How value is created through LBOs in healthcare buyouts

Theory and Case Study of Alliance Boots buyout by KKR & Stefano Pessina

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Abstract

This thesis aims to study the role of Private Equity funds in the creation of value in healthcare deals. More specifically, it will analyse the factors that contributed to the economic value creation in Alliance Boots buyout by KKR and Stefano Pessina. The paper will be divided into two different parts. The first section introduces the healthcare sector, the market, deal activity and trends and will be followed by an overview of the PE market in general as well as in healthcare. The last part of the first section will also include metrics, drivers, and the computation of these for the case study in section II. The second section aims to study the Alliance Boots buyout by KKR and Stefano Pessina, which started in 2007 and was exited in two stages: the first one in 2012 (sell of 45% of the stake to Walgreens) and the second stage in 2015 (sell of the remaining 55% to Walgreens). The analysis includes a waterfall of the value created during the holding period as well as a comparison of the metrics with other broader studies in the PE industry.

Acknowledgements

I would like to thank my thesis director, Mr. Nicolas Naillon, for giving me the opportunity to carry out this research in the healthcare industry, and for his guidance and advise during all the period in which I have written the thesis. His experience, together with his willingness to help and share his knowledge made me enjoy the development of it and want to invest time on it.

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INTRODUCTION

The Private Equity industry has been gaining momentum since the outbreak of the financial crisis in 2008, having its longest growth cycle since it started in the 1980s. However, it has also been a highly controversial topic over the last decades regarding the post-buyout performance of the target companies, debating whether the short-term vision is destroying the company's value over the long term.

This debate has been even more accentuated in the healthcare industry, where companies' decisions affect not only the human capital but also patients in very critical situations. Private equity investments in healthcare are not new, but they have accelerated since 2010 and have played a central role in the restructuring of the industry, leading to mergers and acquisitions, as well as consolidation of providers to obtain market power.

PE firms have used their classic leveraged buyout model to save healthcare while delivering excessively high returns to investors. They argue that have much to offer to help curb costs, improve efficiencies and finance new technologies, but there is still little light regarding what the actual private equity model consists of and under what conditions it can offer benefits.

At the moment, the Covid-19 pandemic has caused a huge economic recession, challenging the value creation of the funds in the years ahead. The most affected industries have been travel, retail, leisure and hospitality while healthcare and software industries have skyrocketed in terms of returns for the investors.

Even if it is commonly found in research papers that buyouts are able to increase employment levels and create value in companies, there is still not enough evidence on an individual company level regarding the specific initiatives and measures PE funds take.

The aim of this thesis is to show how private equity investments can create returns to the fund without destroying value for all the stakeholders involved. Hence, this thesis has been divided in two sections: the first one is the theoretical framework on the PE industry and more specifically, the healthcare PE industry. This section also includes frameworks, drivers, and metrics for value creation in companies undergoing a buyout. The second section analyses a real case study: the Alliance-Boots buyout by KKR and Stefano Pessina, which will serve as an example to apply the framework presented in the first section. The last part will present the conclusions of the two mentioned sections.

SECTION 1: HEALTHCARE AND PE INDUSTRY OVERVIEW

The first section of this Thesis introduces the market environment of the healthcare industry during the last ten years, as well as the Private Equity landscape in general and more specifically, in healthcare. It presents the necessary financial metrics that will be used afterwards in the case study of Alliance Boots buyout by KKR and Stefano Pessina.

Firstly, the section starts with an introduction of the healthcare industry, including its main sectors, trends, deal activity and the change in the dynamics within the industry driven by technology, innovation, and the Covid-19 pandemic.

Secondly, the Private Equity industry is presented, by mentioning its history, the evolution of the past decades and the main trends. This is followed by an explanation of the Private Equity fund structure and the procedures used. It also contains an introduction to LBOs and their use in the healthcare industry, including potential risks and returns.

After the healthcare industry and the private equity sector are described, the central matter of the section is introduced: the economic value creation decomposition in a traditional LBO. This part includes the metrics, drivers and calculations used for measuring the value creation to be able to compute it and compare it afterwards. These metrics will later be used in Section II in order to calculate and decompose the value created in the Alliance Boots buyout.

1. Healthcare industry review

a. Healthcare Market

The global healthcare industry size reached a value of $8,452bn in 2018, showing a growth at a compound annual growth rate (CAGR) of 7.3% since 2014. It was expected to grow at a CAGR of 8.9%, reaching nearly $11,909bn by 2022. There are many sectors within the healthcare industry, but the main ones include: pharmaceuticals, biotechnology, medical devices companies, health providers (which include home care and retail health), and healthcare IT.

As of health expenditure as a percentage of GDP of a country, Figure 1 shows that the top 10 countries spent over 10% of their GDP in healthcare in 2019, with United States accounting for the highest percentage, a total of 16.8%.

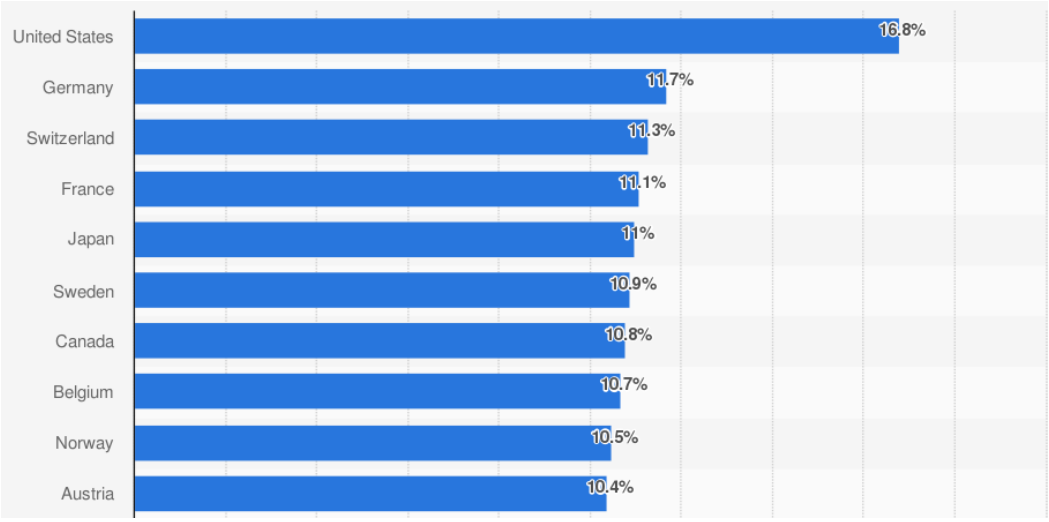

Figure 1. Healthcare expenditure as a % of GDP in 2019. Source: Statista, OECD, 2019

The covid-19 pandemic, the increase in the elderly population, a strong economic growth in emerging markets and the global health insurance reform were the main drivers of the healthcare industry during the historical years.

The most important companies in terms of market share and sales include the ones presented in Table 1:

Table 1. Main sectors in the healthcare industry

Sector	Description	Main Players
Pharmaceuticals	This industry is responsible for the research, development, production, and distribution of medications.	
Biotechnology	Innovative field that uses living organisms, biological systems, or derivatives to modify processes for producing healthcare products and therapies.	
Medical Technology and Devices (Medtech)	It includes most of all, medical devices which simplify the prevention, diagnosis and treatment of diseases and illnesses.	
Medical Payer Services	The healthcare payer services assist payers in actively engaging members, meeting compliance requirements, reducing healthcare costs and improving the overall operational performance.	
Healthcare IT providers	The aim of healthcare IT providers is to keep the records of patients' health information and share it with doctors, patients, families in a safe and efficient way.	

Source: Mordor Intelligence, 2022

b. Main subsectors in the healthcare industry

As already presented in Table 1, the main sectors in the healthcare industry are: the pharmaceutical sector, the biotechnology sector, the medical devices & technology sector, and the healthcare IT sector. This section will give an overview of each of them, explaining their growth drivers and trends.

Pharmaceutical sector

The biopharmaceuticals market was valued at $1.27tr in 2020, expecting to have a CAGR of 7.32% over the forecast 2022-2027 period. This industry is responsible for the research, development, production, and distribution of medications. The revenue evolution within this subsector is shown in Figure 2, which presents a clear and constant upward trend since 2011.

This market is mainly driven by the growing aging population, the rise of chronic diseases, and a huge market demand for vaccines. There is a worldwide increase in pharmaceutical R&D spending, reaching a record high of almost $1.7 trillion according to the United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics 2020.

The ongoing pandemic is expected to significantly impact this industry, with companies extensively investing in covid-19 vaccine development using different products such as DNA, RNA and protein subunit vaccines. This is expected to boost the growth of the biopharma market as well as shifting the importance to regulatory and clinical procedures.

The biopharmaceuticals sector is very competitive and has several major players, where few of them dominate the market.

Source: Statista, Mordor Intelligence

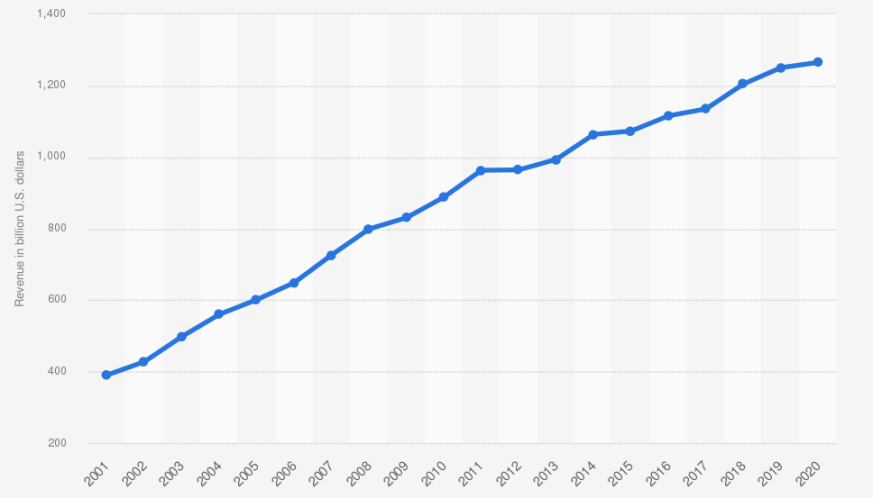

Figure 2. Revenue of the pharmaceutical companies in 2001-2020. Source: Statista, IQVIA

Biotechnology

The biotechnology (biotech) sector size was valued at around $497bn in 2020 and it is projected to frow at a CAGR of over 9.5% between 2021 and 2027. The growth of this sector can be attributed to the ongoing innovations and development associated with molecular biology, which has led to the use biotech solutions such as of genomics, metabolomics and proteomics. These new solutions have made it easier to develop therapeutic proteins and other drugs, which used to treat chronic diseases.

This sector is an interdisciplinary, innovative field that uses living organisms, biological systems or derivatives to modify processes for producing healthcare products and therapies. It impacts the medicine, pharmaceutical, genomic and food and chemical production sectors among others. It is a highly regulated sector.

The Covid-19 pandemic has affected the biotechnology market, resulting in an alteration of the supply of raw materials and restrictions on movements of goods, hence also impacting the biotechnology industry. However, the number of investments has gone up in this sector, given the growing interest in biotech companies with investors investing more than $13bn in biotech companies in 2020 globally. These investments have enabled companies to accelerate the development of new drugs, gene therapies as well as vaccines.

Source: GM Insights

Medical technology and devices (Medtech)

This sector was valued at $432.23bn in 2020, and it has witnessed a negative impact on the adoption rate across all regions during the covid-19 pandemic. It is expected to grow at a CAGR of 5.4% in the 2022-2027 period, which is attributable to the market's demand and growth, going back to pre-pandemic levels once it is over. The following figure shows the revenue growth since 2011, where there is a clear upward trend except from the year 2015, that suffered a slight decline.

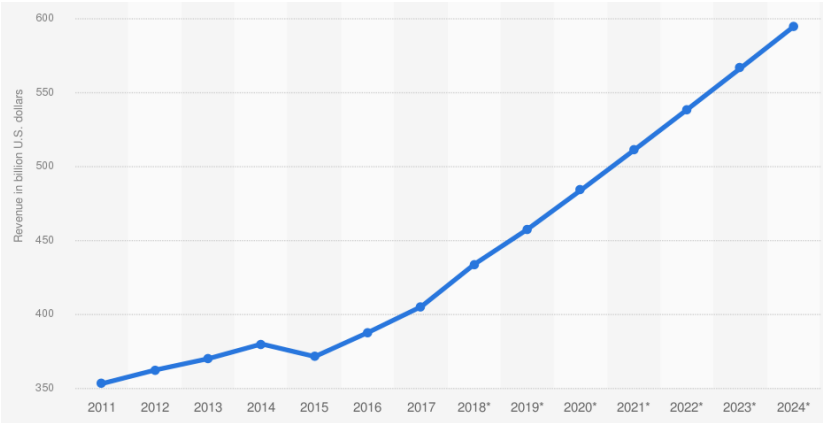

Figure 3. Total medical technology revenue from 2011 to 2024. Source: Statista, Evaluate, 2018

The growth in the medical devices sector is driven by the growing prevalence of chronic diseases, the rise in the importance of early diagnosis and treatment, which is leading to an increase in the number of patients that are diagnosed and need surgical procedure, consequently increasing the demand for medical devices and technology. The shift towards homecare is also one of the main drivers that are boosting the demand for portable devices.

R&D investments have an increasing trend, with a total global spending of $31bn in R&D in 2019, aiming to adapt to the growing demand for innovation in medical devices, and the regulatory authorities on their side are providing this sector with favourable scenarios for approvals, expecting to boost the industry in the forecast period.

The demand for the various medical devices varies by segment, where some of them have witnessed a sharp increase and others a decline. In-vitro diagnostic devices, nephrology and diabetes had a higher demand while devices used for cardiovascular, orthopaedics and imaging equipment had a decrease in revenues. Wearable medical devices have witnessed an increase in demand given the growing emphasis on fitness among adults worldwide despite the fact that there are still security and data privacy concerns.

The market is very fragmented, with only a few players accounting for a major share. Top market players are following strategies that include acquisitions, collaborations and new product developments in order so strengthen their market position.

Sources: Statista, Fortune Business Insights

Healthcare Payer Services

The healthcare payer services assist payers in actively engaging members, meeting compliance requirements, reducing healthcare costs and improving the overall operational performance. It is expected to grow at a CAGR of 10.1% during 2022-2027, being Asia-Pacific the fastest growing one, and the main factors that have driven the growth on the last decade are the rise in the adoption of healthcare insurance worldwide, the rise in healthcare frauds and the growing burden of chronic diseases, among others.

The adoption of health insurance from the government in many European countries like Czech Republic, Denmark, Finland, Ireland, and others will make the market grow in the coming years. On the other hand, the claim management services subsector is expected to have a big share in this sector given that during the process in which a healthcare practitioner makes a claim after providing a service to a patient to be reimbursed by the payer, there is a big probability of fraud.

This market is moderately competitive, and its market share is driven by several factors such as the strategies chosen by the key market players, the adoption of these services by the end users and the rise in healthcare policies.

Source: Mordor Intelligence

Healthcare IT

The healthcare IT is "the application of information processing that involves computer hardware and software that deals with the storage, retrieval, sharing and use of healthcare information, data and knowledge for communication and decision-making". Its objective is to keep the records of patients' health information and share it with doctors, patients, families in a safe and efficient way.

This sector is expected to grow at a CAGR of 12.5% during the forecast period (2022-2027). The digital healthcare market had a positive impact during the pandemic given the lockdown and hospital visit restrictions as well as the reluctance of people in going to hospitals. In 2020, there were 2.27bn e-prescriptions in the US, and the forecast estimates that it will continue going up, as shown in Figure 4.

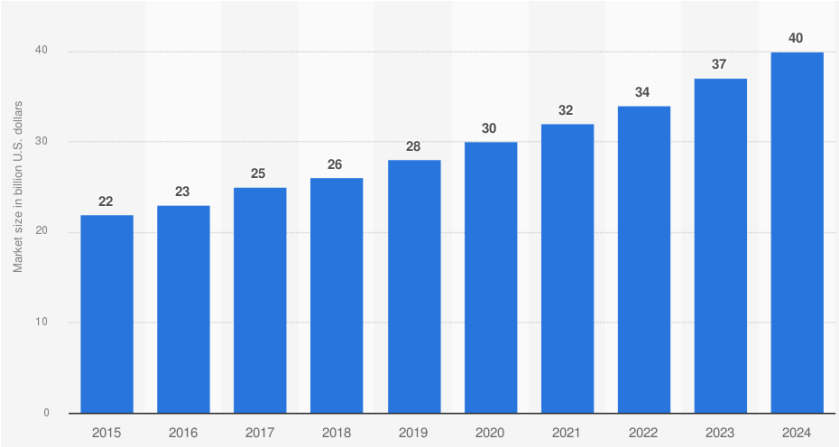

Figure 4. Total e-health records market forecast from 2015 to 2024. Source: Statista, 2017

There are different aspects that have influenced the growth of this market during the last decade, which include: the increase on usage of internet and digitalization of healthcare processes, the rise on demand of paperless technology, the emergence of social media, the increasing funding from governments and good returns on the investments.

It is a very competitive market and has several major players, with only a few of them dominating the market.

Sources: Mordor Intelligence, Statista

c. Trends and Covid-19 impact

During 2020, the Covid-19 crisis brought a lot of uncertainty and disruption to all the industries, including healthcare. Now the pandemic is shifting to endemic, getting to a stable state eventually. The vaccines have lowered the economic disruption, but no one knows how the rates of infection will evolve and this could still take a significant toll on health and mobility.

Despite of the settling point of the endemic, Covid-19 has already changed the industry trends and investors have now many different opportunities.

Covid-19 was responsible of accelerating virtual interactions between patients and healthcare professionals, rushing companies to digitalize their processes including clinical trials, medical records, and revenue cycle management. Figure 5 shows the US spending on digital advertising, which clearly shows that more and more companies are realizing about the need to a) digitalize their companies and 2) join the digitalization era and advertise themselves on the internet.

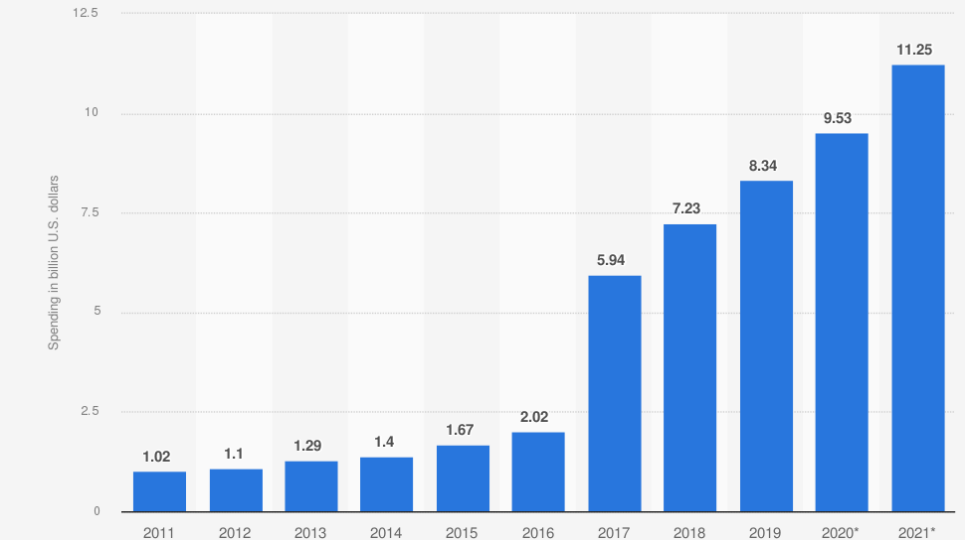

Figure 5. Healthcare and pharmaceutical digital spending in the US from 2011 to 2021. Source: Statista

The portion of the budget towards digital spending has gone up year by year, as it is observed in Figure 5, reaching the high of $11.24bn in 2021 in the US. Healthcare providers and payers have realized the need of top-notch vendors to upgrade their systems and medical supply chain's vulnerabilities' exposure after shutdowns drew attention of products that were never on the radar before.

Major trends in the healthcare industry during 2021 include:

- **Consumerization of care:** Smart devices and phone apps are gaining popularity given that people want to be more active in managing their own health.

- **Operational efficiency improvements using digital solutions:** Supply chain digitalization and data utilization for the revenue management cycle attracted investors.
- **Large European biopharma and life sciences transaction:** Europe had the biggest deal value in the biopharma sector.
- **Higher baseline for deals in APAC (Asia-Pacific):** Local medtech and biopharma companies have grown given the government regulation shifts and positive consumer behaviour, attracting investors and allowing them to gain confidence in the industry.

Private equity investments have flown to companies that were catalysed by the pandemic since customer preferences have been shifted by behavioural changes and regulation and deregulation has been very dynamic over the past two years. The four main areas that dominated PE investment were:

- **Alternative sites of care:** There have been many regulatory changes, one of them being the possibility to have hospital care at home. This has obviously accelerated the need of alternative models of site care.
- **Mental health:** The covid-19 pandemic has brought to light the importance of mental care on the workplace, increasing the demand for behavioural health treatments. Both in the US and Europe, investors have been attracted to buying mental health companies given that the mental health stigma has been significantly reduced and employers are committing to address it.
- **Staffing shortages at providers:** The difficult working conditions of healthcare employees has resulted in many leaves to protect their mental and physical health. This has placed a lot of pressure on healthcare providers, given that the demand has gone up and they are not able to meet it, facing also higher labour costs.

  As a result, during 2021, investors have been attracted by companies that help filling the vacancies in healthcare providers (staffing agencies).
- **Pandemic preparedness:** The pandemic has exposed the lack of preparedness for future outbreaks, and this has made governments and private companies invest on companies developing vaccine platforms and antimicrobials.

Geography Trends

The geography trends disclose that North America keeps its number 1 position in disclosed deal value, with 216 deals in 2021 and disclosed value rose to $107.5bn from $34.7bn in 2020. The average disclosed value went up to $1.5bn in 2021, almost three times higher than in 2020, mainly due to the megadeals ($34bn Medline deal and $17bn Athenahealth deal).

In Europe, the deal count had a record of 112 in 2021 compared with 75 the year before. Disclosed value went up to $26bn and average disclosed value also increased to $840m, counting with 8 deals of more than $1bn.

Asia-Pacific showed a similar behaviour of the year before, maintaining the huge gains. Deal volume jumped to 179 from 156 in 2020 and the disclosed value increased to $17.8bn. China contributed 66% of Asia-Pacific's deal volume. The unprecedented surge in healthcare private equity activity persisted, with government policies supporting local healthcare companies.

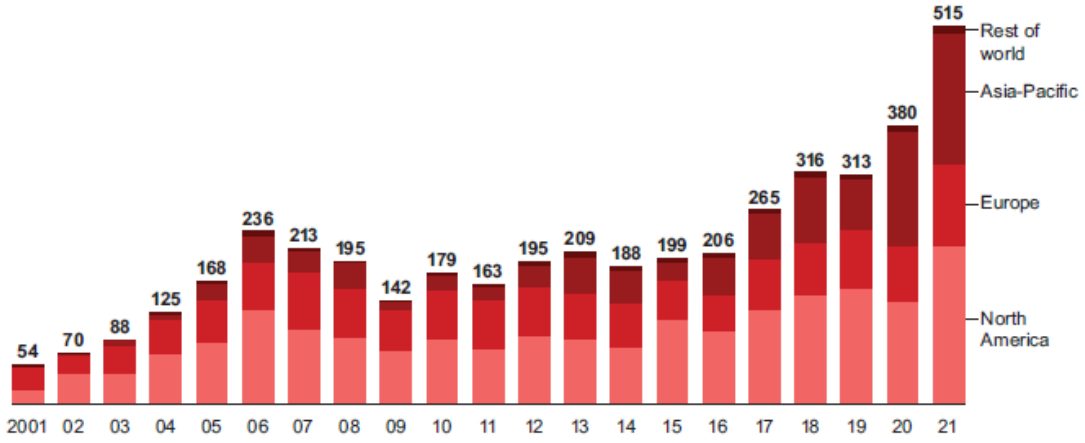

Figure 6. Global healthcare buyout deal count by geography between 2001-2021. Source: Bain Capital, 2022

d. M&A deal activity by subsector

In 2021, the deal value rebounded after the slowdown the market suffered in 2020 because of the effects of Covid-19. Last year, the deal value grew a 44% to $438bn (up from $305bn the prior year), and the number of deals grew a 16%, from 2,766 to 3,205 deals (Murray et al., 2022).

In terms of regions, the most active one was North America, accounting for 65% of the total value, and the European deal value more than doubled compared to 2020, accounting for 18% of the overall value.

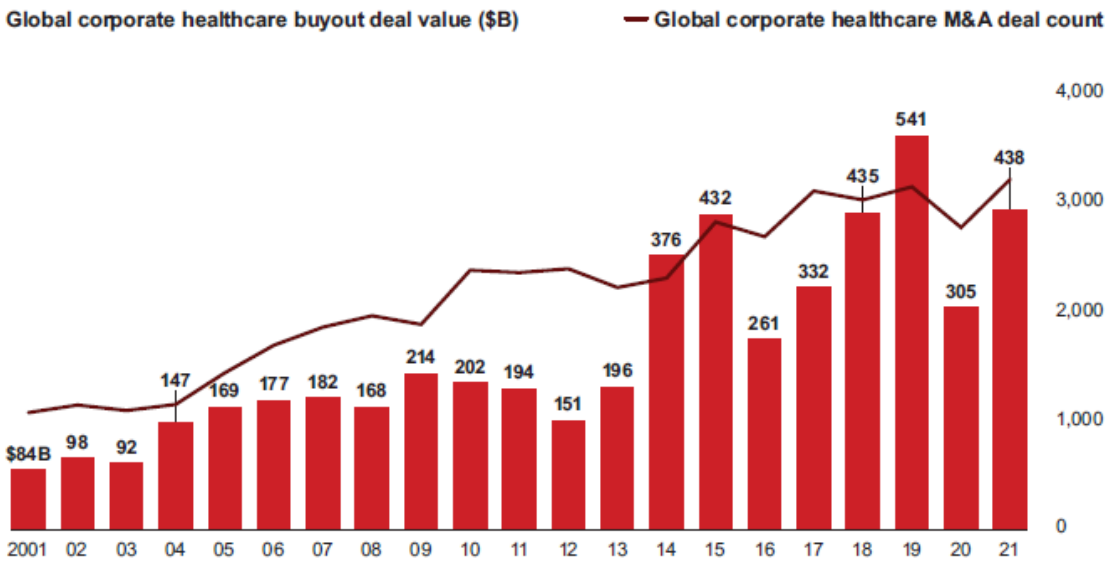

Figure 7. Global corporate healthcare buyout deal value in $B and M&A deal count. Source: Bain Capital, 2022

In terms of M&A activity by sector, biopharma deal volume increased 4% in 2021, while deal value rose 9%. This sector accounts for the majority of healthcare deal value (53%) and recorded 6 of the 10 largest healthcare M&A deals in 2021. The continuation of high M&A activity implies that the sector's fundamentals remain strong and that investors will keep on being active to expand their R&D pipeline and portfolios.

The life sciences tools and diagnostics part were very active as the pandemic propelled the demand for services and research consumables. There were 145 deals in total accounting for $40bn in value.

As for the medtech sector, the deal amount slowed down during the pandemic year given that there were limited surgeries and access to hospitals. However, in 2021, the deal volume went up by 7%, and the deal value rebounded 56% (from $38bn in 2020 to $60bn in 2021).

The payer category, the deal volume went down 28% but the deal value continued going up and grew 59%, from $22bn to $35bn). Corporate investors partnered with private equities in payer investments and managed to reduce costs and diversify their offerings.

The providers sector benefited from cost reductions through scale and the deal value rose 31% to 698 deals compared with 533 in 2020. Moreover, the deal value skyrocketed 137%, reaching a record $45bn from $19bn in 2020. As mentioned, most of this activity helped the acquirers build scale and have cost efficiencies.

On the other hand, midcap companies are starting to leverage M&A to diversify their portfolios and solidify their market position on existing businesses.

Looking ahead, it seems like M&A will continue to grow in all healthcare sectors, even if the cost of acquisition went up with an average price increase of 25% given the revenue synergies and the aggressive growth targets.

2. PE industry and LBOs review

This section will introduce the Private Equity industry, its history, main players and structure, and the last part will focus on the structure and candidates of leverage buyouts (LBO).

a. History of Private Equity funds

The first organized private equity activity can be traced back to 1946, when the American Research and Development Corporation (ARDC) was founded. The ARDC was a publicly traded company aimed to attract funds from private institutional investors to invest in businesses run by World War II veterans (Loos, 2006).

However, the industry took several years to establish, and it was not until the Small Business Investment Act of 1958 was signed by the US President Dwight D. Eisenhower, what facilitated the formation of public investment vehicles and led to the formation of Limited Partnerships in the 70s. This structure affords PE funds many advantages, including pass-through taxation, and they are frequently unregistered investment vehicles, meaning that their investment and financial reporting policies are not governed by the Securities and Exchange Commission (SEC) (Harry Cendrowski, Louis W. Petro, James P. Martin, 2012).

The favourable U.S. labour reform and the high-yield debt market boom in the United States in the 80s resulted in the birth of the most characteristic activity of Private Equity funds: the leveraged buyout (LBO).

Given the scope of this thesis and the case study involved, I will focus on the mentioned leveraged buyout investment method, which was defined by (Loos, 2006) as: “A transaction in which a group of private investors, typically including management, purchases a significant and controlling stake in a public or non-public corporation or corporate division using significant debt financing, which it raises by borrowing against the assets and/or cash flows of the target firm”.

The evolution of LBOs has differed by periods, driven by the market sentiment, deal volume and sector trends. This model arrived at the UK at the beginning of this century and gaining popularity in the years prior to the financial crisis. Focusing on the most recent periods (from 2003 onwards), we can differentiate the following: “The Boom”, “The Post-Crisis Era” and “The Covid-19 hit”.

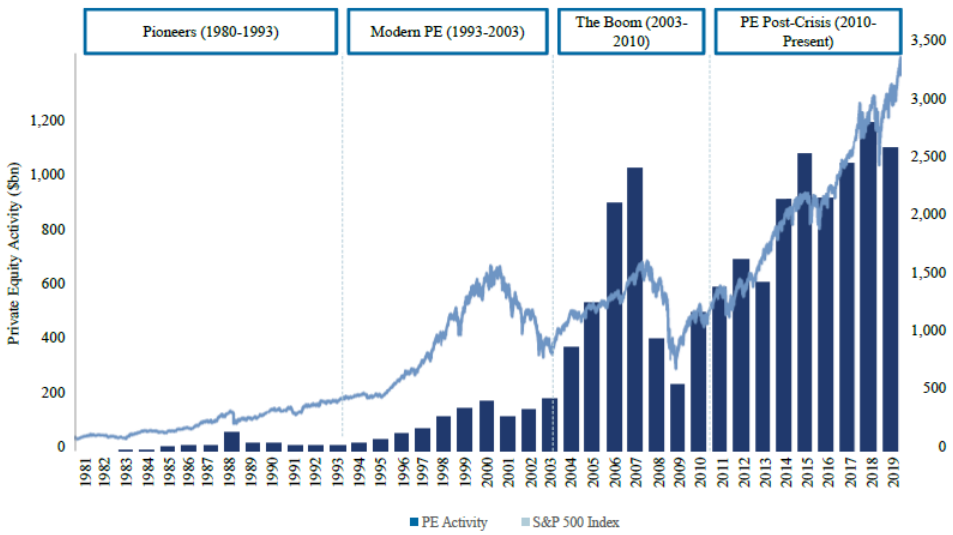

Figure 8. Different eras of the private equity industry since 1980. Source: Thomson Reuters SDC, Goldman Sachs

- **The Boom (2003-2010):** During this period, the transactions and valuations had an increasing nature until the Financial Crisis in 2008. Given the increasing volume of high debt issuance, the LBO market took advantage of the situation resulting in a significant increase of leveraged buyouts.

- **The Posts-Crisis era (2010-2020):** The economic environment is marked by low interest rates and the constant liquidity support of Central Banks. The LBO proportion in M&A deals increased steadily during these years.

- **The Covid-19 hit (2020-present):** Leading investors are shifting their strategies away from the ephemeral and focusing on what they think will sustainably succeed in the market after the pandemic. Central Banks around the world have made unprecedented moves, injecting $9tr into financial assets, and consequently, equity markets have recovered. However, the additional liquidity makes it unclear which companies will thrive in the next normal. In 2020, six sectors accounted for more than half of the total assets under management (AUM), which were about $5.7tr in total.

  Market capitalization in travel and hospitality fell 25% and a 24% in banking. Pharma, biotech, retail and software however have gone up, as it can be observed in Figure 9.

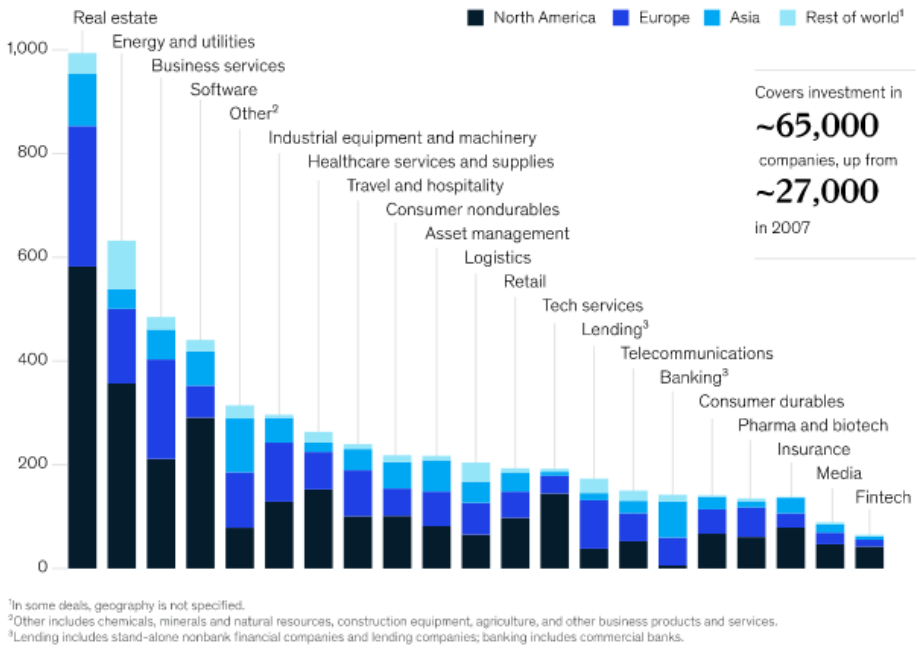

Figure 9. Global Private equity assets under management (AUM) in 2020. Source: Pitchbook, McKinsey, 2020

Regarding the most relevant players in the private equity industry, they have raised big amounts of capital in the last years. The key fundraising trends remain the same, including stock market volatility, low interest rates, and PE outperformance. The size of the funds is growing, and buyouts have been the standout strategy. However, the fundraising market is more and more competitive and crowded as more funds are returning to market more quickly, making the fundraising cycle smoother than ever for managers, due in part to more virtual fundraises and strong deal environment. The following figure shows the PE fundraising activity in Europe until Q1 2022, data gathered by (Pitchbook, 2022).

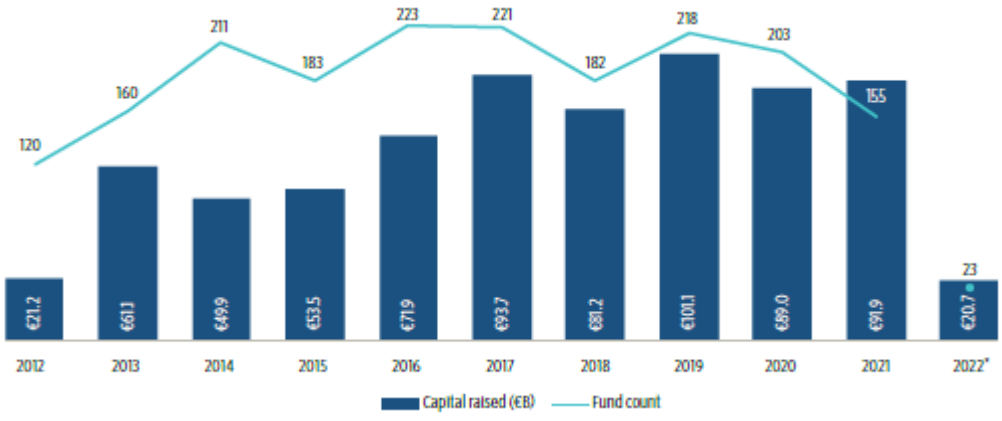

Figure 10. PE fundraising activity in Europe. Source: Pitchbook, 2022

These are the most historically prominent players and their assets under management in 2022:

Table 2. Top Private Equity firms and their corresponding assets under management (AUM) in 2021

Private Equity Firm	Assets Under Management (AUM)
The Blackstone Group®	$881bn
KKR	$471bn
CVC CAPITAL PARTNERS	$122bn
THE CARLYLE GROUP	$293bn
EQT	$81.7bn
BainCapital	$155bn
APOLLO	$498bn
ARDIAN	$96bn

b. PE structure fundamentals

After having introduced the history of the PE industry, it is essential to understand their structuring fundamentals. In simple terms, Private Equity is defined as an asset class that consists of debt and equity securities not quoted on a public exchange.

Fund Structure

A private equity fund is the constitution of a single investment vehicle by a concentration of investors' capital, and they are managed by one or more investment professionals. The vehicle is usually established in a close-end manner, which basically means that an investor usually does not sell its stake in the fund, nor it is expected that the fund liquidates its position before the termination period agreed by both parties.

Most Private Equity funds are organized as limited partnerships (bound by a Limited Partnership Agreement (LPA)) and are sponsored by a private equity firm. These firms are small organizations

and are run by managers also known as *general partners* (GPs) who invest the money of their investors, called *limited partners* (LPs), meaning that investors have limited liability (the maximum they can lose is their total committed capital contributions).

The Limited Partnership Agreement (LPA) contains all the necessary binding conditions and guidelines for the different parties. It mainly contains terms and procedures of the organisational aspect, partners and capital commitments, capital calls, closings, limited liability terms and distribution and carried interest (Claudia Zeisberger, Michael Prahl, n.d.)

By the Limited Partnership Agreement (LPA), investors commit a specified amount of capital to the fund. LPs are considered as de-facto passive investors in the fund since they are not liable beyond the contribution of capital and are limited in any active decision-making regarding the investments. These tasks are undertaken by the most senior professionals in the PE firm, and they constitute an Investment Committee. GPs contribute 1% to the fund's capital to make sure that interests on both sides are aligned. The investment managers charge a small fee every year to the fund, and they are the ones that ensure the efficiency of daily activities.

The compensation in a PE fund follows the "2&20" rule and is divided into: (a) *management fee* and (b) *carried interest* (or *carry*).

- **Management Fee:** LPs finance Investment Management activities with a given percentage of the committed capital, normally a 2% per annum, and can be constant or variable over time. These activities include operating costs such as salaries.
  The industry standard practice is to calculate the management fee using the committed capital (Iannotta, 2010). The management fee usually does not cover all the operating expenses and LPs can be requested for an increase if there are special costs (additional hires for instance).
- **Carried Interest (Carry):** The standard carried interest is 20%, and it is the threshold that must be exceeded for a GP to claim profits. Normally, the committed capital is used, although some funds use the investment capital. This 20% refers to the percentage of the remaining exit funds that GPs are compensated with after distributing initial capital to LPs (the remaining 80%).

Financing Structure

The fund first must raise additional capital to equity in debt markets. Usually, the deal is funded by 50/60 debt/fund equity, which can vary depending on the sector, the geography, the size of the target company etc. However, the different types of debt are normally classified into three types:

- **Senior Debt:** Normally accounts for 30-50% of the whole debt raised. This constitutes the shortest term and cheapest source of debt, and it is lent by financial

institutions. Consequently, it is the most senior tranche and has the most restrictive debt covenants. Apart from this debt type, most deals negotiate a credit revolving facility with one of the lenders with a slightly lower floating cost to solve working capital needs in the target company.

- **Junior Debt:** This type of debt accounts for most of the remaining borrowing. The issuers vary widely in order to satisfy the needs of the fund and the buyout. One of the most common instruments are second lien loans, these are the most senior of the junior debt bulk and contain very similar characteristics to senior debt although with less covenants, normally longer term. Other two usual instruments are Investment grade and high yield bonds, that are junior to second lien loans and have a fixed coupon, are unsecured and publicly traded with event trigger or incurrence covenants.
- **Others:** This type of debt is the least used one and it is called Mezzanine. It is lent by specialty funds and issued when the company has difficulties to access the bond market or needs to pay the interest the latest possible. This debt class is junior to high yield bonds, and since it is not publicly traded, it contains the highest amount of interest, which is captured in a Pay in Kind manner. Pay in Kind means that the interest is added to the principal until final repayment of debt is due in 10 years.

Investment Structure

Since the debt is divided into multiple trances and its structure can get very complex, lenders require a specific type of investment structure, which is usually made of separate Special Purpose Vehicles (SPVs) so that the covenants and seniority order is enforced.

PE funds can take significant advantage of this specific structure such as benefits on the regulatory and tax treatment by forming each entity offshore.

c. LBOs: Structure and candidates

A leveraged buyout (LBO), as mentioned above, is an investment method characterized by the minimization of the use of equity that the investing company must commit, and instead using debt to benefit from high returns offered by this type of debt (high-yield debt).

In a LBO, a group of sponsors acquire a company by borrowing against the target's assets or future cash flows (Iannotta, 2010), and they comprise both private and listed firms. The typical LBO structure, following the KKR method, which was introduced by the US private equity firm KKR, consists of the sponsors creating a Newco that purchases the target's shares to then merge it into the Newco. Newco is financed through 25-50% equity and 75-50% debt.

There are also different types of LBOs, depending on who is taking over the firm:

- **Management-buy-out (MBO):** When the incumbent management team takes over the firm.
- **Management-buy-in (MBI):** When an external management team acquires the firm.
- **Buy-in-management-buy-out (BIMBO):** When the sponsor group includes both members of the incumbent management and external managers.
- **Owner-buy-out (OBO):** When the majority shareholder ousts any other shareholder with an equity contribution and a negotiated package with the PE firm.
- **Leverage-build-up (LBU):** When a company that is already under an LBO process acquires another company with the use of debt.

Going into more detail in the investment activity of a Private Equity fund, we can separate the financing process in 3 main steps:

I. **The purchase price and financing structure:** The acquisition price depends on the debt capacity of the target, the return required by the sponsors and the terminal value estimated at the end of the holding period. The total amount to be financed is the Enterprise Value (EV) of the target company. The financing in an LBO transaction is normally expressed as debt-to-EBITDA ratio.

   For a 6.5x EBITDA purchase price, about 5x EBITDA is debt and 1.5x EBITDA is equity. The debt is structured as: senior debt (supplied by banks), high-yield bonds or if the latter is not available, the gap is filled by *mezzanine financing* provided by specialized mezzanine funds, which require higher compensation and is repaid after all senior debt is reimbursed.

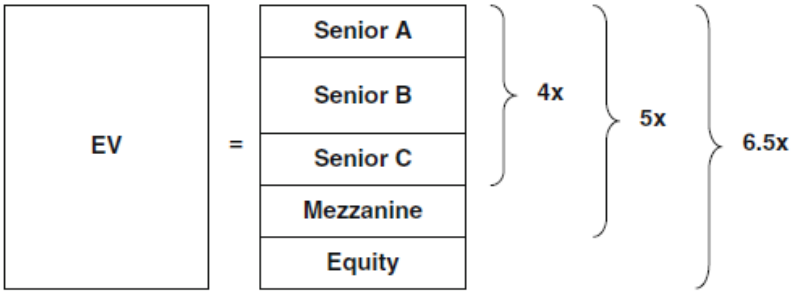

Figure 11. Enterprise Value financing structure. Source: (Iannotta, 2010)

II. **The holding period (usually between 5-10 years):** Operational and managerial improvements are usually made during the holding period so that the business runs more

efficiently, and maximum amount of debt can be repaid given the profitability improvements.

III. **Exit:** Limited Partners get their returns after a 5–10-year retention period and are typically realized by an IPO, a merger, or a sale to another company/sponsor (strategic buyer).

LBO candidates

There are two main candidates for LBOs: (a) the *"stable-cash-flow"* firm and (b) the *"high-growth"* firm.

The stable-cash-flow firm has stable cash generation that reimburses the debt. The enterprise value does not grow, and the equity value increases due to the fact that the debt is reduced. The LBO is normally long term (5 years) and the leverage used is high.

The "high-growth" firm has its enterprise value grown over time, which can be as a result of the efficiency improvements (profitability, growth) or a change in the market price. The debt remains the same at exit, and in this case the LBO is shorter term (3 years) (Iannotta, 2010).

"According to KKR, the characteristics of an ideal LBO candidate are the following:

- **Financial characteristics:**
  - A history of demonstrated profitability and ability to maintain above average profit margins
  - Strong, predictable cash flows to service acquisition financing costs
  - Readily separable assets or businesses which could be available for sale if necessary

- **Business related characteristics:**
  - Strong management team
  - Well-known brand products and strong market position
  - Status as low-cost producer within the industry creating competitive advantage
  - Potential for real growth in the future
  - Not subject to prolonged cyclical swings
  - Products which are not subject to rapid technological change"

Source: (Herrera & Perez, 2020)

Exit Strategies

Searching for a profitable exit of the acquired target's assets and efficiently distributing the profits from it is a critical task of the fund. This process is normally carried out between 3 and 7 years after the investment, having the following exit options as the most common and widely used ones:

- **Sale to a strategic buyer:** Normally carried out in full, it usually includes a premium on the price given that the buyer can benefit from synergies, and it is paid in cash.
- **Sale to another PE fund (called Secondary LBO):** This is a good alternative to keep a target until they can find an alternative exit. However, in this case the buyers are more sophisticated and hence more demanding.
- **IPO:** This option is normally preferred by the management as it has potential for higher returns and gives access to liquidity in the future. The disadvantages of an IPO include the lock-up period, the macroeconomic risks and uncertainty of the future returns.

In the healthcare industry in specific, the global exits reached a record in 2021 with 244 deals, more than doubling the disclosed value of 2020, reaching $179.3bn. In terms of the exit type, in 2021 the fastest growing one was private equity sponsor to strategic buyer, accounting for more than half of exits, as shown in Figure 12.

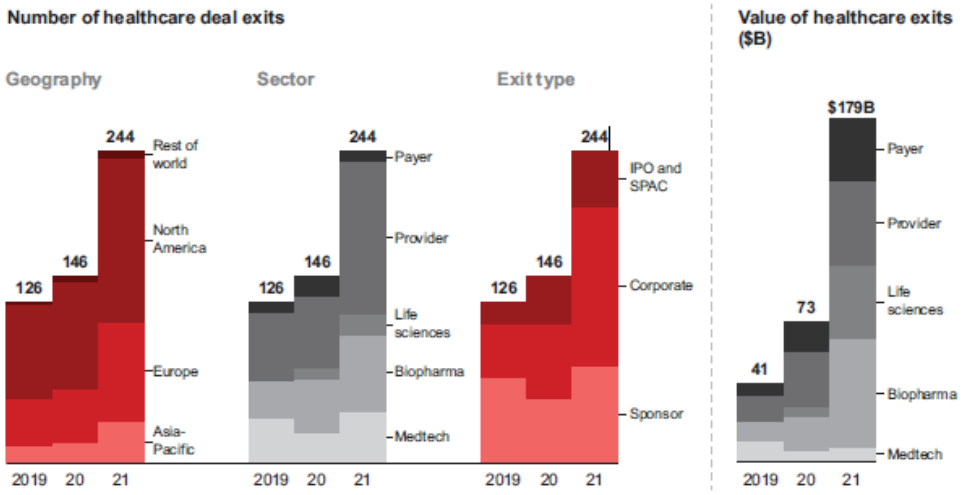

Figure 12. Number of healthcare deal exits between 2019 and 2021. Source: Bain Capital

Going into detail in the activity per region, North America accounts for most of the exits, although its share went down from 58% in 2020 to 53% in 2021. Asia-Pacific was the region that grew faster, driven by sponsor to corporate buyer exits, which went up from 6 to 22 in 2021. In Europe, there was also significant growth, almost doubling the number of exits from 2020 to 2021, and in this case dominated by sponsor to corporate buyer exits too.

Sector wise, the healthcare providers have the biggest share of the exits, with both number of exits and disclosed deal value higher than in 2020. Biopharma deal count increased from 42 to 60 in 2021, and the disclosed value more than tripled.

Medtech deal volume and disclosed value went up too, and sponsor to strategic buyer exists more than doubled from the previous year. Life sciences sector had more exits and one huge deal in 2021, while healthcare payers saw their exit transactions go down from 15 to 8 in 2021. The disclosed deal value skyrocketed from $15.3bn to $31.9bn, with one big exit strategy of Blackstone, selling Change Healthcare to a strategic buyer for $13bn.

The median holding period for healthcare assets is presented in Figure 13, and it was 4.5 years in 2021, having a favourable exit environment given the high valuations and the existence of large pools of capital.

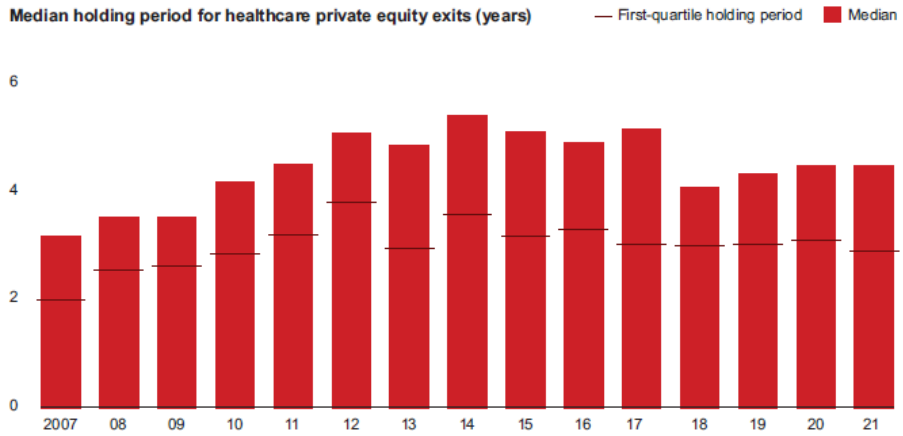

Figure 13. Median holding period for healthcare private equity exits (in years). Source: Bain Capital, 2022

d. PE in the healthcare industry

Current Overview

Over the last years, private equity has shown a strong interest for the healthcare industry given the strong performance and recession-resistant return profile during and after the Covid-19 crisis. The investments in this sector have increased dramatically in the past two decades. New sources of capital such as infrastructure funds, more and larger growth-equity and crossover funds have been attracted by the industry, intensifying competition for the high-quality assets in healthcare.

The healthcare private equity market had a record year in terms of deal volume (36% increase compared to 2020) and disclosed value (134% increase with 5 buyouts greater than $5bn) in 2021. The companies in this sector profited from the aging population, an increase incidence of chronic illnesses, digital innovations, a rise in income levels and healthcare access in emerging markets have boosted the demand for healthcare goods and services.

The rise in deal volume and value in 2021 was partly due to the backlog of parked deals during the pandemic, but also because of the return of megadeals such as the $34bn Medline deal and

the $17bn acquisition of Athenahealth (Company, 2022). Investors rallied again to find value and gain confidence in assets that are related to treatment and detection of Covid-19 as well as in the pharma sector, which can improve the pandemic consequences.

In 2021, a record number of 358 healthcare-focused funds have been created, raising roughly $93bn.

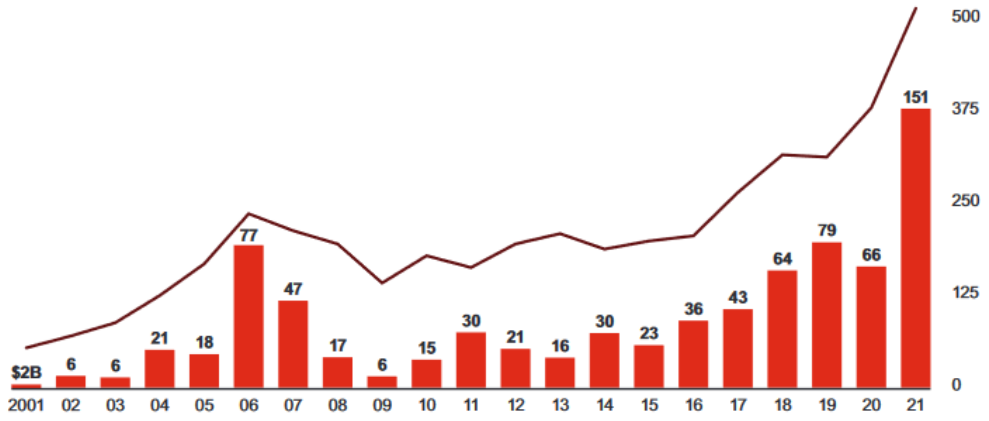

Figure 14. Global healthcare deal value in $B between 2001 and 2021. Source: Dealogic, Bain Capital, 2022

All the healthcare sectors rose in deal volume and value during 2021, being the provider sector the biggest proportion in both. Medtech volume and value skyrocketed after the largest deal in healthcare buyout history, and healthcare payers was the one that presented the slowest growth in terms of deal volume. The breakdown of healthcare deals by sector is shown in the following figure:

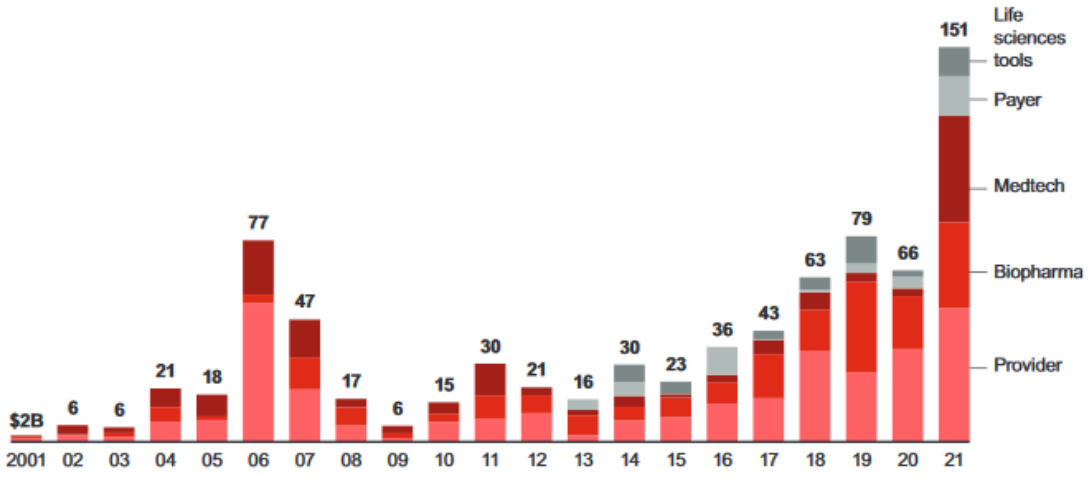

Figure 15. Global healthcare buyout deal value in $B by sector. Source: Dealogic, Bain Capital, 2022

Investments have also accelerated over time. Most of PE investments in healthcare (70% to be precise) have happened since 2010 (Appelbaum & Batt, 2020). The trend is likely to continue according to an expert in healthcare financial advisory services, Greg Koonesman: “Back in the

early 1990s, there were only a handful of private equity firms actively seeking healthcare services investments. But fast forward to 2019, and just about every one of the 4,000 private equity firms has an interest in healthcare services. Healthcare is approaching 20 percent of the gross domestic product and given the fragmented nature of many verticals, it is a very attractive market".

The interest in healthcare industry has increased significantly in the PE sector, and it is also evident from a PE industry association point of view, where the Healthcare Private Equity Association (HCPEA) has been formed specifically to advance investments in the sector, as well as to give professional development opportunities, hold conferences and events and to educate members on regulatory issues. In 2019, the association's 74 members had more than $2tr in assets under management, which involved 1,500 healthcare businesses (Appelbaum & Batt, 2020).

Returns and Multiples

According to DealEdge, healthcare deal value in 2021 has been mainly driven by revenue and multiple growth, while having a smaller margin expansion, still in line with the rest of the industries. The median compound annual growth rate (CAGR) is 11.1% while all other industries had a CAGR of 7.6%. This indicates that revenue growth is critical for value creation in healthcare deals since companies in this sector have benefited from geographic expansion and advanced technologies as new revenue streams. Multiple growth, however, is harder to achieve in the future given that valuations are going up.

In the last 10 years, the median internal rate of return in healthcare private equity deals outperformed the rest of the industries by 6%. The write-off for healthcare deals in 2021 was just 2.9%, showing less downside risk if we compared to a 4.6% for all other industries.

As shown in Figure 16, both top and bottom quartiles in healthcare have beaten other industries. The returns have been consistent over time, with less volatility than for example, the technology industry.

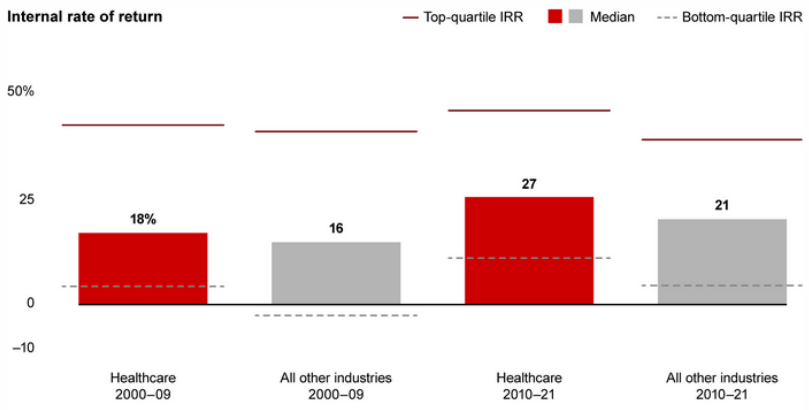

Figure 16. Internal rate of return (IRR) in healthcare and other industries. Source: DealEdge, Bain Capital, 2022

The median multiple on invested capital (MOIC) in the healthcare industry was the second highest during 2009-21, only beaten by the Tech sector, and increased a 10% compared to the 2002-08 period, as shown in Figure 17.

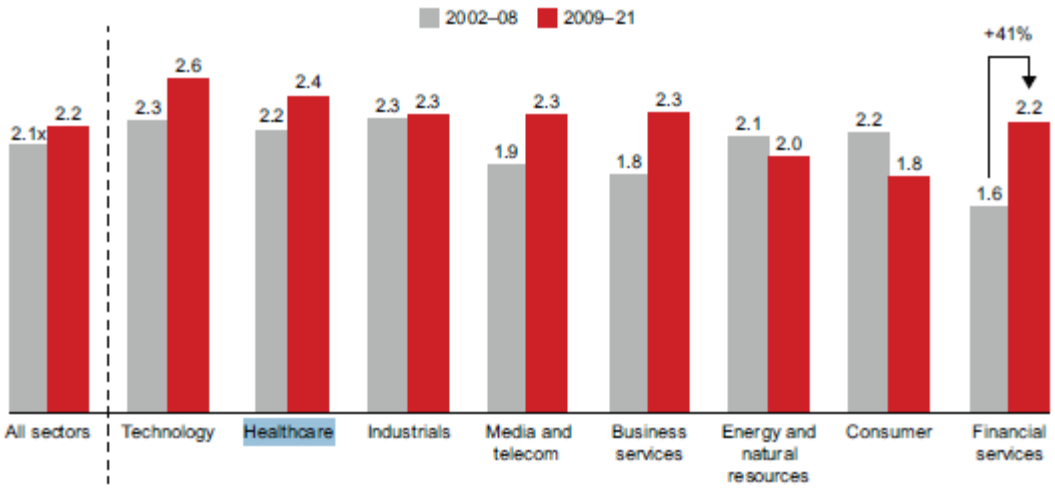

Figure 17. Median multiple on invested capital (MOIC) by investment year across industries. Source Bain Capital, 2022

3. Value creation through LBOs

a. Value generation drivers in LBOs

Value generation in leverage buyout transaction has normally been analysed from the equity investor point of view. The equity value of a business can be separated in 4 main aspects: valuation multiple, revenues, margin and net debt, resulting in the following mathematical equation:

$$Equity\ Value = Valuation\ Multiple \cdot Revenues \cdot Margin - Net\ Debt$$

The main drivers of value generation can be split in two groups following the approach in (Berg & Gottschalg, 2003) : the first one is referred to as *"value capturing"*, it is represented by the valuation multiple in the equation above and it is linked to the changes in the valuation of the business, which are partially but not only influenced by the changes in the financial performance). The factors embedded in value capturing do not have a direct impact on the financial performance, but they influence the valuation of a company.

The second one is known as *"value creation"*, and it focuses on the fundamental change in the financial performance of the target company. This change normally comes from improvements in

the operating performance, a decrease of cost of capital, or a reduction in the capital requirements. These changes can impact the Revenues, Margin or Net Debt in the equation.

Value Capturing

- **Financial Arbitrage:** Also known as multiple expansion, is referred to "the ability to obtain returns from differences in the valuation applied to a company between acquisitions and divestment independent of changes in the underlying financial performance of the business" (Berg & Gottschalg, 2003).

  Financial arbitrage based on market valuation multiples for comparable companies, private information about a company or differences in future financial performance expectations of a business or industry are considered as sources of value generation in leveraged buyouts. According to (Evander & MacArthur, 2022), in both 2010-15 and 2015-21 periods, multiple expansion has been the largest contributor to private equity returns, becoming even more pronounced over the last five years.

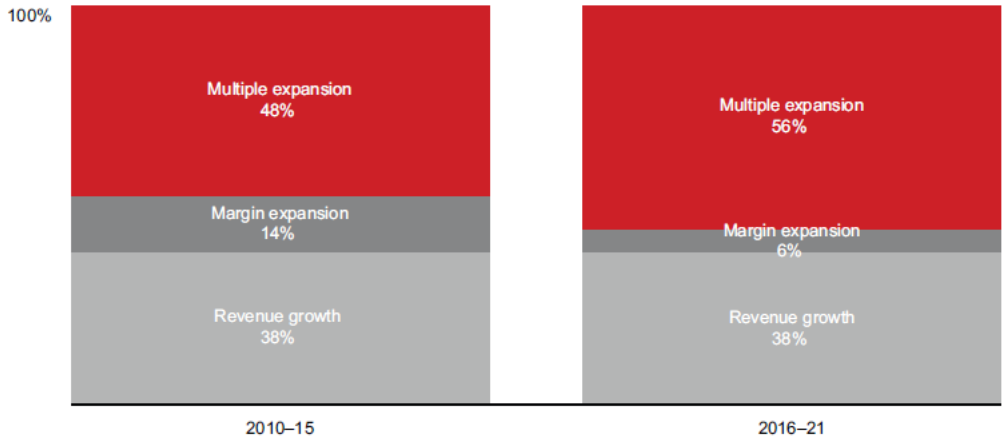

Figure 18. Median value creation by year of exit in buyout deals. Source: Bain Capital, 2022

Value Creation

- **Financial Engineering:** "The optimisation of capital structure and minimization of after-tax cost of capital of the portfolio company" (Berg & Gottschalg, 2003).
  Private equity managers in charge of a buyout assist the company's management in the negotiation of bank loans, IPOs and stock sales and take advantage of their contacts in the financial industry to obtain better terms from lenders.
  Moreover, corporate tax savings are obtained given that there is an increase on debt levels, leading to high tax-deductible interest payments. This is identified as an important source of value creation in LBOs.

Financial engineering directly impacts the bottom line of a company's portfolio, where the expertise and reputation of the equity investors play a very important role specially in the reduction of the cost of capital.

- **Operational Engineering:** This part focuses on improving operating margins and cash flows, i.e., on the left side of the balance sheet.
  It is obtained by making the operations more efficient and enhancing the productivity. It is closely related to how available resources can be given a better use by configurating them differently, and this mainly leads to cost-cutting, and margin improvements on the one hand, and a reduction of capital requirements on the other.
  Cost-cutting and margin improvements are obtained by changing the organization and management of operations, and it starts after the acquisition by controlling the corporate spending as well as creating cost reduction programs.
  Capital requirements are reduced by using the corporate assets more efficiently, i.e., improving the management of working capital, were inventories and accounts receivables are closely supervised and managed. Capital expenditure is also more strict and unnecessary assets are divested, leading to a consolidation of production facilities and increase in operational performance (Berg & Gottschalg, 2003).

- **Corporate Governance:** The portfolio of the company is refocused after the reduction of activities and the selling of unnecessary/inefficient subsidiaries. Furthermore, the allocation of resources in different projects makes sure that competitive advantage is maintained over time. There are to main types of governance levers: (a) agency cost reduction, (b) mentoring.
  Although agency cost reduction has no direct effect to the bottom line, it leads to an improved operating performance of the firm and supports value creation. It can be obtained through two sub-drivers. The first one is that the high amounts of debt used to finance the deal forces management to avoid default by limiting the waste of free cash flow and limiting the non-value maximizing behaviour, since bankruptcy is very costly for managers risking a loss of their reputation.
  Financial lenders have also more incentives to monitor management to make sure that debt is properly repaid, having debt covenants and repayment conditions serving as operating budget for the target company.
  Secondly, the alignment between shareholders and managers increases, and it is known as the "carrot" and "stick" mechanism. The carrot is basically the incentives provided by buyouts to align all parties' interests, encouraging managers to increase their share in

equity ownership (the stick), which provides the sufficient motivation to the management to protect their position.

b. How value creation is measured and shared in LBOs

This section aims to present metrics to measure the value creation at the end of an investment, and more importantly how to assign and distribute the total value to each of the sources of the LBO investment. This will later be used in the Alliance Boots – KKR case study.

The value created is shared by three parties: The firm, the shareholders, and the debtholders. The difference between the return obtained and the cost incurred by each party is what has been considered value creation in this case.

The firm

At the firm level, the most accepted way of measuring value created is the spread between the ROCE and the WACC of the company, where value is created if this difference is positive, while it is destroyed if negative. The rationale behind is that for a company to create value, the return must be greater than the cost of doing business. The WACC measures the cost of capturing the capital and the ROCE measures the operational profit the company can extract from its investment in the assets with the capital that has been provided by different parties.

$$ROCE = \frac{NOPAT}{Capital\ Employed}$$

$$WACC = k_e \cdot \frac{E}{E+D} + k_d \cdot (1-t) \cdot \frac{D}{D+E}$$

This approach is simple but contains some minimal errors. First of all, since the ROCE only relies on the accounting return on all the capital, it can be easily manipulated to the most convenient way for the company. Moreover, it does not measure the capacity of cash flow generation of the assets. On the other hand, the fact that WACC is not a dynamic measure of the cost of capital, complicates the reflection of capital structure changes that an LBO faces from entry to exit.

One alternative to the ROCE-WACC spread is to use the EVA (Economic Value Added) to measure the firm value. This method is very similar to the one just explained, but in this case the ROCE-WACC spread is multiplied by the capital employed:

$$EVA = (ROCE - WACC) \cdot Capital\ Employed$$

The EVA is also sensitive to subjective assumptions given that when the WACC is computed, the company's debt and equity risk depends on the market's perception. Hence, it is logical to look

for a metric that measures the value of the firm only looking at the entry purchase price and the exit price of the company's assets (also known as the enterprise value). This is the third alternative to measure the company's value, an intrinsic measurement of the value creation using both the ROCE and the WACC.

The shareholders – PE fund

The return for shareholders is measured from an equity point of view. Even if one tool that could be used is to compare the Return on Equity (ROE) with the cost of equity, this is not widely used in the private equity industry. The most used ones are the Internal Rate of Return (IRR) and the Cash-on-Cash multiple (CoC).

$$ROE = \frac{Net\ Profit}{Equity}$$

The IRR corresponds to the rate of return that makes the NPV of the total cash flows zero, while the CoC multiple does not take into account the time-value of the investment and is calculated as the division of the equity you receive and the one initially injected in the fund. Given that the CoC multiple is seen simply as a tool for presenting the results, the IRR is the most popular and important indicator.

$$IRR = \sum_{i=0}^{n} \frac{CF_i}{(1+IRR)i} = 0, \quad CoC = \frac{Final\ Equity\ Value}{Initial\ Equity\ Value}$$

However, even if the IRR is the most used metric, it presents some problems:

- It cannot be compared to any opportunity cost measure such as the cost of capital, hence it is not good enough as a proxy for value creation
- Each fund can use different computations when aggregating the performance of the target companies, which makes the IRR controversial and may conflict with the Net Present Value criteria
- It assumes a constant discount rate throughout the entire holding period, which is not realistic

Among all the possible alternatives to measure value creation and performance, the most used ones are: the *IRR*, *CoC* and *Times Money (TM).* In order to study the effects of value creation and the final returns of Alliance Boots' LBO to KKR and Stefano Pessina, the TM will be used in the case study, following the decomposition presented in (Benjamin Puche, Reiner Braun, 2015).

The paper presents a methodology that separates the total value created in four components: (i) leverage contribution, (ii) operating cash-flow increase, (iii) transaction multiple growth and (iv) Free Cash Flow (FCF) effect estimated by the reduction of net debt during the holding period.

The value created by the leverage effect is calculated with the unlevered Times Money formula:

$$TM_U = \frac{TM_L + r_D \cdot (\frac{D}{E})}{1 + \frac{D}{E}}$$

The rest of the value created is divided into the following effects:

- **EBITDA impact:** This metric measures the value creation that can be attributed to the operational improvements in the holding period. The EBITDA is used as a proxy for operating cash flows and gives a measure of the performance of the enterprise although it does not differentiate the improvements attributable to a company and the ones obtained by the industry in general. It is calculated multiplying the change in EBITDA by the entry EV/EBITDA multiple and divided by the Net Capital Gains.

- **Multiple impact:** This measures the value creation attributable to the increase in the EV/EBITDA multiple between the entry and the exit, and it is calculated by multiplying the change in the multiple by the entry EBITDA and then divided by the Net Capital Gains.

- **Combo Effect:** It aggregates both EV/EBITDA multiple and EBITDA effects between entry and exit. It is calculated by multiplying the difference in EBITDA and Multiple and then divided by the Net Capital Gains.

- **FCF Effect:** This measurement captures the value creation due to the net debt reduction during the holding period. In LBOs, changes in net debt are relevant given that cash flow from operations is used to repay debt. The downside of this approach is that it does not directly quantify the impact of financial leverage on investment returns and gives no insight about the underlying sources and uses of cash during the holding period.

The debtholders (or creditors)

Last but not least, in the case of the creditors, the value creation is a straightforward calculation, and it can be computed as the difference between the return on debt (ROD) and the cost of debt (COD).

The return on debt for the bank is equivalent to the cost of debt for the target company, already mentioned in the firm value creation section above. The cost of debt for the bank, however, equals

the risk-free rate plus the credit default spread (CDS) of the sector in which the company aims to locate the debt.

c. Value creation in the healthcare industry

Despite the increasingly higher entry multiples in the healthcare industry, there has been a continuous multiple expansion during the last 10 years. The margin expansion has been the smallest contribution to the value creation, with only a 2% of the total value, and it is consistent with other industries. In the future, multiple growth could be more difficult to achieve given that valuations are continuing to increase, and it seems like the trend may continue like that.

The median CAGR in healthcare is 11.1%, compared with a 7.6% for the rest of the industries. This indicates that revenue growth is a very important part of value creation in healthcare deals, since companies in this specific industry are expanding geographically, using new technologies and innovation, and hence getting new revenue streams.

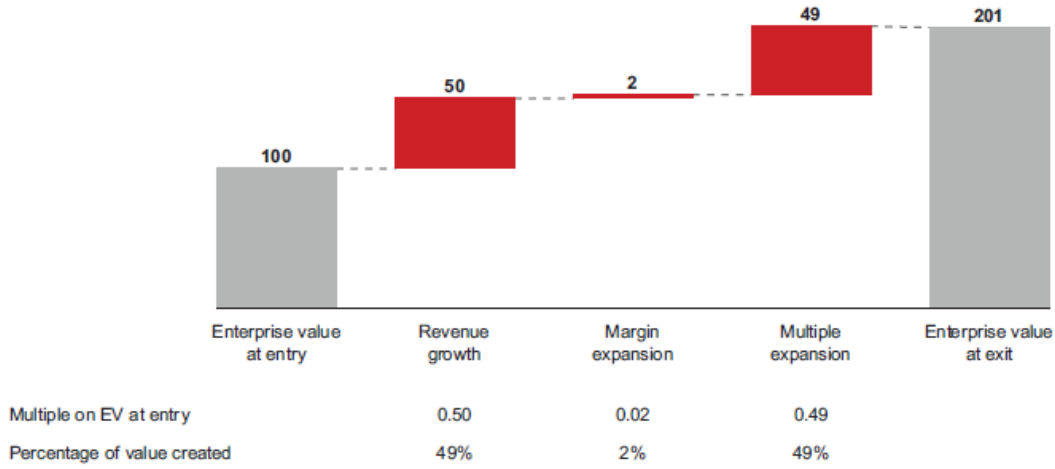

Figure 19. Healthcare median value creation between entry years 2010-2021. Source: DealEdge, Bain Capital, 2022

SECTION II: THE ALLIANCE BOOTS CASE STUDY

This section is dedicated to the analysis of the Alliance Boots acquisition by KKR and Stefano Pessina and the analysis of a real example to apply the value creation framework presented in Section I. The investment started in 2008 and was exited in 2015, with a merger with Walgreens.

In the first part, Alliance Boots company will be introduced, including its history and timeline, which will be followed by an analysis of the key financials and risks at a pre-LBO level. After that, an LBO analysis is performed aiming to replicate the expected returns obtained by KKR and Stefano Pessina at the time of the acquisition.

In addition to the pre-LBO and holding period financial analysis, Section II focuses on the in-depth analysis of the value created to the stakeholders involved in the buyout, under some assumptions and limitations.

The last part of Section II includes the breakdown of the value creation of the buyout, which is the main goal of this thesis. This part is complemented with the presentation of the different value-creation metrics and drivers and their impact on this specific case study.

4. Overview and history of Alliance Boots

Alliance Boots is a multinational company, operating in the pharmaceutical, health and beauty industries and headquartered in the United Kingdom. The company was formed in 2006, after the Alliance UniChem and Boots Group merger. In order to better understand the timeline of this company, each of them will be introduced shortly.

The Boots Group

Boots, was funded in 1849 when John Boot opened the first store in Nottingham, selling herbal remedies. It was a health and beauty company operating in the retail and manufacturing sectors. Its retail side included 2,300 community pharmacies and health and beauty stores in the UK and 400 international pharmacies in 17 countries with an aggregate selling area of approximately 680,000 square metres.

By the end of fiscal year 2006, it operated in three main businesses: health and beauty retail in the UK and the Republic of Ireland, opticians in the UK, and retail international. Its UK revenues accounted for 86% of the total revenues. Until 2006 it also had an additional business unit, Boots Healthcare International, which was responsible for the manufacturing process, but it was sold in early 2006 when The Boots Group entered the final phase of a four-year growth plan.

For the year ended March 31st, 2006 (fiscal year 2005), The Boots Group presented £5,027m of revenues and an operating profit of continuous operations of £369m.[1]

Alliance UniChem

Alliance UniChem was a leading European retail pharmacy group founded in 1997 after the merger of UniChem and Alliance Santé. The indirect owner of Alliance Santé, who owned 30% of the shares and was responsible for its strategic development, was Stefano Pessina, and he was also the CEO of Alliance Unichem for 3 years, until 2004, when he was appointed Executive Deputy Chairman. The merger between Alliance Santé and Unichem granted him a seat on the Board of Directors of the newly merged firm.

The company operated as a wholesaler and retailer of pharmaceutical, medical and healthcare products and distributed medicines to pharmacies and hospitals. Alliance UniChem distributed to 125,000 pharmacies, hospitals, and health centres in 14 countries, although their largest operations took place in France and the UK. By the end of 2005, it reported £9,171m of revenues and an operating profit of £261m.[2]

[1] Alliance Unichem – The Boots Group, Prospectus.
[2] Alliance Unichem – The Boots Group, Prospectus.

Alliance Unichem and The Boots Group Merger: Alliance Boots

On October 3rd, 2005, both companies' Boards of Directors agreed on the merger of the two companies, resulting in the foundation of Alliance Boots. This merger was completed on July 31st 2006, and each share of Alliance Unichem was cancelled with its shareholders receiving 1.332 shares of Boots for each Alliance Unichem share, effectively combining the firm valued at £8,564m. Hence, Alliance Unichem became a wholly owned subsidiary of The Boots Group, changing its name to Alliance Boots. Stefano Pessina's stake in the firm was diluted to a 15.05% of the new company.

The company formed after the merger was listed on the London Stock Exchange as Alliance Boots plc and was present in over 27 countries.

In the wholesale industry It owned 3,100 outlets, from which 2,800 contained a pharmacy, and a wholesale network of approximately 380 depots serving in 120,000 outlets. The merger helped Alliance Boots implement an expansion plan and invested in established and new regions that appeared to have growth potential.

The retail business part accounted for 45% of the company's revenues and contained more than 2,500 in the UK as well as 550 pharmacies in Ireland, Norway, Netherlands, Russia, Italy, Thailand, and Switzerland.

By the end of fiscal year 2006, Alliance Boots had £14,608m revenues and £518m profits before interests and taxes, expecting to strongly grow in the future.[3]

The timeline of both Alliance and The Boots Group since 1960 is shown in Figure 20.

[3] Alliance Unichem – The Boots Group, Prospectus.

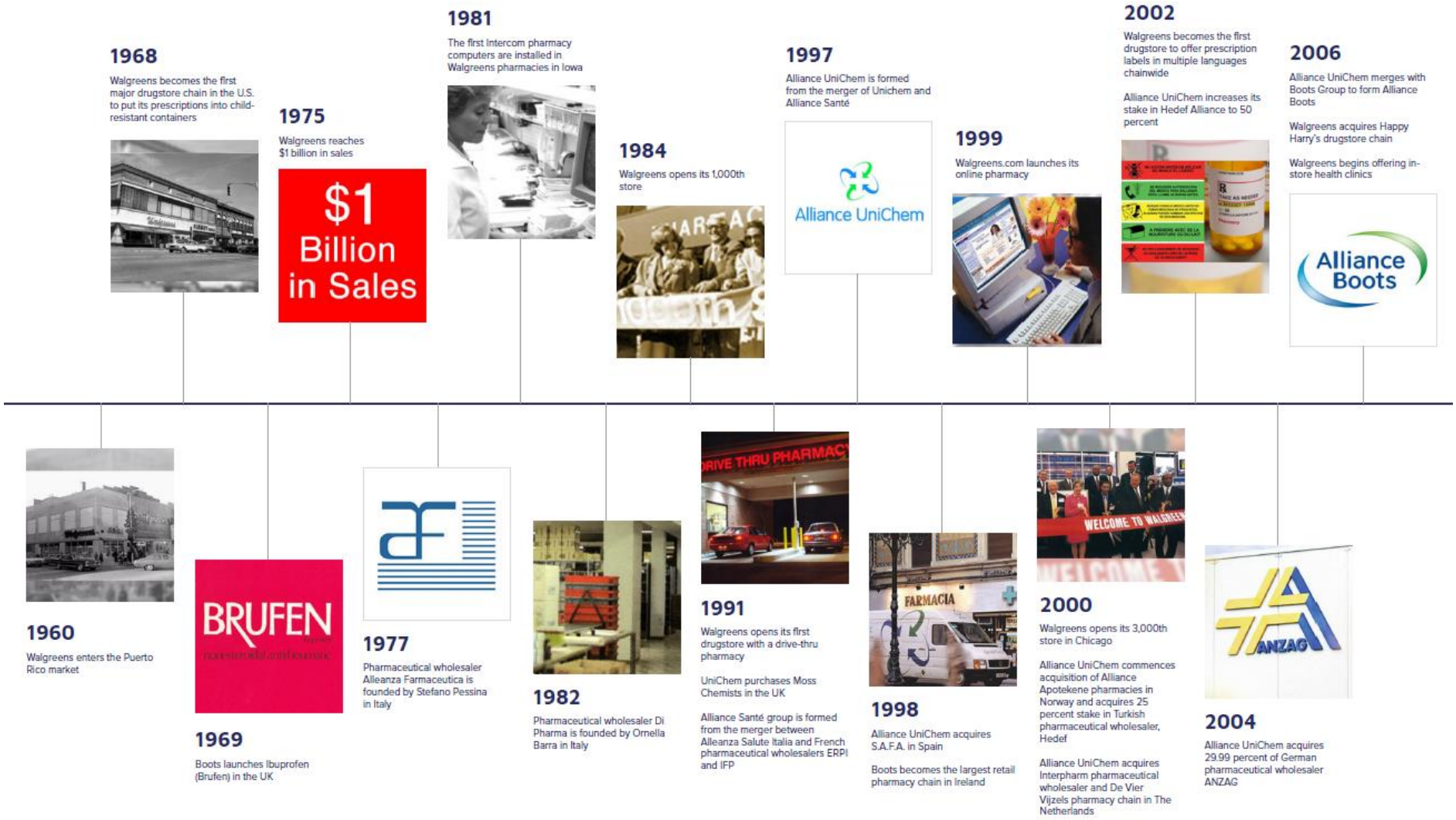

Figure 20. Timeline of Alliance Boots since 1960. Source: Company website

Alliance Boots – A good LBO candidate?

The assessment of Alliance Boots as an LBO candidate considering the market and industry is an essential first step towards the analysis of the case.

The main characteristics of the firm that made it a good LBO candidate are the following:

- **Stable cash-flow generation:** Strong and stable cash-flow generation implies that the company can successfully survive under high levels of debt in good conditions. Alliance Boots showed a stable cash-flow generation in the years prior to the LBO, as presented in Figure 23.

- **Cyclicality:** Private equities prefer non-cyclical industries for leveraged buyouts since the dependence on external factors makes it more difficult to control a firm's operations. The pharmaceutical industry is non-cyclical, which makes Alliance Boots a good candidate for an LBO in this sense.

- **Leading market position:** The Alliance Boots merger in 2006 was intended to become the world's leading pharmacy, health and beauty company. In 2007, Alliance Boots was already one of the largest pharmacy chains in Europe, as well as leaders in the distribution side. The fact that the market was consolidating enabled the firm to grow through the merger and to further improve their position in the market.

- **Growth opportunities:** The pharmaceutical industry had good promising future prospects including potential to grow due to the aging population increase, accelerated market consolidation and its market growth rate. Moreover, Alliance Boots counted with several internal factors such as potential for international expansion, optimization of operations through technology, development of the role of pharmacists and efficiency improvements that could lead to growth.

- **Efficiency improvement opportunities:** The operational costs could be decreased after the merger by leveraging a reduction in administrative costs, consolidation of distribution channels and economies of scale as well as relocating and opening new stores.

- **Strong management team:** The top management of Alliance Boots counted with experienced professionals in the industry. Each of them had at least 2 years of experience and all of them were part of one of the pre-merger companies.

- **Strong asset base:** Having a strong asset base is important for private equities to use them as collateral given the big amounts of debt used in leveraged buyouts. Even if there is not enough information to assess the quality of Alliance Boots' assets, their value in can be inferred from their financial statements. The Boots Group had £1,268m in PP&E in 2006 and Alliance Unichem had £350m in 2005. [4]

- **Vertically integrated company:** Alliance Boots was a vertically integrated company, controlling the supply chain, its distribution channels and being able to obtain better margins and ensure the quality of its products. This allowed the company to deliver more value to its shareholders.

- **Exposure:** Stefano Pessina owned 15.05% of Alliance Boots' shares and he was willing to be more exposed to the firm since he strongly believed that the firm could create even more shareholder value. If he could join forces with KKR and get a 50% of the firm, he would be able to realize a much higher return if his growth expectations about the company were fulfilled.

5. Pre-LBO Analysis

a. Industry analysis at the LBO time

The pharmaceutical industry had experienced a strong market consolidation during the last years, with big players growing through acquisitions to be able to keep up with consumer trend changes as well as to keep R&D expenses controlled. However, since 2005, the retail and wholesale subsectors had not been growing as fast as expected given the pressure from regulators and governments, which had been requesting a decrease of the prices. But the there was an expectation of the industry to grow given the increased demand that arrived for beauty and health products, and there was a bigger focus on personal well-being as well as personal care awareness and other trends.

There were several factors contributing to the future of the industry and its growth. The first one was the growth in the world population, which was expected to increase by more than 1% annually driven by emerging markets (Quintiles IMS, 2016), the second one was the increase in life

[4] Alliance Unichem – The Boots Group, Prospectus.

expectancy, resulting in an increase of the demand for healthcare products and services, so as a consequence, 75% of all pharmaceutical sales were aimed for people over 65 years old.

Apart from these two factors, there were others that affected the future growth of the industry:

I. **Pharmacists:** The role of pharmacists in Europe had a big influence on the sales of medicines over the counter (OTC) since they were seen as healthcare advisers in Europe. Hence, there was a big opportunity to improve this role and provide a broader range of services if the importance of personal care and well-being was increased.

II. **Market consolidation:** There was an expectation for the pharmaceutical wholesaling market to consolidate given that regulatory changes could increase the pressure on smaller players.

III. **Pharmaceutical market:** The pharmaceutical market was expected to grow by more than 6% per year in the 4 years ahead given the consumer behaviour trends, which would result in an increase of sales (Quintiles IMS, 2016).

IV. **Rise of generics:** The rise in the demand for pharmaceutical products pushed the government to decrease the price in medicines and drugs, increasing generic drugs' penetration. This made the margins go down, being the drug manufacturers the more impacted ones.

V. **Growth in the demand for direct distributions:** Because of the increased generic drugs' penetration and the regulatory constraints, pharmaceutical manufacturers were expected to sell directly to pharmacies instead of using wholesalers as intermediaries.

VI. **Health expenditure:** The healthcare expenditure between 2001 and 2003 as a percentage of GDP in OECD countries increased from 8.5% to 9%. Between 2003 and 2005, however, the expenditure increased less than 0.1%. The deacceleration of expenditure was expected to continue given that prices in the industry had gone down.[5]

b. Key Financials of Alliance Boots

In 2007, Alliance Boots had revenues of £11,502m, an EBITDA of £836.3m and an EBITDA margin of 7.3%. Within divisions, the Wholesale division accounts for the biggest portion of the total revenues, with a 58%, while the rest is part of the retail division. Geographically, UK

[5] OECD Health Data, 2007.

represents more than half of the sales and the rest are spread in Europe (France, The Netherlands, Norway, Czech Republic, Italy, Spain, etc.).

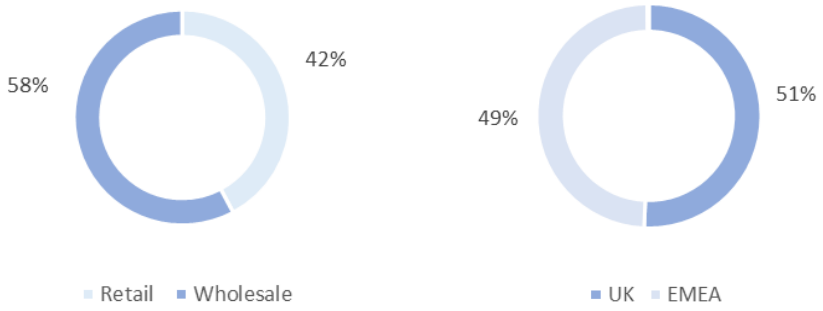

Figure 21. Left: Total revenue breakdown by division. Right: Total revenue breakdown by geography. Source: Company data

Regarding the UK sales, which as mentioned above represent 51% of the total value, these are divided into 3 main product categories: health, comprising the healthcare sub-categories, accounts for a 52% of the total UK sales, while the beauty & toiletries, comprising cosmetics, fragrances and toiletries sub-categories has a total portion of 29% followed by Lifestyle products, comprising baby, nutrition, photography, electrical, seasonal and other lifestyle sub-categories with a 19% of the total sales.

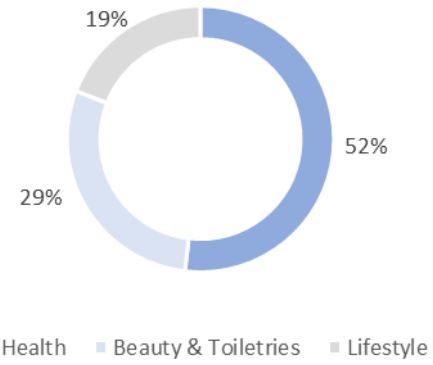

Figure 22. UK revenue breakdown by product category. Source: Company data

It is important to point out that in 2007, Alliance Unichem was merged with The Boots Group, and this had a significant impact on the financials, as it can be observed in Figure 23. The c.128.8% growth in revenues between 2006 and 2007 was driven by this merger as well as the increase in the gross profit, EBITDA and EBIT.

Regarding the investment part, Working Capital Requirements had a decreasing trend until the merger in 2007, although they were not significantly high relative to the sales and the ratio was relatively constant during the whole analysed period (~10%).

Finally, the leverage ratio of the company makes it attractive for the consortium formed by KKR and Mr. Pessina even if it went up to 1.2x after the merger, since LBOs always require raising big amounts of debt in order to obtain the expected returns.

Boots Financial Analysis 2002-2007: pre-LBO period

(million £)

CAGR from	2002
CAGR to	2007

		Actuals						
Fiscal year		**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	*CAGR 2002-07*
Fiscal year end		*31/03/2002*	*31/03/2003*	*31/03/2004*	*31/03/2005*	*31/03/2006*	*31/03/2007*	
Tax rate	*30%*							
Revenue		5,328.3	5,320.3	5,325.0	4,935.5	5,027.4	11,502.0	16.6%
% Growth		-	*(0.2%)*	*0.1%*	*(7.3%)*	*1.9%*	*128.8%*	
Gross Profit		2,540.7	2,475.3	2,456.5	2,126.3	2,244.6	5,246.5	15.6%
% Gross Margin		*47.7%*	*46.5%*	*46.1%*	*43.1%*	*44.6%*	*45.6%*	
EBITDA		793.4	717.6	742.3	557.0	554.7	836.3	1.1%
EBITDA Growth		-	*(9.6%)*	*3.4%*	*(25.0%)*	*(0.4%)*	*50.8%*	
EBITDA Margin		*14.9%*	*13.5%*	*13.9%*	*11.3%*	*11.0%*	*7.3%*	
D&A		163.4	162.8	133.6	156.1	185.5	356.3	
% Margin		*3.1%*	*3.1%*	*2.5%*	*3.2%*	*3.7%*	*3.1%*	
EBIT		630.0	554.8	608.7	400.9	369.2	480.0	(5.3%)
% Margin		*11.8%*	*10.4%*	*11.4%*	*8.1%*	*7.3%*	*4.2%*	
CapEx		(109.9)	(27.2)	(44.6)	(266.4)	127.0	(195.0)	
% Revenue		*2.1%*	*0.5%*	*0.8%*	*5.4%*	*2.5%*	*1.7%*	
FCF		494.5	690.4	697.7	290.6	681.7	641.3	5.3%
Fixed Assets		1,727.7	1,516.5	1,499.4	1,452.4	1,267.9	1,671.0	
WCR		621.1	604.2	701.8	561.9	415.6	1,233.0	
Capital Employed		2,348.8	2,120.7	2,201.2	2,014.3	1,683.5	2,904.0	4.3%
Net Financial Debt		146.3	51.5	148.5	642.0	(98.2)	925.0	
Gearing = NFD / Equity		0.3x	0.2x	0.7x	3.0x	N/A	0.2x	
Leverage = NFD / EBITDA		0.2x	0.1x	0.2x	1.2x	N/A	1.1x	

Figure 23. Alliance Boots Pre-LBO financial analysis from 2002 to 2007. Source: Refinitiv and Company data

Overall, the sales increased with a CAGR of 16.6% between the years 2002 and 2007, as shown in Figure 24. As for the EBITDA margin, it presented a downward trend on the analysed period, shown in detail in Figure 24, going from 14.9% to 7.3% in 2007. The decrease in EBITDA Margin can be related to the fact that even if the pressure of governments and regulatory bodies started to be higher from 2007 onwards, there was already pressure to decrease the prices of drugs and hence the margins were starting to be strongly affected.

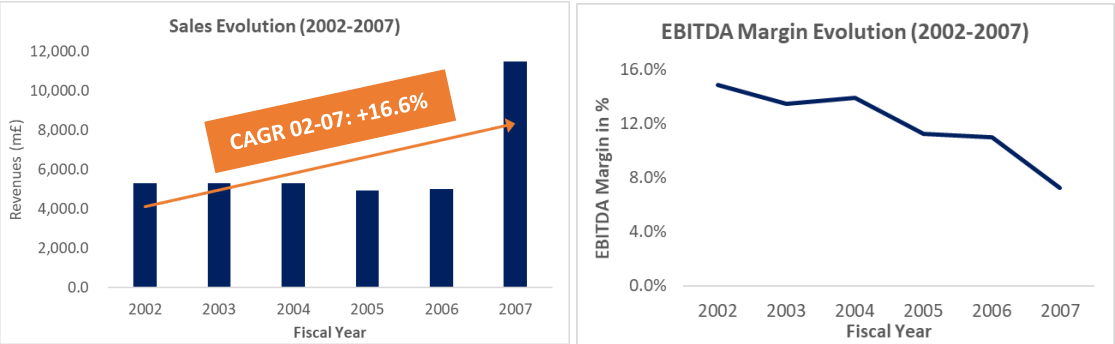

Figure 24. Left: Sales Evolution of Alliance Boots between 2002 and 2007. Right: EBITDA Margin evolution of Alliance Boots between 2002 and 2007. Source: Refinitiv

The leverage profile of Alliance Boots is high, as of 2007, the company has a Net Financial Debt of £925m, compared to a negative amount of £98.2m the previous year. The increase in leverage is due to the merger of Alliance Unichem and The Boots Group, which took place in 2006. In general terms, the leverage ratio has had an upward trend between 2002 and 2007, with both Net Financial Debt and EBITDA increasing (Figure 23). In addition to this, Alliance Boots' working capital requirement went up from £415.6m to £1,233m between 2006 and 2007 in order to be able to fund the high growth rate.

The sales evolution, together with the stable cash flows and the fact that it is not a cyclical company offers a good opportunity to the private equity consortium to take advantage of the leverage effect and operational improvements without exposing the company to excessive risk.

c. Sources and Uses

The sources and uses table presented below gives a detailed overview of the cost of the acquisition of Alliance Boots as well as the sources of financing used by the consortium formed by KKR and Stefano Pessina.

On the one hand, the equity value of the company is computed using the price per share paid by the consortium and found in press releases, which is multiplied by the number of shares outstanding at that time. The share price paid by the acquirers was 11.39£/share, which represents a 39.8% premium over the share price of March 8th, the date of the first bid. The resulting equity value considering the 968m shares outstanding is £11,025.52m, but it is necessary to add the Net Financial Debt at acquisition (£1,057m) as well as to take into account the minority interests and associates so that the Enterprise Value is calculated. On the uses side, the acquires had to consider also the fees paid to the advisors during the transaction, which are normally a 1% of the to the total Enterprise Value. The EV/EBITDA multiple paid on the acquisition was 14.45x,

significantly higher than the average in European transactions in 2007 (~10x according to the study in (Evander & MacArthur, 2022)).

On the other hand, the Sources to this acquisition counted with different debt tranches and equity. The debt portion represented a 74% of the total financing, while the equity portion represented the remaining 26%. The debt, as already mentioned, was obtained from different sources through the SPV and ordered by seniority. The acquisition by the consortium was backed by a £9.02bn financing that included a £5.05bn Term Loan B maturing in July 2015, a £1bn second-lien facility due 2016, and a £750m mezzanine piece due 2017, as well as a £1bn property bridge, a £400m receivables bridge, and an £820m Revolving Credit Facility (RCF), all due 2014.

The equity part included Stefano Pessina's, KKR's and other banks' contributions. Stefano Pessina paid £1bn, while KKR contributed with £1.04bn and the banks the remaining part (£1.14bn).

Sources: S&P Global, Refinitiv

Entry, Sources & Uses

(million £)

Company Financials 2007	
EBITDA	836.29
Net Financial Debt	1,057.00
Minority interests	-
Associates	-

Entry Assumptions	
Entry Year	2007
Assumed Entry Date	26/06/2007
Share price (£/share)	11.39
Total Ordinary shares (mm)	968.00
Total Equity Value	11,025.52
Total EV	**12,082.52**
Entry EV/EBITDA	**14.45x**
Acquisition fees	1%

Sources	
Term Loan B	5,050.00
Second-lien	1,000.00
Mezzanine	750.00
Property bridge	1,000.00
Receivables bridge	400.00
Revolving Credit Facility	820.00
Total Debt	**9,020.00**
KKR	1,040.00
Stefano Pessina	1,000.00
Banks	1,143.35
Total Equity	**3,183.35**
Total Sources	**12,203.35**

Uses	
Equity Value (100%)	11,025.52
Net Debt to refinance	1,057.00
Transaction fees	120.83
Total Uses	**12,203.35**

Figure 25. Sources and Uses of Alliance Boots – KKR & Stefano Pessina Acquisition. Source: Refinitiv, S&P Global

d. Risk factors

The most important risks that the investment consortium formed by KKR and Mr. Pessina should consider at investment date are the following:

Firm specific risks

- **Post-merger risks:** This is one of the major risks for Alliance Boots since between 66% and 75% of the M&A deals do not create value for the acquirers because of the failure in managing integration of both companies after the merger (Jamal & Soares De Pinho, 2018). Each company was a very big company with its own culture, mission and vision, and the poor management on integrating these two could result in the failure of the investment given its dependence on synergies.
- **Regulation risks:** The pharmaceutical industry is highly regulated, and it could suffer from tighter regulation, which could decrease the margins, the demand for direct distributions and consequently destroy value for the wholesale business side. Health expenditure was also expected to deaccelerate on the following years, and the rise on the use of generic medicines could hurt Alliance Boots.

LBO risks

- **Management risks:** LBOs are based on a massive expected performance improvement, and for this it is essential to have a management team which is solid and has a lot of expertise, experience and incentives to obtain the expected outcome at the beginning of the investment. In the case of Alliance Boots, the team's expertise and experience was undoubtedly good, but there is always a risk of misalignment of interests, and if this was not properly managed, the levels of productivity, the cash-flow generation and the returns could go down significantly, increasing the probability of shortage of cash to make the debt repayments.
- **Financial distress:** In an LBO, large amounts of debt are used to finance the acquisition, and if the operations performance is not aligned with the expectations, or because of an external macroeconomic factor that is not expected such as an economic recession, a pandemic, litigations, changes in regulation, etc., the probability of not being able to meet the debt obligations goes up, leading to a situation of default because the covenants are not respected, or there is a default on interest or principal payments.

6. Transaction Details

a. Deal rationale and initiation

As already explained in the company's overview, Alliance Boots was formed in 2006, after the merger of Alliance Unichem and The Boots Group. However, Stefano Pessina felt that in order to position itself as a pharmacy-led health, beauty and services-oriented business, the

synergies from the merger would have to be accelerated due to the structural changes in the pharmacy retail and wholesale markets in Europe.

The main reasons for KKR and Stefano Pessina to acquire Alliance Boots were the fact that the company was vertically integrated as well as a market leader in the UK pharmacy, health and beauty market, and a leading player in Europe wholesale market.

Both KKR and Mr. Pessina believed that there were growing opportunities, and that the operating margins could be further improved. Considering the firm's internal capabilities and the latest industry trends, they found it possible to internationalize the firm across different business areas.

With the aim of improving the top and bottom-line results and accelerate the integration of synergies, the actions that the consortium was planning to take regarding the retail business were the following:

- Expand the Boots brand and reinforce its position in the UK by leveraging the expertise and trust of its clients
- Use the same approach as in Boots pharmacy in other countries in Europe
- Optimize UK operations by opening and relocating stores
- Optimize and enhance the internet offering
- Develop the role of pharmacists to match the industry trend
- Grow through acquisitions in Europe trusting the consolidation trend felt in the market

On the wholesale business, the plan was the following:

- Develop new delivery contracts to avoid pharmaceutical manufacturers bypass
- Invest in generic drugs distribution so that economies of scale could be achieved by combining purchases
- Expand to new markets such as Asia and Latin America

The sale process started with KKR and Mr. Pessina on March 9th, 2007, announcing their intention to acquire 100% of Alliance Boots for £10 per share. In addition to this, they intended to acquire the firm's entire debt outstanding. For this to happen, KKR and Mr. Pessina created AB Acquisitions Holding, a structural vehicle controlled by KKR and Alliance Santé Participations, having 50% stake each.

The Bidders

KKR

KKR is a Private Equity firm founded in 1976 by three partners: Jerome Kohlberg Jr., Henry Kravis and George R.Roberts. The firm has $44.1bn assets under management and it is one of the largest private equity funds in the world. KKR is specialized in leveraged buyout transactions, with then of its private equity funds investing $30bn in more than 150 transactions by the year 2007. These ten funds generated a return of $74.4bn and 75% of it had been already distributed to investors in cash. Since it started operating, the firm has been part of several key transactions in the industry, earning the "Barbarians at the Gate" title after representing the biggest leveraged buyout in the history, the RJR Nabisco transaction in 1989.

KKR is one of the most experienced private equity firms, and it is known for its strategic and opportunistic mindset when playing with debt, as well as for its aggressive approach in the deal making process. The firm's main value drivers are the sourcing, selecting and due diligence process together with the team and investor base that they have. It is specialized in different industries across regions, such as Healthcare, Retail, Energy, Financial Services, TMT, Utilities and Business Services in Europe, where it has many active investments.

Between the years 1976 and 2007, KKR sponsored 14 private equity funds focused on large cap firms and with an aggregate committed capital value of $59.6bn. The funds invested at least for 30 months and returned a CoC of 2.7x and an IRR of 26.3%.[6]

Terra Firma Capital Partners

Terra Firma Capital Partners ("Terra Firma") is a private equity firm based in the UK and founded by Guy Hands in 1994. Previously it was part of the Japanese bank Nomura, and it was known as Nomura's Principal Finance Group. Until 2002, it had invested more than $20bn in leveraged buyouts, and in that same year it was spun out from Nomura. After that, it completed several takeovers, among which was the €735m WRG transaction, the leading waste disposal operator in the UK and the acquisition of Odeon and UCI.

Source: Terra Firma Website

The Bidding War: KKR vs Terra Firma

As mentioned above, the first proposal made on the March 9th, 2007 by KKR and Mr. Pessina was rejected by the Board of Directors of Alliance Boots, claiming that from a firm fundamental

[6] KKR & Co. L.P., Form S-1.

value and still to be integrated synergies' perspective, it did not compensate the firm's shareholders.

The second bid arrived on the 1st of April 2007, less than a month later, from Terra Firma together with The Wellcome Trust, a biomedical research charity, offering £10.85 per share in cash. This proposal made KKR accelerate the due diligence process and issue a letter to the Board of Directors of Alliance Boots reiterating their interest in acquiring the company for the same price they offered earlier.

Taking into consideration the fact that the Terra Firma's proposal was higher, the Board rejected KKR and Mr. Pessina's offer, and they decided to increase the price up to £10.90 per share in cash. The response to this second offer was Terra Firma announcing that the banking and insurance firm HBOS joined the consortium and offered £11.15 per share, clearly stating their willingness to acquire Alliance Boots.

With the intensifying of the negotiations, the shareholders of Alliance Boots benefited from the increased offers while hurting the investors backing each of the respective consortiums.

After Terra Firma's counteroffer, the consortium made of KKR and Mr. Pessina was in a particularly decisive situation, where they had to assess whether they would withdraw their previous proposal or improve it. In order to do that, it was essential to evaluate the feasibility of the investment and check if the premium offered was adequate. One of the most important factors to consider was if the price they could offer would enable KKR to exit in 5 years' time realizing a good enough return for their LPs, or if it would result in a disaster with lower returns than the industry threshold.

In the end, KKR and Mr. Pessina decided to improve their offer, finally agreeing on a £10.6bn offer to acquire Alliance Boots on the 20th of April 2007, making it Europe's biggest leveraged buyout at the time. The offer was 33.7% above Alliance Boots' closing share price on March 8, the day before they received the first bid from KKR and Mr. Pessina

Source: Reuters, New York Times

Figure 26. Bidders for Alliance Boots purchase

b. Exit – Merger with Walgreens

After 5 years of holding period, with the owners and management generating significant EBITDA growth and an high exit multiple taking into account that it was bought at an historical high (as many businesses were ion 2007), in 2012, KKR agreed a staggered exit with Walgreens, the largest drugstore chain in the United States, with over 12,800 stores in more than 25 countries and more than 340 pharmaceutical distribution centres.

The first step was announced in August 2012, with Walgreens acquiring 45% of Alliance boots for approximately £4.3bn in cash and stock (£2.58bn in cash and 83.4m shares of its common stock), with the option to buy the remaining 55% for approximately £6.13bn in cash and stock (£3.42bn in cash and 144.3m shares of stock).

The total exit was completed after three years, in 2015, with Walgreens acquiring the remaining 55% that it did not own previously, and the existing Walgreens shares were converted into shares in the new combined company, "Walgreens Boots Alliance, Inc".

Finding a strategic buyer rather than completing an IPO for an exit of this size was quite an achievement. According to Matthew Grinnell, head of financial sponsors group, EMEA, at Barclays, "In the case of mega buyouts, the contraction in the amount of available debt and equity (relative to 2007) means that a secondary is highly unlikely or impossible, and because of the sheer size, a strategic exit is limited to a very small number of potential buyers, so the IPO becomes almost a default route".

Sources: Walgreens Boots Alliance Website

7. Value Creation

a. Assumptions

The main objective of this thesis is to analyse the value creation and returns of the Alliance Boots LBO by KKR and Stefano Pessina. Hence, first the return to stakeholders is presented, followed by a detailed value creation analysis.

Value creation breakdown

- **Methodology:** As presented in Section I, the methodology followed to measure the value creation and divide it into different effects was the academic paper "International Evidence on Value Creation in Private Equity Transactions" written by Benjamin Puche, Reiner Braun and Ann-Kristin Achleitner. The paper contains all the necessary guidelines and calculations already explained in Section I, which will be replicated with the Alliance Boots LBO. The total value creation is presented as the Net Capital Gains by the article.
- **LBO Assumptions:** The value creation breakdown can only be calculated with exit inflows in one date. However, the exit of Alliance Boots was done via a merger with Walgreens, the largest drugstore chain in the United States, and it was completed in two phases: first, 45% of the stake was acquired by Walgreens in 2012, followed by the remaining 55% stake sold in 2015. In order to comply with the condition of only having one exit date, it was assumed that both inflows happened at the date of the first sale (in 2012).
    - **Holding Period:** The holding period was assumed to be 62 months or 5.17 years in total, in accordance with the explanation above. This can affect the TM calculations and the comparability of the results.
    - **Exit:** The exit data assumed for the value creation calculations was August 2012, hence the financial data used was that of fiscal year 2012 since Alliance Boots' fiscal year ends on the 31st of March and it was the closest financials to the exit date.

b. Return to stakeholders

As stated before, the equity value is composed by a subordinated loan and equity, where 20% of the latter is given to the management team. Private equity funds normally offer 10-20% of the firm's stake to management in exchange of 1-2 times its annual salary, so that incentives are aligned between the equity sponsors and the management team. Since the management team

has a stake of the firm, its payoff is dependant on the value created during the holding period. In Alliance Boots case, the management team owned less than 0.1% of the total shares.

The total transaction returns were calculated assuming an equity portion of £3,183.3m paid at acquisition and an exit equity value of £11,239.7m when sold to Walgreens in 2012. The results obtained are shown in Figure 27 and detailed calculations in Exhibit A4.

c. Expected Overall CoC	**3.5x**
c. Expected Overall IRR	**28.7%**

Figure 27. Overall IRR and CoC returns on Alliance Boots acquisition. Source: Own calculations

An IRR of 28.7% is above the median return that Private Equity firms obtained in healthcare deals during the years 2010-21 (c.27%), as shown in Figure 15. The value creation breakdown is presented in detail in the following section. The overall CoC multiple was 3.5x, considering both entry and exit equity values mentioned above, 1.1x points higher than the median CoC multiple in healthcare buyouts between 2010 and 2021 (Figure 17).

At a more specific level and under several assumptions made, the waterfall model shows the returns to the LPs and GPs of the KKR fund investment. An 8% hurdle rate and a carry of 20% were assumed in this case. Moreover, this part has also been computed assuming that the sale of Alliance Boots was done in one phase only, exiting in August 2012 and hence having 5.17 years of holding period, leading to more illustrative than accurate results. More detailed calculations are shown in Exhibit A4.

Assumptions	
KKR Equity	**1,040.0**
LPs commited %	*97.0%*
Amount LPs commited	**1,008.8**
GPs commited %	3.0%
Amount GPs commited	**31.2**
Management Fees % (yearly)	*2.0%*
Management Fees amount (yearly)	**20.8**
Hurdle Rate	*8.0%*
Carried Interest	*20.0%*
Years to exit	5 years

c. Expected LPs CoC	**2.9x**
c. Expected LPs IRR	**23.0%**

Distribution	
Total Distribution	**3,527.3**
Total Fees	*107.5*
Total LPs commited	*1,008.8*
Reimbursement of initial capital	*1,116.3*
Left to distribute	**2,411.0**
Hurdle rate profit	*492.6*
Left to distribute	**1,918.4**
Carried interest to GPs	123.1
Left to distribute	**1,795.3**
Distributed to LPs	1,436.2
Distributed to GPs	359.1

c. Expected GPs CoC	**15.5x**
c. Expected GPs IRR	**69.9%**

Figure 28. Waterfall distribution of KKR investment fund (£m). Source: Own calculations

In order to assess the performance of the investment, the Cost of Equity has been calculated and then compared to the IRR. The parameters used to calculate the Cost of Equity were the following:

- *Risk free rate:* The risk-free rate used in this case was the 5y one since the 10-year government bond was considered to be too long for an LBO investment. [7]
- *Equity Risk Premium:* A value of 6% was used for the Equity Risk Premium following similar analysis in the literature, and it was kept constant through all the holding period.
- *Unlevered Beta:* The unlevered beta was chosen to be sector specific and kept at 0.68 throughout the holding period. [8]

CoE Computation

	2008	2009	2010	2011	2012
rF (5y US Bond)	2.80%	2.20%	1.93%	1.52%	0.76%
ERP	6%	6%	6%	6%	6%
Unlevered Beta	0.68	0.68	0.68	0.68	0.68
Levered Beta	1.23	1.24	1.21	1.17	1.12
% Debt	44.7%	45.3%	43.6%	41.8%	39.3%
% Equity	55.3%	54.7%	56.4%	58.2%	60.7%
Cost of Equity	**10.2%**	**9.7%**	**9.2%**	**8.5%**	**7.5%**

Figure 29. Cost of Equity Calculation for Alliance Boots during holding period. Source: Own calculations

The IRR clearly outperformed the Cost of Equity meaning that the LBO was value-creating for the LPs.

Mr. Stefano Pessina, on his own, contributed on the equity side with £1bn at the time of the acquisition in 2007. Assuming, as done until now, that the exit was fully completed in 2012 and after the outstanding debt repayment, the IRR of his investment was 27.7%, a bit lower than the overall IRR, while the money multiple was 3.4x.

c. Expected Overall IRR Mr.Pessina	27.7%
c. Expected Overall CoC Mr.Pessina	3.4x

Figure 30. IRR and CoC returns to Mr. Pessina on Alliance Boots Acquisition. Source: Own calculations

c. Value creation breakdown

Finally, it is time to present the breakdown of value creation to the investors, following the methodology presented in Section I. The following figure presents the waterfall derived after computing all the necessary calculations. The results of the value created in the Alliance Boots

[7] https://www.macrotrends.net/2522/5-year-treasury-bond-rate-yield-chart
[8] https://www.bvresources.com/docs/default-source/free-downloads/iv-q-2018-industry-betas-(usa-9-zones).pdf?sfvrsn=dd7fccb2_2

buyout will be compared with the industry average presented in Figure 19. The detailed calculations are shown in Exhibit A5.

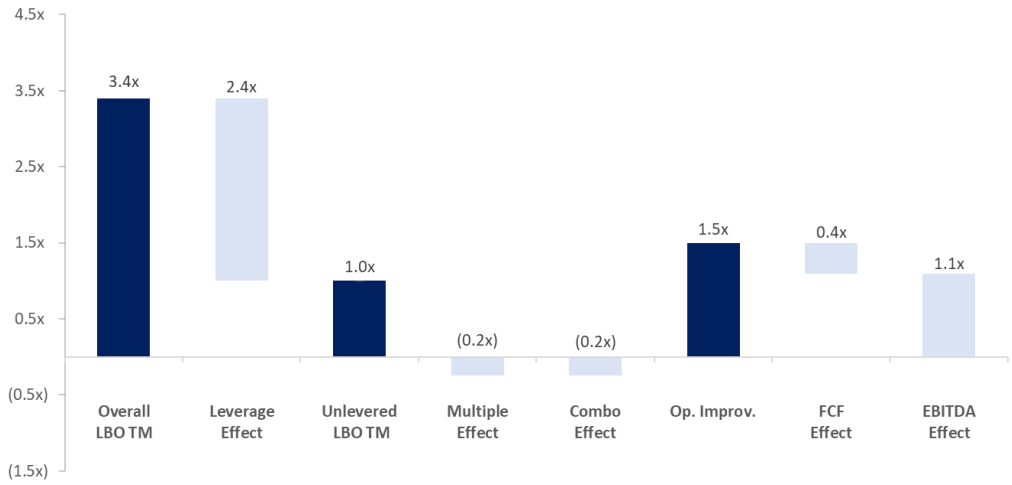

Figure 31. Value Creation breakdown. Source: Own calculations– Exhibit A5

The results show that an overall LBO TM of 3.4x was obtained in the Alliance Boots' LBO. The Leverage, Multiple, Combo, FCF and EBITDA effects and their corresponding % of the total value creation are presented in the following table:

Table 3. Value creation breakdown and corresponding weights in %. Source: Own calculations – Exhibit A5

Item	***TM***	***as a % of Overall TM***
Overall LBO TM	3.4x	100.0%
Leverage Effect	2.4x	69.5%
Multiple Effect	(0.2x)	(7.2%)
Combo Effect	(0.2x)	(6.3%)
FCF Effect	0.4x	11.9%
EBITDA Effect	1.1x	32.1%

Leverage Effect

The leverage effect in the case of Alliance Boots buyout was 69.5% of the total LBO Net Capital Gain. In numbers, it amounts to 2.4x of the total 3.4x value created during the holding period. The leverage used to finance the acquisition is key to make sure that the company does not have a too high risk of financial distress but also needs to be enough to take advantage of the leverage and create value.

Additionally, Boots and the owners were able to create equity value by buying back debt at a substantial discount during the crisis, which contributed to the value creation related to the leverage effect.

The remaining 1.0x is attributed to the Unlevered LBO TM, which includes the multiple effect, the combo effect, FCF effect and EBITDA effect.

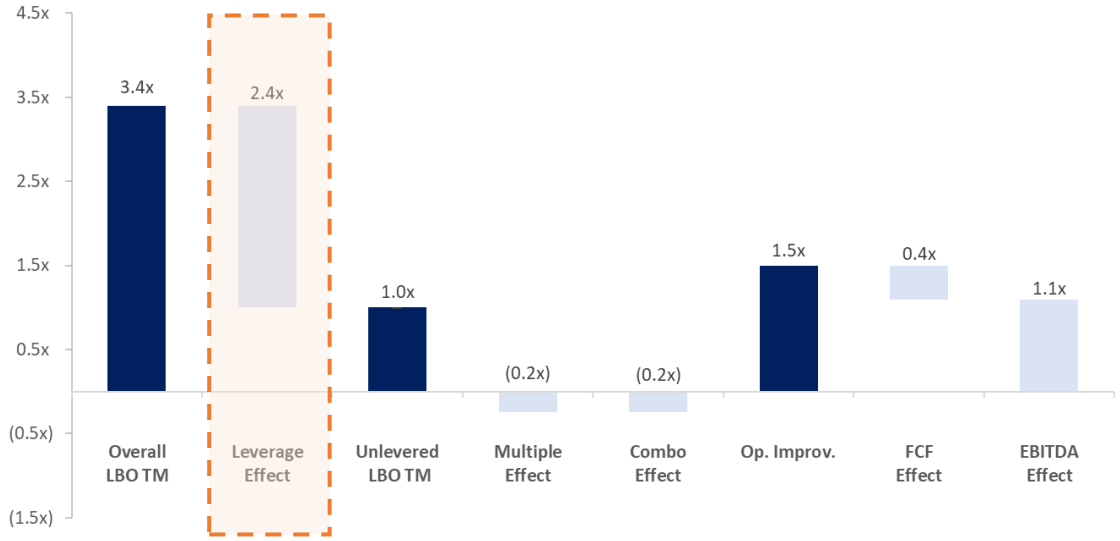

Figure 32. Value creation breakdown – Leverage Effect. Source: Own calculations – Exhibit A5

Multiple Effect

The multiple effect shoes the value that can be attributed to the EV/EBITDA multiple increase, also known as multiple expansion. The calculation is done by multiplying the change between entry and exit by the entry EBITDA and divided by the Net Capital Gains.

Alliance Boots was purchased for an EV/EBITDA of 14.4x, and it was fully sold to Walgreens in 2012 for an EV/EBITDA multiple of 11.3x. This implies that there was no multiple expansion, but the multiple went down by 3.1x. The TM multiple effect is negative (0.2x) and comprises a (7.2%) of the overall Net Capital Gains.

The multiple effect is very related to the market conditions and not necessarily to the firm. It can vary by sector, geography, and many other factors. Figure 19 shows that the multiple expansion contributes greatly to the value creation in healthcare companies, with almost half of the value created attributable to it. However, in this particular case, the multiple expansion is negative, hence meaning that the entry EV/EBITDA multiple was bigger than the exit multiple.

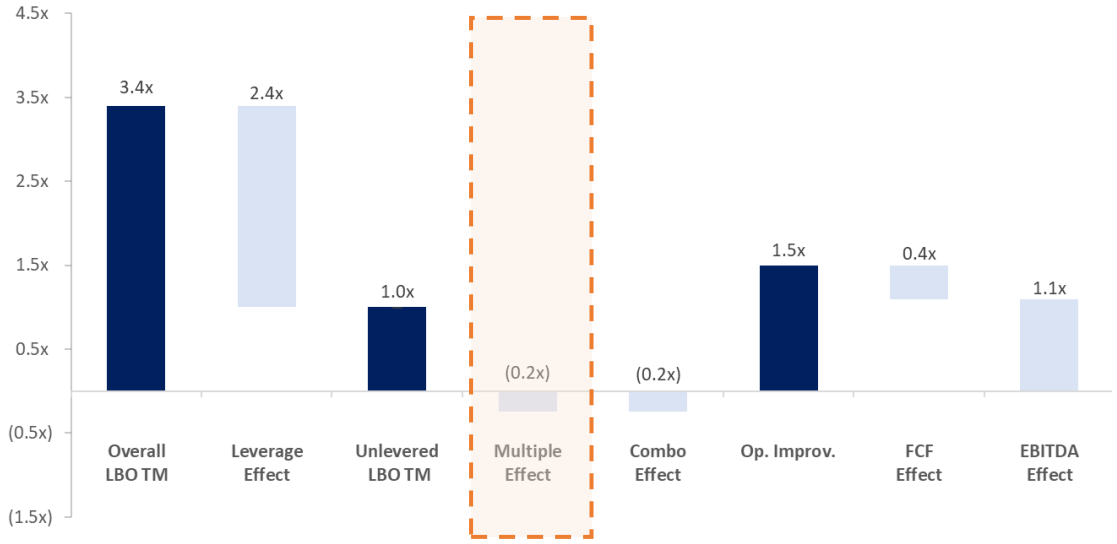

Figure 33. Value creation breakdown – Multiple Effect. Source: Own calculations – Exhibit A5

Combo Effect

This measurement reflects the effect of both EV/EBITDA multiple, and EBITDA change between entry and exit of the transaction. The calculation is done by multiplying the difference in EBITDA and Multiple and divided by the Net Capital Gains.

In this case, the EV/EBITDA multiple decreased but the EBITDA increased from 836.3 in 2007 to 1,567 in 2012. This results in a Combo effect very similar to the Multiple effect (-0.24x vs -0.21x). The combo effect represents a (6.3%) of the total Net Capital Gains.

Even if the combo effect is not considered as operational improvements, the EBITDA effect is certainly part of them. The EBITDA effects will be analysed later on its corresponding section.

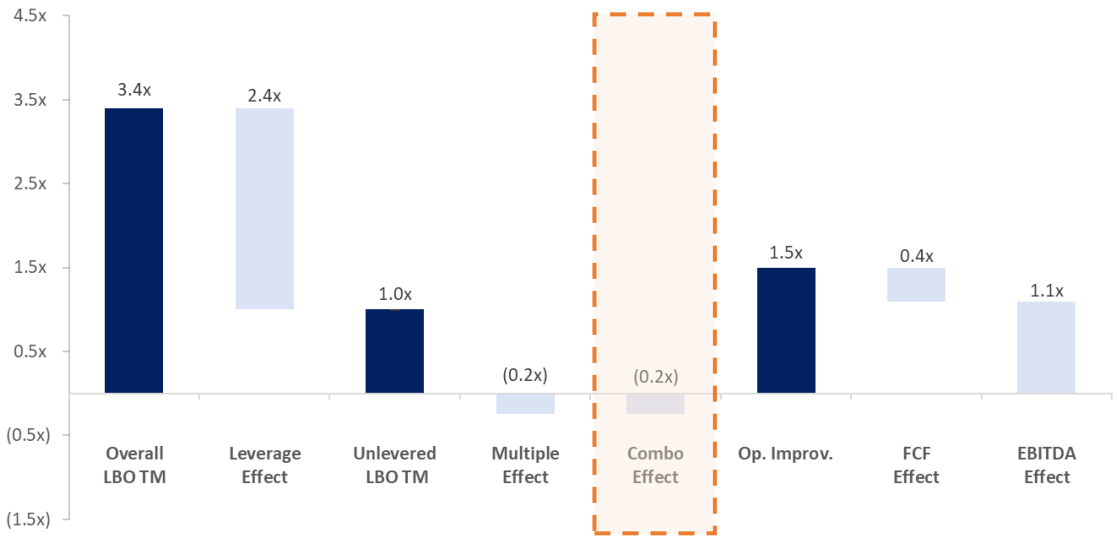

Figure 34. Value creation breakdown – Combo Effect. Source: Own calculations – Exhibit A5

FCF Effect

The Free Cash Flow effect considers the changes in net cash flow of the investment. It accounts for the debt repayments, dividend pay-outs and capital injections during the holding period. As mentioned in Section I, the FCF effect does not take into account the FCF improvements of the company, as it is calculated by computing the net debt reduction plus dividends minus capital injections and divided by the Net Capital Gains.

In Alliance Boots' case, there were no dividend payments nor capital injections, hence the FCF effect basically shows the debt repayment effect, with a TM multiple of 0.4x and accounting for 11.9% of the total Net Capital Gains.

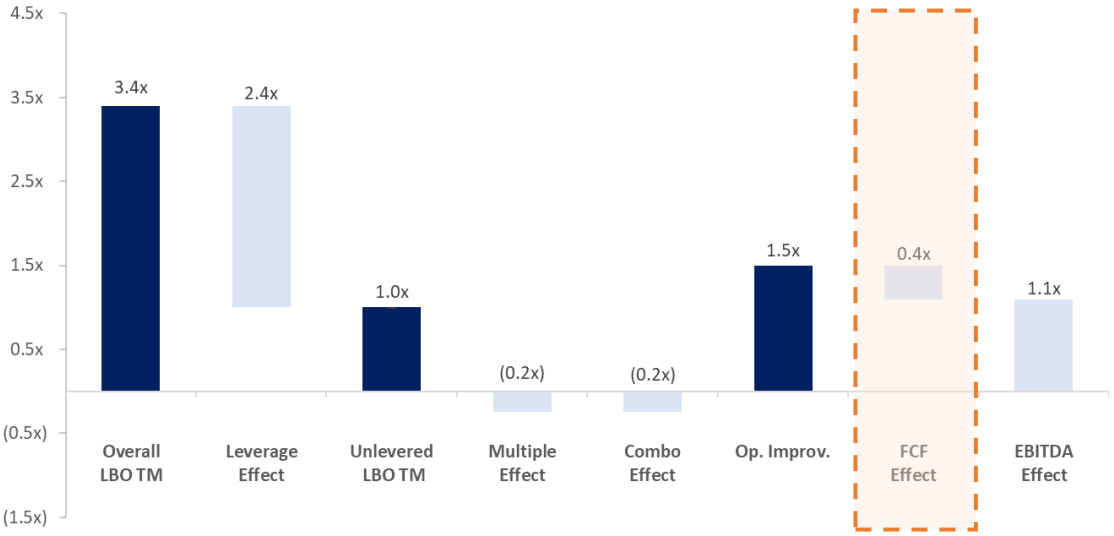

Figure 35. Value creation breakdown – FCF Effect. Source: Own calculations – Exhibit A5

EBITDA Effect

This metric reflects the operational improvements derived from the change in EBITDA during the holding period, and it is simply calculated by multiplying the change in EBITDA (exit-entry) by the entry EV/EBITDA multiple and divided by the Net Capital Gains. The EBITDA effect can be split into sales, margin, and combo effects.

The value creation breakdown figure below clearly shows that the EBITDA effect is responsible for a significant part of the value creation, c.32% to be more precise, and it was driven by sales growth (£11,502m in 2007 vs £23,009m in 2012) since the EBITDA margin went down from 7.3% at entry to 6.8% at exit. The TM multiple is 1.1x and as mentioned before, it accounts for 32% of the Net Capital Gains of the LBO.

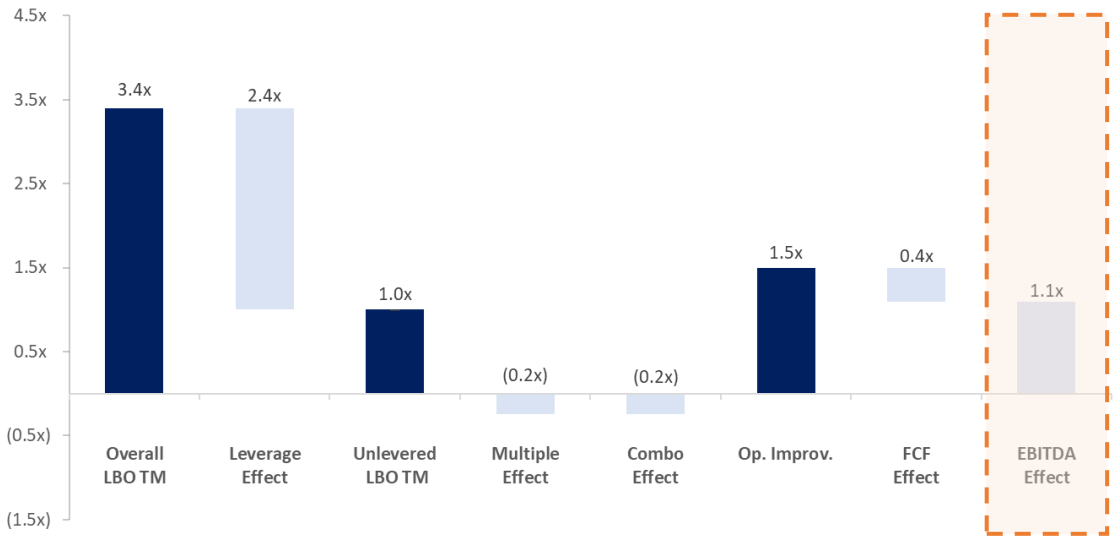

Figure 36. Value creation breakdown – EBITDA Effect. Source: Own calculations – Exhibit A5

Revenue Growth Effect

The sales growth effect shows the value that has been created due to the increase in company's revenue. The revenues during the holding period had a very strong upward trend, increasing from £11.8bn in 2008 to £23bn in 2012, a CAGR of 18%. These results are in line with the portion of value creation attributed to the increase in revenues in healthcare buyouts during the 2010-21 period (shown in Figure 19).

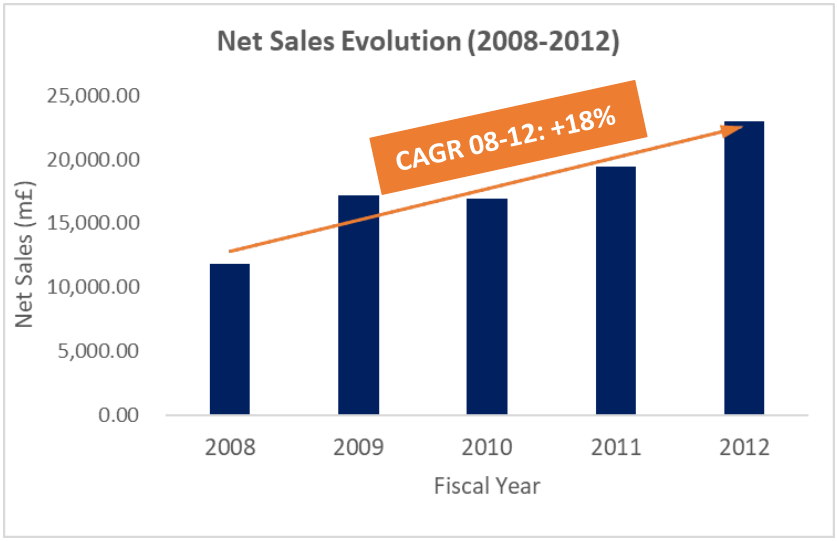

Figure 37. Revenue growth during holding period. Source: Refinitiv

The breakdown of the revenues by division is shown in Figure 38, where it can be observed that the division with biggest growth was Wholesale, growing from £10,248m in 2008 to £16,847m in 2012. On the retail side, the revenues have also gone up although they have not skyrocketed as

in the wholesale division's case. The revenues in this division have gone up from £6,579m to £7,671m in 2012. The revenue growth trend shows that the consortium managed to improve the sales in both divisions, which is in line with one of the objectives mentioned in Deal rationale and initiation.

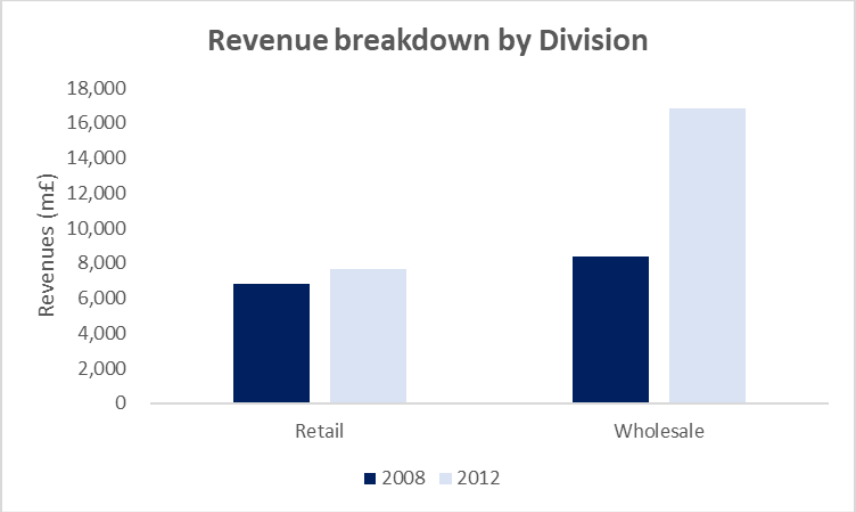

Figure 38. Revenue breakdown by division in 2008 and 2012. Source: Company data

International Expansion

Alliance Boots expanded their presence in different countries, as planned when acquired by KKR and Mr. Pessina back in 2007. Main associates and acquisitions include the following:

Table 4. List of Alliance Boots associates at the end of FY2012. Source: Company Data

Name of the Associate Company	Current Status in 2012	Logo
Hedef Alliance	Control 80% of the stake to operate in the Turkish market.	HEDEF ALLIANCE
Alliance Healthcare Russia	51% of the equity in Alliance Healthcare Russia was transferred in 2012 to AB Acquisitions	Alliance Healthcare Здоровье в каждый дом
Guangzhou Pharmaceuticals (China)	Joint venture established in 2008. Business continues to expand its operations outside Guangzhow province through organic growth and	广州医药有限公司

	targeted acquisitions to strengthen its position in key regional provinces.	
Alliance Healthcare Italia	Became an associate of the Group at the end of July 2010, maintaining revenues and increased profits in a challenging market through margin management and implementation of new services.	
Alliance Healthcare Portugal	Profitability was impacted by a particularly challenging pharmacy market in Portugal, which resulted in increased provisioning for overdue customer debts.	
Galenica	Swiss based associate reporting a consolidated net profit up 10.9% year on year.	
Hydra Pharm	Leading pharmaceutical wholesale operator in Algeria.	
Oktal	A leading pharmaceutical wholesaler operator in Croatia that also trades in Bosnia Herzegovina, Serbia and Slovenia.	
ANZAG	German associate operating in the wholesale market.	N/A
Farmexpert	Purchased 80% of the stake via the German associate ANZAG to enter the Romanian market.	N/A

The following figures show the revenue breakdown by geography in both retail and wholesale divisions. Revenues in the retail division have not differed in terms of countries in which Alliance Boots is present, however, in the case of the wholesale division, the company expanded its operations to new countries such as Germany, Egypt, Romania, Turkey, and others that are not accounted here but are listed above on the associates side.

Figure 39. Retail division revenue breakdown in 2008 and 2012. Source: Company data

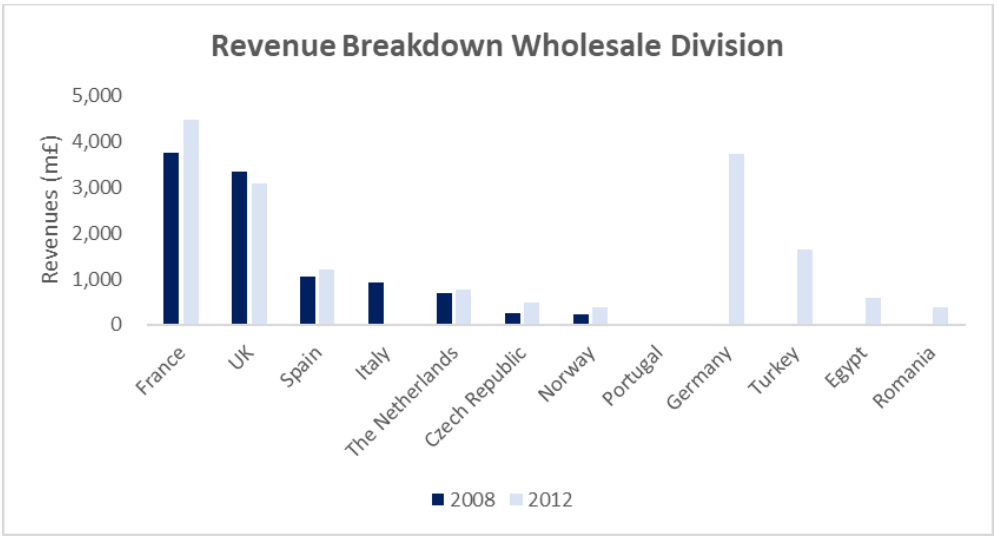

Figure 40. Wholesale division revenue breakdown in 2008 and 2010. Source: Company data

It can be observed how the wholesale division has expanded its operations to new countries that now account for a significant portion of the total revenues (e.g., Germany). Back in 2007, when KKR and Mr. Pessina acquired Alliance Boots, had in mind the need of expanding the operations internationally, and the two figures above show the fact that they have succeeded in doing so, especially in the wholesale division. The retail division has mainly grown in the UK and Norway,

consolidating its position, and expanding their customer base in the countries that were already present.

Margin Effect

The EBITDA margin, on the other hand, decreased from 7.2% in 2008 to 6.8% in 2012, with a CAGR of (1.4%). Hence, it can be concluded that the consortium formed by KKR and Stefano Pessina destroyed value in terms of margins. Although it showed an increase in 2011, the overall evolution has been negative. As mentioned in Section I, the margin effect contribution to value creation in healthcare deals (Figure 19) was on average 2% during the period 2010-21, concluding that this effect does not represent a very significant portion of the value created, even if it has been a positive contribution during the last decade.

The fact that margins got worse for Alliance Boots could be related to the fact that the demand shifted towards generic products during those years, making it difficult to compete given the decrease in prices of medicines and drugs and hence making the margins go down.

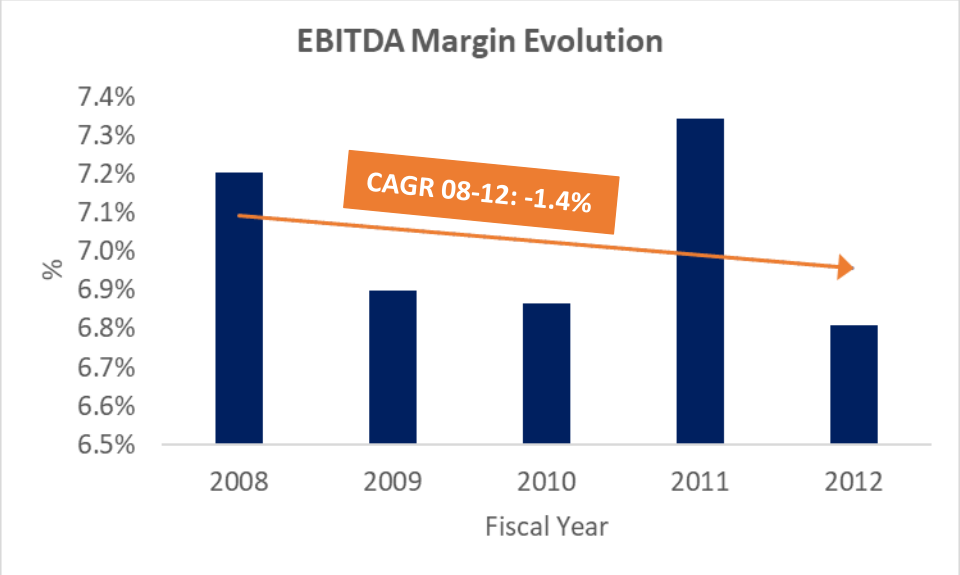

Figure 41. EBITDA margin evolution during holding period. Source: Refinitiv

CONCLUSIONS

With the aim to conclude this research paper, the last section exposes the main conclusions outlined throughout the analysis of the theory in Section I and the case study presented in Section II, bearing in mind that the final objective of this thesis was to analyse how Private Equities and LBOs create value in healthcare buyouts, identifying the main drivers in the Alliance Boots LBO by KKR and Stefano Pessina.

In Section I, before the case study, the healthcare industry was introduced, giving an overview of the current situation as well as the Private Equity landscape. The healthcare industry has been strongly affected by the Covid-19 pandemic, with some of the new trends being a shift towards innovation and digitalization to improve operational efficiency as well as consumerization of care through smart devices and phone apps to transfer the sites of care to the households. Healthcare was one of the fastest growing industries during the pandemic, especially the biopharmaceutical and biotechnology subsectors. As for the Private Equity industry analysis, it could clearly be perceived that it is a very attractive asset-class for investors, given its risk-return profile and the industry's capacity to maintain the returns and grow despite of the pandemic.

Section I ends with the introduction of value creation in LBOs, which explains how returns are calculated for the several stakeholders involved in the transaction and an introduction of the framework in (Benjamin Puche, Reiner Braun, 2015), which separates the total value creation into different levers: leverage effect, multiple expansion and operational improvements.

Section II is dedicated to study the Alliance Boots buyout by KKR and Stefano Pessina, and more specifically how value was created during the holding period. In order to measure and analyse the value created, the framework already introduced in Section I from the paper "International Evidence on Value Creation in Private Equity Transactions" written by Benjamin Puche, Reiner Braun and Ann-Kristin Achleitner was applied to the Alliance Boots buyout.

As a conclusion, the exit type that KKR chose and managed to obtain was key in a mega buyout as this one. Finding a strategic buyer rather than doing an IPO was an achievement, since strategic exit is limited to very small number of buyers and the size of the deal was very big. Hence, assuming the exit was only done in one step (exited 100% in 2012), the total realized IRR was 28.7% and a CoC of 3.5x. KKR managed to increase Alliance Boots' sales with a CAGR of 18% until 2012, as well as to successfully expand it overseas, which created significant value during the holding period. Another important source of value creation was the leverage effect, Mr. Pessina and KKR managed to find the balance on the debt raised for the financing of the acquisition and made sure the company was not going under financial distress. The gains related to leverage in Alliance Boots' case were 69.5% of the total value created, leaving the rest to

operational improvements. On the other hand, the margin expansion was negative, destroying value instead of creating it, although EBITDA increased in absolute values during the holding period.

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Databases: Thomson Reuters Eikon, Statista, Yahoo Finance

APPENDICES

Exhibit A1: Alliance Boots Balance Sheet pre-LBO

Alliance Boots Balance Sheet 2002-2007: pre-LBO period

(million £)

Fiscal year	**2002A**	**2003A**	**2004A**	**2005A**	**2006A**	**2007A**
Fiscal year end	*31/03/2002*	*31/03/2003*	*31/03/2004*	*31/03/2005*	*31/03/2006*	30/03/2007
Assets						
Current Assets						
Cash and ST Investments	409.1	496.5	349.6	128.9	856.2	404.0
Accounts receivable	542.1	548.1	591.0	447.9	375.6	1,985.0
Inventories	648.1	638.6	690.8	713.6	594.4	1,360.0
Derivative financial instruments	0.0	0.0	0.0	0.0	0.0	2.0
Prepaid expenses	96.2	97.6	87.9	85.8	99.9	0.0
Assets Held for sale	0.0	0.0	0.0	0.7	1.2	29.0
Other current assets	7.8	4.9	3.0	0.0	0.0	0.0
Total current assets	**1,703.3**	**1,785.7**	**1,722.3**	**1,376.9**	**1,927.3**	**3,780.0**
Non Current Assets:						
Net PP&E	1,727.7	1,516.5	1,499.4	1,452.4	1,267.9	1,671.0
Goodwill & Intangible Assets	298.2	301.3	281.5	442.2	146.8	3,896.0
Rest	121.7	84.7	0.0	58.6	34.4	687.0
Other Assets	0.0	0.0	0.0	65.4	54.7	61.0
Total non current assets	2,147.6	1,902.5	1,780.9	2,018.6	1,503.8	6,315.0
Total assets	**3,850.9**	**3,688.2**	**3,503.2**	**3,395.5**	**3,431.1**	**10,095.0**
Liabilities						
Current Liabilities						
Short term debt / revolver	153.7	186.9	156.5	183.8	183.1	565.0
Accounts payable & Accruals	569.1	582.5	580.0	599.6	554.4	2,112.0
Derivative Liabilities	0.0	0.0	0.0	0.5	0.3	7.0
Other liabilities	332.5	260.1	295.6	70.5	140.5	75.0
Accrued income taxes	119.4	126.1	103.2	95.1	56.2	115.0
Total current liabilities	**1,174.7**	**1,155.6**	**1,135.3**	**949.5**	**934.5**	**2,874.0**
Non Current Liabilities:						
Long-term Debt	401.7	361.1	341.6	587.1	574.9	764.0
Deferred Taxes	167.2	114.6	150.9	136.6	96.5	456.0
Minority interests	0.6	0.5	1.2	1.1	0.0	12.0
Other Liabilities	89.0	87.0	67.6	101.4	173.7	231.0
Total non current liabilities	**658.5**	**563.2**	**561.3**	**826.2**	**845.1**	**1,463.0**
Total liabilities	**1,833.2**	**1,718.8**	**1,696.6**	**1,775.7**	**1,779.6**	**4,337.0**
Equity						
Shareholder's Equity - Common	519.8	209.1	209.4	211.4	211.5	4367
Retained Earnings	1,497.9	1,760.3	1,597.2	1,408.4	1,440.0	1393
Total equity	**2,017.7**	**1,969.4**	**1,806.6**	**1,619.8**	**1,651.5**	**5,760.0**
Total liabilities and equity	**3,850.9**	**3,688.2**	**3,503.2**	**3,395.5**	**3,431.1**	**10,095.0**
Balance	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Exhibit A2: Alliance Boots Cash Flow Statement pre-LBO

Alliance Boots Cash Flow Statement 2002-2007: pre-LBO period						
(million £)						
Fiscal year	**2002A**	**2003A**	**2004A**	**2005A**	**2006A**	**2007A**
Fiscal year end	*31/03/2002*	*31/03/2003*	*31/03/2004*	*31/03/2005*	*31/03/2006*	31/03/2007
Cash Flow from Operating Activities						
Net Income	404.6	300.5	412.2	255.0	304.4	366.0
Non-cash items & Reconciliation	100.0	52.2	(11.9)	223.5	9.0	254.0
Interest Paid	(58.6)	(16.1)	(40.4)	(33.6)	(37.0)	(92.0)
Interest & Dividends received	0.0	0.0	0.0	12.4	0.0	0.0
WC Increase/(Decrease)	(63.9)	(130.3)	(48.8)	(109.3)	165.0	25
Total cash flow from operating activities	**382.1**	**206.3**	**311.1**	**348.0**	**395.0**	**535.0**
Cash Flow from Investing Activities						
Capital expenditures	(109.9)	(27.2)	(44.6)	(266.4)	127.0	(195.0)
Acquisition & Disposals of Business - Assets	24.6	394.8	(1.1)	(8.3)	0.0	38.0
Investment Securities	(19.9)	(9.3)	(1.1)	0.0	0.0	0.0
Other Investing Cash Flow	(235.1)	(11.6)	53.5	0.0	21.0	69.0
Total cash flow from investing activities	**(340.3)**	**346.7**	**6.7**	**(274.7)**	**148.0**	**(88.0)**
Cash Flow from Financing Activities						
Dividends	(234.5)	(238.3)	(229.1)	(225.1)	(1,640.0)	(196.0)
Stock Issuance	(27.5)	(462.7)	(262.0)	(293.5)	(50.0)	0.0
Debt LT & ST Issuance/(Retirement)	(20.0)	(46.0)	(16.9)	276.5	(11.0)	(812.0)
Other Financing Cash Flow	0.0	0.0	0.0	0.0	0.0	(4.0)
Total cash flow from financing activities	**(282.0)**	**(747.0)**	**(508.0)**	**(242.1)**	**(1,701.0)**	**(1,012.0)**
Total cash flow from the year	**(240.2)**	**(194.0)**	**(190.2)**	**(168.8)**	**(1,158.0)**	**(565.0)**

Exhibit A3: Alliance Boots Income Statement pre-LBO

Alliance Boots Income Statement 2002-2007: pre-LBO period

(million £)

Fiscal year	**2002A**	**2003A**	**2004A**	**2005A**	**2006A**	**2007A**
Fiscal year end	*31/03/2002*	*31/03/2003*	*31/03/2004*	*31/03/2005*	*31/03/2006*	*31/03/2006*
Income Statement						
Net Sales	5,328.3	5,320.3	5,325.0	4,935.5	5,027.4	11,502.0
Growth		*-0.2%*	*0.1%*	*-7.3%*	*1.9%*	*128.8%*
COGS	(2,787.6)	(2,845.0)	(2,868.5)	(2,809.2)	(2,782.8)	(6,255.5)
Gross Profit	2,540.7	2,475.3	2,456.5	2,126.3	2,244.6	5,246.5
Margin	*47.7%*	*46.5%*	*46.1%*	*43.1%*	*44.6%*	*45.6%*
SG&A	(1,910.7)	(1,920.5)	(1,847.8)	(1,725.4)	(1,875.4)	(4,766.5)
Margin	*35.9%*	*36.1%*	*34.7%*	*35.0%*	*37.3%*	*35.8%*
EBIT - Operating Profit	**630.0**	**554.8**	**608.7**	**400.9**	**369.2**	**480.0**
D&A	163.4	162.8	133.6	156.1	185.5	356.3
Margin	*3.1%*	*3.1%*	*2.5%*	*3.2%*	*3.7%*	*3.1%*
EBITDA	**793.4**	**717.6**	**742.3**	**557.0**	**554.7**	**836.3**
Non recurring (expenses)/gain	0.0	92.1	(59.7)	0.0	0.0	0.0
Financing income/(expense)	13.2	11.3	(5.0)	(40.9)	(20.3)	(25.0)
Other non-operating financial income / (expense)	(47.4)	(165.8)	35.9	0.0	0.0	0.0
Profit before tax	595.8	492.4	579.9	360.0	348.9	455.0
Taxes	(191.2)	(191.9)	(167.7)	(105.0)	(44.5)	(89.0)
Profit after tax	404.6	300.5	412.2	255.0	304.4	366.0
Net Income	**404.6**	**300.5**	**412.2**	**255.0**	**304.4**	**366.0**

Exhibit A4: Exit prospect and returns

Exit Prospect and Returns

(all data in £mm except per share data)

Company Financials 2012	
EBITDA	1,567.0
Cash and cash equivalents	670.0
Acquisition debt	7,641.0
Short-term debt (Revolver)	153.0
Minority interests	233.0
Associates	911.0

Exit Transaction Assumptions	
Entry Year	2007
Exit Year	2012
Total EV	17,685.7
Offer Equity Value	11,239.7
Exit EV/EBITDA	11.3x

Exit Year	**2012**
Assumed Exit date	**01/08/2012**
Acquistion date	**26/06/2007**

Returns

Debt repayment	
Debt repayment during holding period	2,131.0
Debt repayment at exit	6,889.0
Total debt repaid	**9,020.0**

Entry Equity	**3,183.3**
Exit	**11,239.7**

Fiscal year	*2007E*	*2008E*	*2009E*	*2010E*	*2011E*	*2012E*
Cash Outflows on Purchase	*(3,183.3)*					
Cash Inflows on Sale						11,239.7
Total Outflows	**(3,183.3)**	-	-	-	-	-
Total Inflows	-	-	-	-	-	**11,239.7**
Total Flows	**(3,183.3)**	-	-	-	-	**11,239.7**

c. Expected Overall CoC	**3.5x**
c. Expected Overall IRR	**28.7%**

Mr.Pessina returns

Initial investment	*(1,000.0)*					
Exit equity stake						*3,391.6*
Cash Inflows during LBO						
Debt repayment						
Total cash flows	**(1,000.0)**	-	-	-	-	**3,391.6**
Total Inflows	-	-	-	-	-	**3,391.6**
Total Outflows	**(1,000.0)**	-	-	-	-	-

c. Expected Overall IRR Mr.Pessina	**27.7%**
c. Expected Overall CoC Mr.Pessina	**3.4x**

Exhibit A5: Value Creation Breakdown

Value Creation Breakdown

Entry Data		
Date		6/26/2007
Year		2007
Implied EV		12,082.5
Implied Equity Value		11,025.5
Stake purchased		100.0%
Sales 2007		11,502.0
EBITDA 2007		836.3
EBITDA Margin % 2007		7.3%
EV / EBITDA		14.4x
Capital Structure of Sources of Fund		
	Debt	9,020.0
	Equity	3,183.3
	% Debt	73.9%
	% Equity	26.1%
ND / Equity of Investment		283.3%
Total Equity KKR Investment		**1,040.0**

Holding Period Data	
Dividends	-
Capital Injections	-
Total Holding Net Flows	**-**

Interest Rate and Cost of Debt	
Holding Period (years)	5.2
Average D/E	249.9%
Average CoD Holding Period	9.1%

Exit Data		
Total Exit		
Date		
Year		2012
Sales 2012		23,009.0
EBITDA 2012		1,567.0
EBITDA Margin % 2012		6.8%
EV / EBITDA 2012		11.3x
Remaining Capital Structure of Fund		
	Debt	6,889.0
	Equity	3,183.3
	% Debt	68.4%
	% Equity	31.6%
ND / Equity		216.4%
Total Inflow of funds		**10,796.7**

Value Creation Breakdown

Total LBO	
Net Capital Gains	10,796.7
Total Invested	3,183.3
Total (Levered) TM	**3.4x**

Leverage Effect	
TM	3.4x
Cost of Debt	9.1%
Average ND/Equity	249.9%
Unlevered TM	1.0x
Leverage Effect	**2.4x**

Multiple & Combo Effect	
EV / EBITDA at entry	14.4x
EBITDA at entry	836.3
EV / EBITDA at exit	11.3x
EBITDA at exit	1,567.0
Multiple Effect	**(0.2x)**
Combo Effect	**(0.2x)**

Operating Improvements Effect	
EV / EBITDA at entry	14.4x
EBITDA at entry	836.3
EBITDA Margin % at entry	7.3%
Debt at entry	9,020.0
Sales at entry	11,502.0
EV / EBITDA at exit	11.3x
EBITDA at exit	1,567.0
EBITDA Margin % at exit	6.8%
Debt at exit	6,889.0
Sales at exit	23,009.0
Dividends	-
Capital Injections	-
FCF Effect	**0.4x**
EBITDA Effect	**1.1x**

Exhibit A6: Alliance Boots Balance Sheet Holding Period (2008-2012)

Alliance Boots Balance Sheet Holding Period

	2008	2009	2010	2011	2012
Assets					
Current Assets					
Cash and cash equivalents	413.0	473.0	343.0	629.0	670.0
Accounts receivable	2,130.0	2,506.0	2,455.0	3,335.0	2,869.0
Inventories	1,422.0	1,542.0	1,623.0	2,069.0	1,782.0
Derivative financial instruments	2.0	4.0	1.0	0.0	0.0
Prepaid expenses		143.0	155.0	187.0	201.0
Assets Held for sale	0.0	11.0	9.0	3.0	5.0
Other current assets	366	343.0	349.0	293.0	262
Total current assets	**4,333.0**	**5,022.0**	**4,935.0**	**6,516.0**	**5,789.0**
Non Current Assets:					
Net PP&E	2,078.0	2,147.0	2,091.0	2,069.0	1,992.0
Goodwill & Intangible Assets	9,974.0	10,304.0	10,105.0	10,445.0	10,259.0
Deferred-tax assets and available	114.0	105.0	233.0	333.0	331.0
Associates	910.0	1,079.0	1,143.0	838.0	911.0
Other Assets	384.0	318.0	237.0	53.0	70.0
Total non current assets	13,460.0	13,953.0	13,809.0	13,738.0	13,563.0
Total assets	**17,793.0**	**18,975.0**	**18,744.0**	**20,254.0**	**19,352.0**
Liabilities					
Current Liabilities					
Short term debt / revolver	733.0	930.0	556.0	274.0	153.0
Accounts payable & Accruals	2,202.0	2,923.0	3,085.0	4,146.0	3,830.0
Derivative Liabilities	22.0	0.0	0.0	66.0	154.0
Other liabilities	338.0	378.0	329.0	516.0	392.0
Accrued income taxes	30.0	14.0	49.0	10.0	32.0
Total current liabilities	**3,325.0**	**4,245.0**	**4,019.0**	**5,012.0**	**4,561.0**
Non Current Liabilities:					
Long-term Debt	8,585.0	8,674.0	8,322.0	8,274.0	7,641.0
Deferred Taxes	1,545.0	1,498.0	1,251.0	1,109.0	1,085.0
Minority interests	35.0	42.0	29.0	340.0	233.0
Other Liabilities	290.0	334.0	812.0	735.0	364.0
Total non current liabilities	**10,455.0**	**10,548.0**	**10,414.0**	**10,458.0**	**9,323.0**
Total liabilities	**13,780.0**	**14,793.0**	**14,433.0**	**15,470.0**	**13,884.0**
Equity					
Shareholder's Equity - Common	4,013.0	4,182.0	4,311.0	4,784.0	5,468.0
Total equity	4,013.0	4,182.0	4,311.0	4,784.0	5,468.0
Total liabilities and equity	**17,793.0**	**18,975.0**	**18,744.0**	**20,254.0**	**19,352.0**
Balance	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**

Exhibit A7: Alliance Boots Cash Flow Statement Holding Period (2008-2012)

Alliance Boots Cash Flow Statement Holding Period

(million £)

	2008	2009	2010	2011	2012
Cash Flow from Operating Activities					
Profit From Operations	544.0	761.0	827.0	937.0	1,195.0
Share of post tax earnings of associates	(49.0)	(75.0)	(99.0)	(73.0)	(58.0)
Depreciation & Amortization	256.0	345.0	359.0	365.0	372.0
Negative Goodwill	0.0	40.0	0.0	(16.0)	0.0
Profit from disposal of property	0.0	(2.0)	0.0	(24.0)	(1.0)
Impairment of Goodwill	0.0	0.0	121.0	4.0	11.0
Net gain on acquisitions of controlling interests	0.0	0.0	0.0	(19.0)	0.0
WC Increase/(Decrease)	(7.0)	89.0	30.0	207.0	302.0
Movement in retirement benefit assets	(116.0)	(52.0)	(64.0)	(173.0)	(84.0)
Total cash flow from operating activities	**628.0**	**1,106.0**	**1,172.0**	**1,207.0**	**1,737.0**
Cash Flow from Investing Activities					
Acquisition of businesses	(10,790.0)	(138.0)	(11.0)	(222.0)	(10.0)
Cash of businesses acquired net of overdrafts	420.0	25.0	-	363.0	2.0
Disposals of businesses	20.0	1.0	-	62.0	5.0
Cash of businesses disposed net of overdrafts	-	-	-	114.0	(13.0)
Capital expenditures	(222.0)	(294.0)	(255.0)	(253.0)	(262.0)
Investments in associates and joint ventures	(41.0)	-	-	-	(20.0)
Purchase of available-for-sale investments	(3.0)	(3.0)	(12.0)	(1.0)	(1.0)
Purchase of profit participating notes	-	-	(36.0)	(119.0)	-
Loans advanced net of repayments	-	-	(3.0)	(40.0)	-
Disposal of PP&E and intangible assets	19.0	22.0	14.0	86.0	11.0
Disposal of available-for-sale investments	-	-	2.0	-	-
Disposal of assets classified as held for sale	-	-	25.0	7.0	1.0
Dividends received from associates and joint venture	19.0	34.0	39.0	17.0	16.0
Dividends received from available-for-sale investmer	-	-	1.0	2.0	1.0
Interest received	61.0	49.0	49.0	77.0	60.0
Total cash flow from investing activities	**(10,517.0)**	**(304.0)**	**(187.0)**	**93.0**	**(210.0)**
Cash Flow from Financing Activities					
Interest paid	(598.0)	(646.0)	(393.0)	(377.0)	(379.0)
Interest element of finance lease obligations	(4.0)	(4.0)	(2.0)	(1.0)	(1.0)
Proceeds from borrowings	8,200.0	125.0	39.0	23.0	207.0
Repayment of borrowings, repurchase of acquisition	(621.0)	(342.0)	(666.0)	(439.0)	(878.0)
Fees associated with financing activities	(246.0)	(22.0)	(22.0)	(15.0)	(23.0)
Net cash transferred from restricted cash	(366.0)	161.0	(5.0)	63.0	27.0
Repayment of capital element of finance lease obliga	(16.0)	(20.0)	(17.0)	(10.0)	(7.0)
Dividends paid to non controlling interests	-	-	-	(18.0)	(43.0)
Purchase of non controlling interests	-	-	(10.0)	(66.0)	(122.0)
Contribution from non controlling interests	17.0	-	3.0	26.0	1.0
Issue of ordinary share capital	3,800.0	60.0	-	-	-
Total cash flow from financing activities	**10,166.0**	**(688.0)**	**(1,073.0)**	**(814.0)**	**(1,218.0)**
Total cash flow from the year	**277.0**	**114.0**	**(88.0)**	**486.0**	**309.0**

Exhibit A8: Alliance Boots Income Statement Holding Period (2008-2012)

Alliance Boots Income Statement Holding Period					
(million £)					
	2008	**2009**	**2010**	**2011**	**2012**
Net Sales	11,865.00	17,195.00	17,571.00	20,218.00	23,009.00
Growth		*44.9%*	*2.2%*	*15.1%*	*13.8%*
COGS	(8,909.00)	(13,147.00)	(13,316.00)	(15,651.00)	(18,192.00)
Margin	*75.1%*	*76.5%*	*75.8%*	*77.4%*	*79.1%*
Gross Profit	2,956.00	4,048.00	4,255.00	4,567.00	4,817.00
SG&A	(2,412.00)	(3,287.00)	(3,428.00)	(3,630.00)	(3,622.00)
Margin	*20.3%*	*19.1%*	*19.5%*	*18.0%*	*15.7%*
EBIT - Profit From Operations	**544.00**	**761.00**	**827.00**	**937.00**	**1,195.00**
D&A	256.00	465.00	497.00	524.00	372.00
EBITDA	**800.00**	**1,226.00**	**1,324.00**	**1,461.00**	**1,567.00**
Non recurring (expenses)/gain	(50.00)	(49.00)	65.00	69.00	44.00
Interest expense	(1,029.00)	(1,911.00)	(1,319.00)	(1,316.00)	(729.00)
Interest income	254.00	287.00	255.00	306.00	-
Financing income/(expense)	**(775.00)**	**(765.00)**	**(433.00)**	**(391.00)**	**(729.00)**
Other non-operating financial income / (expense)	-	66.00	1.00	22.00	-
Profit before tax	(64.00)	13.00	475.00	637.00	660.00
Taxes	74.00	88.00	135.00	(21.00)	(28.00)
Profit after tax	10.00	101.00	610.00	616.00	572.00
Profit for the year	**10.00**	**101.00**	**610.00**	**616.00**	**572.00**