activities: it started the Glassblock project, related to the production of glass bricks for the production industry, for which a completely new manufacturing plant has been built in Spain. This opening has been followed by the sale of subsidiary Bormioli Rocco Glass Co. Inc. which controlled the US market, again to Stölzle-Oberglas GmbH. After the divestments of non-core businesses, an add-on acquisition and the opening of a new plant, Vision Capital performed a reorganization of the company in 4 different business units which correspond to 4 different legal entities: Food & Beverage, Pharmaceutical glass, Pharmaceutical plastic and Tableware. As communicated by the president of the company, this reorganization activity, part of long-term strategic plan, aims to better exploit the specialization and focalization advantages of the different business lines of Bormioli Rocco. Furthermore, it allows a more efficient decision-making process, in order to respond faster to the requests of the customers, to face the challenges of each market in which it operates, to expand the product range and penetrate new geopraphic areas in Europe, North America, Asia and Middle-East. Finally, in 2015, the private equity detected the opportunity to sell the Food & Beverage division to Vetropack holding. All these activities are associated with substantial operating improvements in production operations purchasing, supply chain and sales and marketing.

The British private equity exited from the investment in 2017, through the sale of the Pharmaceutical division to Triton Capital, a private equity company, and the sale of Tableware division to Bormioli Luigi, the other company born form the split off in 1980s of the original

Bormioli group, in a bid auction started from Vision Capital at the beginning of 2017. Along with the closing of the operations, the high yield bond has been completely reimbursed. Bormioli Rocco has been estimated, at that time, between € 550 and 600 million, based on 2017 revenues of €460.8 million and €67.0 million of EBITDA. All the activities promoted and implemented by Vision Capital in Bormioli Rocco are reflected in economic and financial performance and, in order to perform an analysis of the activities undertaken by the British private equity and its returns, in the following tables are reported the Balance Sheet (Table 31), Income Statement (Table 32), Cash Flows Statements (Table 33), the most economic and financial relevant ratios (Table 34), the value creation analysis (Table 35) and the value creation build (Table 36).

Table 31: Bormioli Rocco reclassified Balance Sheet

Bormioli Rocco Balance Sheet								
($ in million)			PE holding period					
	2009A	**2010A**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Assets								
Cash	$4.3	$18.9	$31.7	$20.5	$16.0	$51.3	$58.7	$59.4
Net Accounts Receivable	$110.4	$109.7	$104.1	$109.8	$96.4	$37.9	$34.7	$41.7
Inventory	$141.9	$142.1	$146.2	$144.1	$122.9	$129.3	$116.4	$121.7
Other Current Assets	$18.3	$18.5	$18.7	$24.5	$29.3	$31.8	$42.4	$25.2
Total Current Assets	**$275.0**	**$289.1**	**$300.8**	**$298.8**	**$264.6**	**$250.3**	**$252.3**	**$248.0**
Net PP&E and Intangibles	$247.9	$246.2	$247.8	$250.3	$250.1	$261.0	$218.6	$213.9
Goodwill	$50.2	$46.9	$43.6	$41.1	$38.0	$34.6	$31.3	$29.2
Other Noncurrent Assets	$1.1	$1.0	$0.9	$1.2	$0.5	$0.7	$7.2	$10.4
Total Assets	**$574.2**	**$583.2**	**$593.1**	**$591.3**	**$553.2**	**$546.6**	**$509.4**	**$501.5**
Liabilities & Shareholders' Equity								
Accounts Payable	$116.4	$114.6	$123.7	$121.8	$130.0	$148.9	$110.6	$114.9
Accrued Expenses	$1.0	$1.1	$1.1	$0.8	$0.3	$0.3	$0.3	$0.3
Other Current Liabilities	$105.0	$70.3	$40.3	$48.8	$43.5	$44.5	$63.0	$63.5
Total Current Liabilities	**$222.4**	**$186.0**	**$165.0**	**$171.3**	**$173.8**	**$193.7**	**$173.9**	**$178.7**
Total Debt	$66.2	$90.0	$100.2	$248.6	$258.7	$258.3	$254.4	$254.2
Other Noncurrent Liabilities	$73.8	$68.1	$64.4	$60.8	$53.7	$48.7	$47.7	$40.1
Total Liabilities	**$362.4**	**$344.1**	**$329.6**	**$480.7**	**$486.2**	**$500.8**	**$475.9**	**$473.0**
Shareholders' Equity	$211.8	$239.1	$263.5	$110.6	$67.0	$45.9	$33.5	$28.4
Total Liabilities & Shareholders' Equity	**$574.2**	**$583.2**	**$593.1**	**$591.3**	**$553.2**	**$546.6**	**$509.4**	**$501.5**

Source: Bureau van Dijk (Aida) database.

Table 32: Bormioli Rocco reclassified Income Statement

Bormioli Rocco Income Statement								
($ in million)			PE holding period					
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Revenue	**$493.4**	**$539.6**	**$568.4**	**$558.2**	**$569.4**	**$511.9**	**$489.7**	**$460.8**
(-) COGS	($429.8)	($453.6)	($480.9)	($489.7)	($501.6)	($462.8)	($428.9)	($393.7)
EBITDA	**$63.6**	**$85.9**	**$87.5**	**$68.5**	**$67.8**	**$49.1**	**$60.8**	**$67.0**
(-) D&A	($41.4)	($41.3)	($40.9)	($41.6)	($43.9)	($44.1)	($41.9)	($38.4)
EBIT	**$22.3**	**$44.6**	**$46.6**	**$26.9**	**$24.0**	**$5.0**	**$18.9**	**$28.7**
(-) Net Int. Expense	($7.4)	($5.7)	($9.7)	($27.4)	($27.6)	($28.6)	($28.6)	($28.3)
(+ / -) Ot. Fin. Income	($0.7)	$3.2	$4.8	$0.1	($35.2)	$1.5	($6.6)	($0.1)
EBT	**$14.2**	**$42.1**	**$41.7**	**($0.3)**	**($38.8)**	**($22.1)**	**($16.3)**	**$0.3**
(-) Tax Expense	($13.6)	($15.0)	($17.5)	($7.3)	($5.1)	$0.5	$3.3	($5.5)
Net Income	**$0.574**	**$27.1**	**$24.3**	**($7.6)**	**($43.9)**	**($21.7)**	**($12.9)**	**($5.2)**

Source: Bureau van Dijk (Aida) database.

Table 33: Bormioli Rocco Cash Flows Statement

Bormioli Rocco Statement of Cash Flows								
($ in million)			PE holding period					
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
<u>Cash from Operating Activities</u>								
Net Income	$0.6	$27.1	$24.3	($7.6)	($43.9)	($21.7)	($12.9)	($5.2)
(+) D&A	$41.4	$41.3	$40.9	$41.6	$43.9	$44.1	$41.9	$38.4
(+ / -) Change in NWC	$0.0	($36.0)	($19.8)	($3.0)	$32.2	$69.6	($14.5)	$9.8
Cash from Operating Activities	**$40.0**	**$31.5**	**$45.4**	**$31.1**	**$32.1**	**$92.0**	**$14.5**	**$42.9**
(-) CapEx	($20.5)	($33.0)	($35.6)	($39.5)	($36.8)	($48.4)	$1.4	($29.3)
Levered Free Cash Flow	**$19.5**	**($1.5)**	**$9.7**	**($8.4)**	**($4.7)**	**$43.6**	**$15.9**	**$13.6**
Beginning Cash Balance	$8.8	$4.3	$18.9	$31.7	$20.5	$16.0	$51.3	$58.7
(+) Levered Free Cash Flow	$19.5	($1.5)	$9.7	($8.4)	($4.7)	$43.6	$15.9	$13.6
Total Cash Available for Debt Repayment	**$28.2**	**$2.9**	**$28.6**	**$23.3**	**$15.8**	**$59.6**	**$67.2**	**$72.4**

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

Table 34: Bormioli Rocco Ratios

Bormioli Rocco Ratios Analysis								
			PE holding period					
Financial ratios	2009	2010	2011	2012	2013	2014	2015	2016
Liquidity ratio	0.94	0.79	0.95	0.90	0.81	0.62	0.78	0.72
Current ratio	1.83	1.56	1.83	1.75	1.52	1.29	1.45	1.40
Leverage	2.25	2.44	5.06	5.35	8.26	11.92	15.21	17.63
Coverage of fixed assets	1.24	1.12	1.25	1.23	1.13	1.03	1.12	1.13
Interest/Operating profit	9.0%	15.2%	2.4%	2.5%	2.5%	1.7%	2.1%	2.4%
Interest/Turnover	1.7%	1.1%	5.4%	4.9%	4.8%	5.7%	5.9%	6.2%
Solvency ratio	44.4%	41.0%	19.8%	18.7%	12.1%	8.4%	6.6%	5.7%
Share funds/Liabilities	1.51	0.35	1.60	0.36	0.21	0.15	0.11	0.10
Debt/EBITDA ratio	1.0x	1.0x	2.9x	1.5x	3.7x	5.3x	4.2x	3.8x
Management ratios								
Total assets turnover (times)	0.93	0.91	0.44	0.93	1.00	0.90	0.93	0.88
Working cap. turnover (times)	1.85	1.85	1.86	1.84	2.11	1.97	1.88	1.77
Stocks/Turnover (days)	95	96	200	94	78	94	88	98
Stocks/Cost goods sold (days)	380	390	n/a	387	328	347	329	388
Profitability ratios								
Return on asset (ROA)	7.9%	7.6%	2.5%	4.6%	4.3%	0.9%	3.7%	5.7%
Return on investment (ROI)	12.5%	12.2%	3.9%	7.2%	7.1%	1.6%	5.8%	9.1%
Return on sales (ROS)	8.3%	8.3%	5.5%	4.8%	4.2%	1.0%	3.9%	6.3%
Productivity ratios								
Number of employees	2,587	2,583	2,590	2,583	2,653	2,271	2,156	2,027
Turnover per employee (in thousands)	218.2	209.2	103.2	216.4	215.5	221.7	224.8	224.4
Added value per employee (in thousands)	86.8	85.5	39.1	81.0	78.7	76.5	83.9	90.1
Staff Costs per employee (in thousands)	52.8	52.1	25.2	54.4	53.1	54.9	55.7	56.8

Source: Bureau van Dijk (Aida) database.

Table 35: Bormioli Rocco Value Creation Analysis

Bormioli Rocco Value Creation Analysis (6 Years)				
($ in million)			**Cumulative Change**	
	Entry	**Exit**	**$**	**%**
Revenue	**$539.6**	**$460.8**	**($79)**	**(14.6%)**
EBITDA	**$85.9**	**$67.0**	**($19)**	**(22.0%)**
% Margin	*15.9%*	*14.6%*	*(1.4%)*	
Transaction Multiple	**4.2x**	**8.5x**	**4.3x**	**104.4%**
Transaction Value	**$357**	**$570**	**$213**	**59.5%**
Net Debt	($250)	($196)	$54	(21.7%)
Fees	6	--	(6)	
Sponsor Equity	**$114**	**$374**	**$261**	**229.1%**

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database.

Table 36: Bormioli Rocco Value Creation Build

Bormioli Rocco Value Creation Build		
($ in million)		
Starting Equity Value	**$114**	%
(-) Fees	(6)	*(2.5%)*
(+) EBITDA Growth	(78)	*(30.1%)*
(+) Multiple Expansion	291	*111.7%*
(+) Debt Paydown	54	*20.9%*
Total Value Creation	**$261**	*100.0%*
Ending Equity Value	**$374**	
Multiple on Invested Capital	***3.29x***	
IRR	***22.0%***	

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database.

Since the transaction has been financed by €250 million of high yield bond, and the company was acquired, considering fees, for €363.7 ml, the investment made by Vision Capital in 2011 has been €113.7 ml. As reported by Milano-Finanza article, during the bid auction Bormioli Rocco was evaluated between €550 and €600 million and, based on the last available data – Debt of €254.2 million and Cash and Cash Equivalents of €59.4 ml at the end of 2016, Equity value at the exit was about € 374 million, allowing Vision Capital to earn 3.3x cash multiple on initial investment, and an IRR of 22.0%, as shown in Table 26.

The analysis for Bormioli Rocco has to be performed in a different way compared to the other cases presented in this work: first, because of the impact of the divestment activities on revenues, EBITDA and operating margin, it is not significant to look at their growth during the holding period. Indeed, rather than a growth path, it would be observed a descending level of both revenues, which pass from €568.4 million in 2011 to €460.8 in 2016, and EBITDA, from €87.5 million in 2011 to €67.0 million in 2016. Second, it is not possible to compare the performance of the holding period with the years after since, after the exit of Vision Capital, the divisions of the company have been separately sold, therefore creating two different companies with distinct financial statements. Nevertheless, it has been possible to perform an analysis of the holding period with the financial statements available data, the information disclosed by the acquirer, the funds and the financial newSpapers. The positive IRR of Vision Capital in Bormioli Rocco investment has been realized through financial, governance and operational engineering, improvement of cash flows and working capital management, multiple arbitrage, the reputation and the experience of the private equity which contributed to achieve the successful performance. The rationale of the investment of the British private equity was the leading position of Bormioli Rocco in the sectors in which operates, but still having possibilities to grow, in terms of revenues, improvements of operating margin and expansion in Europe but also in the other continents.

In terms of operational engineering, Vision Capital divested non-core activities related to the production of containers for cosmetics and perfumes which are profitable to be sold, acquired Neubor Glass, a company that operates in the same industry in order to improve its processes and exploit synergies, reorganized the structure in 4 different business units, in order to accelerate the decision-making process, allow each division to face the challenges each reference market has, and improving operations, purchasing, supply chain, sales and marketing. With reference to governance engineering, Vision Capital appointed its general partner Antonietti Paolo as president of Bormioli Rocco since 2011 and, as reported by the press release of Vision Capital, along with an active ownership model through which the private equity supported the management of the company, executed a well-defined strategic plan allowing both Pharmaceutical and Tableware divisions to achieve record profitability in 2016. In particular, as reported by Reuters, the revenues of Pharma business have been about €220 million, with an EBITDA of €50 million, while for the Tableware they have been about €240 million, but lower EBITDA at € 20 million.

In terms of financial engineering, Vision Capital used a high yield bond to finance the transaction, which would be completely reimbursed at the maturity date, allowing the company to have only mandatory interest payment during the holding period which were about €25 million each year. As reported in Table 23, Bormioli Rocco generated each year substantial positive cash flows, allowing the company to invest in profitable projects, but also to completely pay off all financial debt earlier, at the closing of the operation in 2017.

Table 37: Bormioli Rocco Working Capital and Working Capital Ratios

Bormioli Rocco Working Capital								
($ in million)			PE holding period					
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Days Sales Out. (DSO)	81.7	74.2	66.9	71.8	61.8	27.0	25.9	33.0
Days Inventory Held (DIH)	120.5	114.3	111.0	107.4	89.4	102.0	99.1	112.8
Days Payable Out. (DPO)	98.9	92.2	93.8	90.8	94.6	117.4	94.1	106.5
Cash Conversion Cycle	**103.3**	**96.3**	**84.0**	**88.4**	**56.6**	**11.5**	**30.8**	**39.3**
Calculated NWC								
Net Accounts Receivable	$110.4	$109.7	$104.1	$109.8	$96.4	$37.9	$34.7	$41.7
Inventory	$141.9	$142.1	$146.2	$144.1	$122.9	$129.3	$116.4	$121.7
Other Current Assets	$18.3	$18.5	$18.7	$24.5	$29.3	$31.8	$42.4	$25.2
Current Assets	**$270.6**	**$270.3**	**$269.1**	**$278.3**	**$248.6**	**$199.0**	**$193.6**	**$188.6**
Accounts Payable	$116.4	$114.6	$123.7	$121.8	$130.0	$148.9	$110.6	$114.9
Accrued Expenses	$1.0	$1.1	$1.1	$0.8	$0.3	$0.3	$0.3	$0.3
Other Current Liablities	$105.0	$70.3	$40.3	$48.8	$43.5	$44.5	$63.0	$63.5
Current Liabilities	**$222.4**	**$186.0**	**$165.0**	**$171.3**	**$173.8**	**$193.7**	**$173.9**	**$178.7**
Net Working Capital (NWC)	**$48.2**	**$84.2**	**$104.0**	**$107.0**	**$74.8**	**$5.2**	**$19.7**	**$9.9**
(Increase) Decrease in NWC		($36.0)	($19.8)	($3.0)	$32.2	$69.6	($14.5)	$9.8

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

This has been possible through the improvement of working capital management and inventory management, as reported in Table 37: indeed, there has been a strong improvement of the negotiation terms with customers, with reduction of Days Sales Outstanding, which pass from 67 in 2011 to 33 in 2016, reaching a peak of 26 in 2015. Along with this, Days Inventory Held decreased throughout the holding period, reflecting the improvement of inventory management of Bormioli Rocco.

In addition, other three elements need to be considered in the analysis of Vision Capital's IRR in Bormioli Rocco: the multiple expansion, the value creation at the entry and exit moment, the ability, the negotiation skills and the reputation of the private equity. It is reasonable to assume that these factors are related since the exit type chosen by Vision Capital has been a bid auction, that typically pushes high the exit price, creating competition among the bidders, therefore resulting in further multiple arbitrage. However, it is not the only factor that explains the positive performance of the British fund: its ability to detect a company with growing potential and margin improvement, cash generative and the negotiation skills are other aspects that need to be taken into account when considering the multiple arbitrage recorded in the transaction. Moreover, the reputation of the fund endorsed to negotiate a high yield bond, bullet type, allowing Bormioli Rocco to have higher financial flexibility during the holding period, and focus on profitable activities. Finally, in Table 38 and Table 39 are exhibited, respectively, the main data of entry and exit transaction and debt financing information.

Table 38: Main data on Bormioli Rocco transaction

Bormioli Rocco	Entry	Exit
Year	2011	2017
Seller	Banco Popolare di Milano	Vision Capital LLC
Acquirer	Vision Capital LLC	Triton Capital Bormioli Luigi
Fund	Undisclosed	Triton IV Strategic sale
Transaction Value (with Fees)	€ 363.7 ml	about €570 ml
Revenues	€ 539.6 ml	€ 460.8 ml
EBITDA	€ 85.9 ml	€ 67.0 ml
EV/EBITDA Multiple	4.2x	about 8.5x
PE Investment / Exit	€ 113.7 ml	€ 374.2 ml
Debt financing	€ 250 ml	-
D/EBITDA	2.9x	-

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Vision Capital LLC press release, Triton Capital press release, Eikon database, Milano-Finanza articles, BeBeez articles.

Table 39: High Yield Bond Tearsheet

	High Yield Bond
Amount	€ 250 ml
Issue Type	High Yield Corporate
Issue date	26/07/2011
Closing date	01/08/2018
Coupon Type	Fixed rate
Coupon Rate	10.00%
Payment Frequency	Semi-annual
Coupon Payment Date	01/02 01/08
Book Runner	JP Morgan (lead) BNP Paribas

Source: Eikon database.

3.5 Suba Seeds Spa

Suba Seeds is a leading producer, packer and distributor of specialty vegetable seeds for the professional, semi-professional, and hobby garden markets. Founded in 1974 by Augusto Suzzi and headquartered in Longiano (Emilia Romagna region), it becomes, over the years, one of the most important companies at global level in the sector in which operates, and a contract supplier to a diverse set of global seed companies. Suba Seeds is the leading producer of coriander with a strong portfolio of core crops including varieties of beans, peas, radish, cabbage, alfalfa, carrots, chicory, and onion. In 2012 November 9th, Quadrivio Sgr, an Italian private equity firm, acquired 52% stake in Suba Seeds through its fund "Fund Q2", in a leveraged buyout transaction. The investment has been part of the strategy of the fund, to acquire companies with leading position in niche sectors, restructure, rationalize and expand them at international level. At the moment of the deal, the company was evaluated about €40 million, traded at an EBITDA multiple of 3.8x based on the estimated 2012 EBITDA of €10.6 million. The transaction has been financed through €11 million vendor loan divided into two tranches. The operation has been realized through the creation of a Special Purpose Vehicle, in which the equity has been composed by 52% of Quadrivio, 15.36% by the founder Augusto Suzzi, 11% by the CEO Giuseppe Tumedei, and the remaining 21.64% by the management team.

Suba Seeds is the global leader in the production of specialty vegetable seeds, with its high-quality products resulting from the unique combination of good agroclimatic conditions, good soils, experienced growers, high level field technicians and a state-of-the-art seed plant to preserve the seed quality during processing. It has built, during the years, a strong reputation to fulfil and meet the needs of its customers, and performed an internationalization and diversification process (before the realization of the investment) through: the establishment of a company focused on Asian market distribution in 1980s, the opening of a French branch in order to diversify production in 2005; the creation of Royal Seeds, who acquired semi-professional garden business unit from Monsanto. Currently, it operates in 6 different production plants, 3 in Italy, 1 in France and 2 in the USA. Along with these activities, Suba Seeds creates the basis for a widespread and solid network of more than 1000 growers, both in Italy and abroad, selected and chosen to be the best quality oriented. The product range of the target company is composed by conventional seeds, organic seeds, sprouts, microgreens, baby leaves; in addition, it takes on multiplication contracts, on behalf of the major seed companies in the world with basic seeds either developed by itself or supplied by the ordering companies. The brands through which its products are sold are Suba Seeds, Brotherton, Condor Seed production, Verisem France, Hortus Sementi, Franchi Sementi, Royal Seeds, Sipas Packaging.

The high level of quality offered to the customers by Suba Seeds is realized through the meticulous monitoring activities in production process, the quality control laboratory, whose aim is to guarantee that the quality of the seeds is in line with the international standards, and the quality trial fields, which are fundamental to test the newly developed seeds before their commercialization, and to invite customers to verify the quality of the products and activities of Suba Seeds.

Despite the short holding period, November 2012 – November 2015, Quadrivio supported the Italian company in several initiatives, including exploiting the growing potential realized through both organic and inorganic growth, focus on specific products with higher profitability, improvement of the supply chain, strengthening and support of the executive and non-executive management team. In 2013, in accordance with the founder Augusto Sozzi, as soon after the investment, Quadrivio appointed the new CEO, Giuseppe Tumedei, who was previously commercial director of the company and matured a long expertise in the sector. Together with this change, the fund focused on the creation of a more effective and efficient intragroup reporting and managerial control system, which allows to detect the strengths and the weaknesses of the entire supply chain, therefore better monitoring the operating margin of the company. From a strategic point of view, the private equity refocused the product range, maintaining and concentrating only those products with higher growth prospects, and look at other companies in order to perform inorganic growth. As a matter of fact, at the end of 2013, Suba Seeds acquired Condor Seed Production, American company based in Yuma (Arizona), which is leader in the production of particular type of seed, called baby leaf, and has gained, over the years, a strong commercial reputation both in the American and Asian markets. The rationale of the investment was to diversify the product range of Suba Seeds with a complementary product with respect to the others already sold, to expand its production capacity in the USA, in order to support the increasing demand trend from specific geographic areas. In order to support the production process and the entire supply chain of Suba Seeds, in 2014 Quadrivio assisted the target company in the building of a new production facility in Cesena, adjacent to its headquarter. The construction of this state-of-the-art, high-throughput production facility, resulting in one of the most efficient in the world, allowed the target company to improve the production process in terms of timing and quantity, increase the inventory availability and saving outsourcing inventory costs about €200,000 per year, slightly reduce the cleaning timing of seeds, and meet expanding global demand for its products.

The Italian private equity exited from the investment in November 2015, after only three years, when Suba Seeds was acquired by Paine & Partners LLC, a global private equity investment firm focused on investing in food and agribusiness, in a secondary buyout transaction. Suba Seeds has been estimated, at that time, €81.2 million, based on 2015 revenues of €70 million and €9 million of EBITDA. All the activities promoted and implemented by Quadrivio in Suba Seeds are reflected in economic and financial performance and, in order to further analyze the drivers of the value creation process and the returns for the private equity fund, in the following tables are reported the Balance Sheet (Table 40), Income Statement (Table 41), Cash Flow Statements (Table 42), the most economic and financial relevant ratios (Table 43), the value creation analysis (Table 44) and value creation build (Table 45).

Table 40: Suba Seeds reclassified Balance Sheet

Suba Seeds Balance Sheet							
($ in million)			PE holding period				
	2011A	**2012A**	**2013**	**2014**	**2015**	**2016**	**2017**
Assets							
Cash	$4.2	$1.4	$0.9	$1.2	$4.9	$4.2	$3.6
Net Accounts Receivable	$7.2	$13.5	$13.3	$14.1	$16.2	$17.6	$18.5
Inventory	$1.1	$13.3	$15.3	$22.2	$22.2	$24.6	$36.9
Other Current Assets	$3.3	$2.8	$3.1	$2.3	$2.3	$4.4	$2.3
Total Current Assets	**$15.7**	**$31.0**	**$32.6**	**$39.9**	**$45.7**	**$50.8**	**$61.3**
Net PP&E and Intangibles (ex. Goodwill)	$0.3	$2.3	$2.8	$3.0	$6.8	$9.1	$12.9
Goodwill	$0.0	$0.5	$10.5	$20.7	$19.6	$33.1	$35.8
Other Noncurrent Assets	$1.1	$0.0	$0.0	$0.0	$0.0	$0.0	$0.9
Total Assets	**$17.1**	**$33.8**	**$45.9**	**$63.6**	**$72.2**	**$93.1**	**$110.9**
Liabilities & Shareholders' Equity							
Accounts Payable	$10.0	$8.1	$7.2	$6.6	$11.0	$10.6	$15.4
Accrued Expenses	$0.2	$0.3	$0.3	$0.4	$0.4	$0.1	$0.0
Other Current Liabilities	$1.2	$8.3	$3.4	$3.2	$1.7	$1.9	$2.4
Total Current Liabilities	**$11.5**	**$16.7**	**$10.9**	**$10.3**	**$13.1**	**$12.6**	**$17.9**
Total Debt	$0.9	$3.4	$6.2	$10.0	$13.3	$28.8	$9.5
Other Noncurrent Liabilities	$0.6	$1.3	$7.4	$12.7	$11.6	$35.6	$35.8
Total Liabilities	**$13.0**	**$21.5**	**$24.6**	**$33.0**	**$38.1**	**$77.0**	**$63.2**
Shareholders' Equity	$4.2	$12.3	$21.4	$30.6	$34.1	$16.1	$47.7
Total Liabilities & Shareholders' Equity	**$17.1**	**$33.8**	**$45.9**	**$63.6**	**$72.2**	**$93.1**	**$110.9**

Source: Bureau van Dijk (Aida) database.

Table 41: Suba Seeds reclassified Income Statement

Suba Seeds Income Statement							
($ in million)			PE holding period				
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Revenue	**$26.3**	**$48.6**	**$47.7**	**$54.0**	**$66.5**	**$75.7**	**$79.5**
(-) Costs of Goods Sold	($26.1)	($35.7)	($40.5)	($47.0)	($59.1)	($68.6)	($70.3)
EBITDA	**$0.2**	**$12.9**	**$7.2**	**$7.0**	**$7.5**	**$7.1**	**$9.2**
(-) D&A	($0.0)	($0.7)	($1.9)	($2.0)	($2.6)	($5.7)	($2.7)
EBIT	**$0.2**	**$12.2**	**$5.3**	**$5.0**	**$4.9**	**$1.3**	**$6.5**
(-) Net Interest Expense	($0.0)	($0.2)	($0.6)	($1.0)	($1.1)	($2.5)	($3.6)
(+ / -) Other Financial Income	$0.0	$0.1	($0.2)	($0.1)	$1.0	($1.0)	($0.1)
EBT	**$0.2**	**$12.0**	**$4.5**	**$3.8**	**$4.8**	**($2.2)**	**$2.9**
(-) Tax Expense	($0.1)	($4.0)	($1.5)	($1.7)	($1.8)	($0.5)	($1.3)
Net Income	**$0.1**	**$8.0**	**$3.0**	**$2.2**	**$3.0**	**($2.7)**	**$1.6**

Source: Bureau van Dijk (Aida) database.

Table 42: Suba Seeds Cash Flows Statement

Suba Seeds Statement of Cash Flows							
($ in million)			PE holding period				
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Cash from Operating Activities							
Net Income	$0.1	$0.1	$8.0	$3.0	$2.2	$3.0	($2.7)
(+) D&A	$0.0	$0.0	$0.7	$1.9	$2.0	$2.6	$5.7
(+ / -) Change in NWC	($1.3)	($12.9)	($7.9)	($7.6)	$0.8	($6.4)	($5.9)
Cash from Operating Activities	**($3.2)**	**($13.8)**	**$0.9**	**($2.7)**	**$4.9**	**($0.9)**	**($2.8)**
(-) CapEx	$(0.3)	$(1.9)	$0.9	$(1.9)	$(4.6)	$(4.8)	$(9.2)
Levered Free Cash Flow	**($3.6)**	**($15.7)**	**$0.0**	**($4.5)**	**$0.3**	**($5.6)**	**($12.0)**
Beginning Cash Balance	$1.8	$4.2	$1.4	$0.9	$1.2	$4.9	$4.2
(+) Levered Free Cash Flow	($3.6)	($15.7)	$0.0	($4.5)	$0.3	($5.6)	($12.0)
Total Cash Available for Debt Repayment	**($1.7)**	**($11.5)**	**$1.4**	**($3.7)**	**$1.5**	**($0.7)**	**($7.8)**

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

Table 43: Suba Seeds Ratios Analysis

Suba Seeds Ratios Analysis							
			PE holding period				
Financial ratios	2011	2012	2013	2014	2015	2016	2017
Liquidity ratio	1.19	0.90	1.02	1.07	1.40	0.52	0.91
Current ratio	1.28	1.58	1.93	2.44	2.74	1.02	2.29
Leverage	4.12	2.74	2.15	2.08	2.12	5.79	2.32
Coverage of fixed assets	2.91	4.56	2.05	1.91	2.01	0.97	1.63
Interest/Operating profit	4.5%	5.6%	11.7%	6.8%	6.5%	2.8%	2.6%
Interest/Turnover	0.2%	0.5%	0.1%	0.2%	0.2%	0.3%	0.4%
Solvency ratio	24.3%	36.5%	46.5%	48.2%	47.2%	17.3%	43.0%
Share funds/Liabilities	0.34	0.62	0.93	0.99	0.96	0.22	0.80
Debt/Equity ratio	0.22	0.28	0.29	0.33	0.39	1.79	0.20
Debt/EBITDA ratio	4.5x	0.3x	0.9x	1.4x	1.8x	4.1x	1.0x
Management ratios							
Total assets turnover (times)	1.5	1.4	1.0	0.8	0.9	0.8	0.7
Working cap. turnover (times)	1.7	1.5	1.5	1.3	1.4	1.4	1.3
Stocks/Turnover (days)	15	103	116	152	122	120	170
Stocks/Cost goods sold (days)	17	238	211	261	198	195	288
Profitability ratios							
Return on asset (ROA)	1.1%	36.0%	11.6%	7.9%	6.8%	1.5%	5.9%
Return on investment (ROI)	3.8%	n/a	15.8%	9.7%	8.6%	1.7%	7.3%
Return on sales (ROS)	0.7%	25.9%	11.1%	9.4%	7.3%	1.8%	8.2%
Return on equity (ROE)	2.2%	65.4%	14.1%	7.1%	8.7%	-16.5%	3.4%
Net P&L / Operating P&L	47.1%	66.2%	56.5%	43.6%	60.5%	-196.8%	24.8%
Productivity ratios							
Number of employees	18	n/a	115	185	197	214	223
Turnover per employee (in thousands)	1,458.8	n/a	418.1	288.8	338.8	348.8	356.2
Added value per employee (in thousands)	47.1	n/a	113.7	73.2	77.0	76.1	82.5
Staff Costs per employee (in thousands)	35.9	n/a	50.1	35.0	38.7	39.9	41.2
Turnover/Staff Costs	40.6	9.1	8.4	8.2	8.8	8.8	8.6

Source: Bureau van Dijk (Aida) database.

Table 44: Suba Seeds Value Creation Analysis

Suba Seeds Value Creation Analysis (3 Years)				
($ in million)			**Cumulative Change**	
	Entry	**Exit**	**$**	**%**
LTM Revenue	**$49**	**$67**	**$40**	**153.4%**
LTM Adj. EBITDA	**$11**	**$7**	**($3)**	**(29.7%)**
% Margin	*40.4%*	*11.2%*	*(29.2%)*	
Transaction Multiple	**3.8x**	**10.9x**	**7.1x**	**188.6%**
Transaction Value	**$40**	**$81**	**$41**	**103.0%**
Net Debt	($11)	($8)	$3	(24.1%)
Fees	--	--	--	
Sponsor Equity	**$29**	**$73**	**$44**	**151.2%**
Quadrivio Stake	52%	52%		
Quadrivio Equity	**$15**	**$38**		

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database.

Table 45: Suba Seeds Value Creation Build

Suba Seeds Value Creation Build		
($ in million)		
Starting Equity Value	**$29**	*%*
(-) Fees	--	--
(+) EBITDA Growth	(12)	*(27.0%)*
(+) Multiple Expansion	53	*121.0%*
(+) Debt Paydown	3	*6.1%*
Total Value Creation	**$44**	*100.0%*
Ending Equity Value	**$73**	
Multiple on Invested Capital	***2.51x***	
IRR	***35.9%***	

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database.

Since the transaction has been financed by €11 ml debt, and the company was evaluated about €40 ml, the investment made by Quadrivio to acquire 52% of Suba Seeds has been about €15.1 ml. In 2015 Suba Seeds was evaluated about €81.2 ml, traded at a multiple of 10.9x times 2015 *projected* EBITDA of €7 million. Based on the last available data – Debt of €13.3 million and Cash and Cash Equivalents of €4.9 ml at the end of 2015, Equity value at the exit was about € 73 million (52% equals to €38 million), allowing Quadrivio to earn 2.5x cash multiple on initial investment, and an IRR of almost 36%, as shown in Table 45. In the analysis of the drivers that generated the extremely high IRR of Quadrivio in Suba Seeds investment, governance and operational engineering through one acquisition, multiple arbitrage, the reputation and the experience of the private equity contributed to achieve the exceptional performance. The rationale of the investment, as explained by Walter Ricciotti, CEO of Quadrivio, was to invest in a medium Italian company, leader in the niche sector of seed production, with strong technical skills and developed global presence in the principal international markets, selling its products in more than 80 countries.

Table 46: Suba Seeds Revenue growth, EBITDA growth and margin

			PE holding period					
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	***CAGR***
Revenue	$26.3	$48.6	$47.7	$54.0	$66.5	$75.7	$79.5	
% Growth	***21.7%***	***84.9%***	***(1.7%)***	***13.1%***	***23.3%***	***13.8%***	***5.0%***	***11.08%***
EBITDA	$0.2	$12.9	$7.2	$7.0	$7.5	$7.1	$9.2	
% Margin	***0.8%***	***26.5%***	***15.2%***	***13.0%***	***11.2%***	***9.4%***	***11.5%***	***-16.65%***
% Growth	***22.0%***	***6323.0%***	***-43.7%***	***-3.4%***	***6.4%***	***-5.1%***	***29.6%***	

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

In terms of operational engineering, the private equity supported and strengthened the global presence of Suba Seeds, through the development of network of growers, based on loyalty and reputation; the acquisition of an American company specialized in particular type of product complementary to the ones already sold by Suba Seeds; reorganization of the products' catalogue, with focus on seeds with higher profitability, building of a new production plant in Italy. As it can be seen in Table 46, all these activities are reflected in increasing of the turnover of the company: as a matter of fact, during the holding period, revenues increase by more than revenues by almost 37%, with a compounded annual growth rate of 11.1%.

Table 47: Suba Seeds Working Capital and Working Capital Ratios

Suba Seeds Working Capital							
($ in million)			PE holding period				
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Days Sales Outstanding (DSO)	$99.4	$101.6	$101.6	$95.2	$88.9	$84.8	$84.8
Days Inventory Held (DIH)	$15.0	$136.2	$137.8	$172.7	$137.3	$131.0	$191.7
Days Payable Outstanding (DPO)	$140.5	$83.0	$65.4	$51.6	$68.1	$56.5	$80.1
Cash Conversion Cycle	**($26.0)**	**$154.8**	**$174.0**	**$216.3**	**$158.1**	**$159.2**	**$196.4**
Calculated NWC							
Net Accounts Receivable	$7.2	$13.5	$13.3	$14.1	$16.2	$17.6	$18.5
Inventory	$1.1	$13.3	$15.3	$22.2	$22.2	$24.6	$36.9
Other Current Assets	$3.3	$2.8	$3.1	$2.3	$2.3	$4.4	$2.3
Current Assets	**$11.5**	**$29.6**	**$31.7**	**$38.6**	**$40.8**	**$46.6**	**$57.7**
Accounts Payable	$10.0	$8.1	$7.2	$6.6	$11.0	$10.6	$15.4
Accrued Expenses	$0.2	$0.3	$0.3	$0.4	$0.4	$0.1	$0.0
Other Current Liabilities	$1.2	$8.3	$3.4	$3.2	$1.7	$1.9	$2.4
Current Liabilities	**$11.5**	**$16.7**	**$10.9**	**$10.3**	**$13.1**	**$12.6**	**$17.9**
Net Working Capital (NWC)	**$0.0**	**$12.9**	**$20.8**	**$28.4**	**$27.6**	**$34.0**	**$39.9**
(Increase) Decrease in NWC	($1.3)	($12.9)	($7.9)	($7.6)	$0.8	($6.4)	($5.9)

Source: personal elaboration on Financial Statement Data available on Bureau van Dijk (Aida) database.

With reference to cash flows and working capital management, as depicted in Table 47, Suba Seeds partially improved the performance during the holding period: Days Dales Outstanding decreased, meaning that it negotiated better terms with customers, but also Days Payable Oustanding decreased. With regards to governance engineering measures, in the first year after the transaction, the new CEO has been appointed. Then, the General Partners of Quadrivio supported the executive and non-executive team, who invested also in the company for an overall equity stake of 21.64%, thus creating incentive to run well the company and invest in profitable projects. Finally, other factors related to the private equity contributed to create value: the multiple arbitrage, the selection of good potential target company and the timing of the investment. Between 2011 and 2012, the founder of Suba Seeds had announced that he was seeking a partner to support its strategy and its management team, without modifying the business model of the company. After having performed due diligence process, the PE fund decided to enter is Suba seeds given its strong know-how, its reputation, the broad product range with more than 80% of sales in 80 different countries, diversification of the production (allowing to eliminate climate risk present in this sector), the presence in the overall supply chain, and the consistent expansion trend of the sector – $43 billion at global level, with growth prospects about 4-5% on average. In addition, in order to analyze this investment and this type of deal, another element that needs to be considered, as reported in the paragraph 1.3.4, is the timing related to the closing of the fund, and the consequent realization of the returns for the limited partners. The time of exit of Suba Seeds is near by the closing of the overall Fund Q2, as communicated by Alessandro Binello, president of Quadrivio: the closing of the funds allows to distribute the overall invested capital, with an overall return higher than 30%, confirming the right strategy followed by the general partners, to invest in small-medium Italian companies, leaders in the niche markets in which they operate, with strong focus on internationalization expansion process. Therefore, in spite of the closing of the fund, Quadrivio detected a good investment opportunity that can be arranged in a short period of time, contributing to generate an exceptional IRR, focusing on the growth potential of the target and on a broader international presence. Finally, in Table 48 are exhibited the main data of entry and exit transaction.

Table 48: Suba Seeds main data of transaction

Suba Seeds	Entry	Exit
Year	2012	2015
Seller	Augusto Suzzi (founder) & Managers	Quadrivio Sgr
Acquirer	Quadrivio Sgr	Paine & Partners LLC
Fund	Fund Q2	Not disclosed
Transaction Value	€40 ml	€81.2 ml
Revenues	€49 ml	€67 ml
EBITDA	€11 ml	€7 ml
EV/EBITDA Multiple	3.8x	10.9x
PE Investment / Exit (52%)	€15 ml	€38 ml
Debt financing	€ 11ml	-
D/EBITDA	1.0x	-

Source: personal elaboration of data available on Bureau van Dijk (Aida) database, Eikon database, BeBeez and Milano-Finanza articles.

Conclusions

In this work it has been performed an analysis of the value creation process that private equity companies put in place in leveraged buyout transactions, with specific reference to the Italian scenario. This is a different way to approach and analyze the buyouts, since the widespread literature conducted in this field typically uses a quantitative research methodology. However, while this is an optimal approach to investigate a well-defined set of variables, it does not allow to examine the overall strategy, the measures, the activities, the incentives adopted by the private equities in the companies in which they invest, the overall factors, the structure and the dynamics of these transactions and the overall determinants of the IRR. Therefore, the purpose is to contribute to the emerging literature focused to develop a different model that envelops all the different means by which value is generated in leveraged buyout transactions. This research field is justified by the increasing amount that Limited Partners are investing in this market, as presented in Chapter 2 and in several reports of this industry (e.g. AIFI, Bain & Company, Deloitte, PEM, etc.), but also by the increasing competition among private equities, thus serving as a tool to guide them in the value creation strategy.

The empirical analysis performed in Chapter 3 confirms almost all the factors, the measures and the activities contributing to the generation of the IRR for the private equity funds, that emerge from the wide literature review presented in Chapter 1, and summarized in Table 49. These results are also in line with those emerged in the research performed by Gompers, Kaplan and Mukharlyamov (2015), in which a survey to 79 private equity firms about what they say they do is reported.

Along with the already known measures adopted by the General Partners to solve the agency costs of free cash flows and to reduce the agency conflicts, there are other factors that affect the value creation process, the realization of that value through levers of value capture, and also the overall level of buyout activity. In particular, through working capital and inventory management, PE firms increase the value of the company since they positively affect the free cash flow, which is the main element of the Discounted Cash Flows valuation method. Then, operational engineering measures shift from focusing on operating margin improvements, as it was during the first wave of buyouts, to increase and exploit revenue growth. This is realized through the so-called buy and build strategy, which contributes to increase the sales of the company and its future potential growth, thus positively affecting also exit multiples. Along with buy and build strategy, PE companies increase the investing activities, as proved by the level of Capital Expenditures, especially during the first year after the transaction. As a matter of fact, every company investigated performed at least one add-on acquisition during the holding period, opened new production plants, both in Italy and abroad, and aimed to improve its internationalization level.

Another important fact emerged in the analysis is that during the holding period the number of employees increases with respect to the previous one, confirming that, despite financial sponsors work to increase the efficiency of the target company from an operational point of view, the focus on revenue growth and expansion positively affect the level of employment.

Other factors that need to be taken into account when looking at value creation in buyouts is the reputation of the private equity company, the stage of the life cycle of the fund, the relationship with banks and the timing activities adopted by General Partners. This is demonstrated through the ability to select good targets at the moment of the deal, which most of the times are undervalued. With reference to this point, it is worth noting that, as competition among private equities increases, the research activity will become much more important than before: as the room to operate for each private equity is reduced, it is important to decrease the failures and investments which negatively impact the overall IRR, thus allowing them to continue to operate in the future, through the raise of a subsequent fund. Then, superior access to resources and capabilities, their reputation and their expertise allow private equity companies to offer knowledge and instruments that unlikely are available in other situations. As presented in the cases analyzed, the General Partners, actively involved in the management of the company, gained experience either through previous transactions in same or similar sectors, or because they have worked for long time in those industries. The reputation and negotiation skills of the private equities are also reflected in the multiple arbitrage recorded between entry and exit; furthermore, the choice of the type of exit seems to be one of the first decisions undertaken by the General Partners as soon as they enter in the transaction, since this is a tangible way to capture value, therefore they act, throughout the whole holding period, accordingly. In addition, given the primary role in the capital markets of PEs, they build reputed relationships with senior lenders, positively affecting the costs, the covenants, the terms of bank debt of their targets and allowing them to underwrite type of contracts that are not available otherwise, for example the €250 million 7 years high yield bond for Bormioli Rocco.

What is important to note is that, despite the strategies are tailored according to the characteristics, the situation, the positioning of the company within the industry, the measures they use can be applied to a diverse set of companies, as proved in the analysis performed, thus confirming the need to delve into this research field.

Table 49: IRR Determinants and Value Drivers Analysis

IRR Determinants and Value Drivers Analysis					
	DOC Generici	Rollon	Cellular Italia	Bormioli Rocco	Suba Seeds
IRR	43.6%	48.1%	15.8%	22.0%	35.9%
Financial Engineering	V	V	V	V	V
Operational Engineering					
Revenue growth	V	V	V	V	V
Operating margin improvement	V	V		V	
Internationalization expansion		V	V		V
Diversification	V	V	V		V
Restructuring of organizational model				V	
New production plants / branch offices		V	V		V
Operational improvements	V		V		V
Divestment non-core business				V	
Buy and build strategy		V		V	V
FCF and WC Management	V	V	V	V	V
Investing activities (1° year)	V	V	V		
Governance Engineering					
Active ownership model	V	V	V	V	V
Change of CEO					V
Management rollover		V			V
PE Factors					
Reputation	V	V	V	V	V
Expertise and negotiation skills	V	V	V	V	V
Multiple arbitrage	V	V		V	V

Source: personal elaboration.

Together with factors strictly related to the private equity companies and the measures they put in place in the targets, debt market conditions affect not only the overall level of LBO activity, but also the performance of their investments. As a matter of fact, during hot debt market conditions, PEs tend to lever as much as they can and are willing to overpay for deals, thus decreasing the returns on their investments. Nevertheless, it is reasonable to assume that this propensity to overleverage the transaction, even when it is not justified by the underlying value of the firm, will be somewhat mitigated as the competition among private equities becomes more intensive.

Like any other industry, the private equity is subject to cycles and trends. The current exceptional positive trend that this market is experiencing starting from 2014, not only at Italian level but also at global level, may be justified by a boom of this market, as it has been during 1980s, but also on the outperformance with respect to other asset classes. This in turn means that, as other asset classes increase their returns, the attractiveness of this sector declines, shifting the amount of Limited Partners to be invested from the private equity world to different instruments. Although it is true, it is worth noting that the type of activity performed by private equities specifically fits the investment requirements of, for example, insurance companies which have lot of capital to be committed; in addition, it allows to diversify the investment portfolios of asset managers. Furthermore, it is reasonable to predict that fierce competition will constrain private equity companies to become even more efficient and effective, through the elimination of the influence of general economic market conditions, such as when debt is cheap; the increased specialization in the industry sectors, and the increased importance of the reputation of the company in the transactions. The sustainability of the positive trend of the industry will remain as long as the underlying value of the companies in which they invest is consistent. As a matter of fact, PEs do not look for companies with strong brand reputation or that are known by final consumers; alternatively, they look for companies with strong growth potential, undervalued, with low level of debt that operate in both B2B and B2C channels.

Therefore, the question may be not when the next downturn will happen, but how to handle it successfully when it occurs; and this type of research might help private equities to face with downturn periods, where there are higher levels of uncertainty and difficulties.

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