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Summary of WP Student Team

Valuation of Forst Group

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VALUATION OF FORST GROUP

The potential exit strategy in a sell-side process with Asahi Breweries

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Abstract

This paperwork has the objective of introducing the potential acquisition of Birra Forst, an Italian company active in the production and distribution of beer. Following the guidelines of the Field Lab, an M&A sell-side case study is outlined. For our analysis, we have proceeded carrying out a company evaluation both from a financial and a market point of view. We have then shifted our focus to some possible buyers and to the potential synergies that might develop in the process.

Keywords: M&A, Birra Forst, sell-side, valuation, reclassification, DCF, synergies

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Introduction

Over the last few years the beer industry has experienced multiple changes, from the establishment of new consumer habits due to the COVID-19 pandemic to the increasingly higher market concentration due to mergers and acquisitions operations. The global landscape is in fact characterized by few players that nevertheless still compete to try get consumers' attention. The following dissertation describes how the presence of global companies in local markets, i.e. in the Italian market, can represent the driver of this competition, as local communities are used as leverage to build relevance on the market.

The Field Lab will evaluate a potential sell-side M&A case of Birra Forst, with the objective of explaining the valuation of a private group facing an acquisition. The first section concentrates on the valuation of Birra Forst's business, going into the company's value proposition and business model, and elaborating on the impact the company has on the territory, on its innovative spirit, and on the target consumers it reaches. This first part is also dedicated to the beer market, through an initial analysis of the effects suffered by the industry due to the COVID-19 pandemic, leading to an overview of the growth that is expected in the coming years. Particular attention is then given to the Italian market, Birra Forst's target market, which has seen strong growth in the past decade both in terms of volumes consumed and of producers. The second section addresses the financial valuation of Birra Forst, initially focusing on the analysis of its financial ratios and their comparison with the industry averages. The analysis continues with the valuation of Birra Forst and all its subsidiaries through the discount cash flow method, analyzing and evaluating the different factors that influence it, and assuming the companies' growth in the years to come. For the purpose of our analysis, Birra Menabrea will not be considered, as it is assumed that it will be sold through a separate transaction. This second part concludes with the value estimation of the company through the method of multiples and the analysis of precedent transactions.

1. Company's profile

1.1 Business overview

Birra Forst is an Italian company based in Merano, near Bolzano, that has been brewing beer since 1857. The company is involved in all stages of production, from raw material research to bottling. High quality, respect for the environment, and innovation encapsulate the values of this historic brewery.

To increase the company's business, over the past 50 years Birra Forst has become a Group through the creation of new companies that can integrate into the company's processes and through the acquisition of existing companies that operate in the beverage industry. In this context, Birra Forst S.p.A. is the parent company of the Group and is involved in the brewery of beer, with 389 employees and €96,110,163 revenues from sales. Within the Forst Group we also find other companies that are involved in the brewery of beer, such as Birra Menabrea S.p.A. (51 employees, €27,664,511 revenues from sales), which will not be considered for the purposes of our assessment, and C.I.S.P.A. – Centro Imbottigliamento Siciliano Prodotti Alimentari s.r.l. (22 employees, €5,568,676 revenues from sales), which is also involved in the marketing of beer. The beverage wholesale business is another focus of the subsidiary companies of the Group, among which we have Agostini M. & C. s.r.l. with 28 employees and €5,093,982 revenues from sales, Enterprise s.r.l., specialized in the alcoholic beverage wholesale business, with 72 employees and €17,218,986 revenues from sales, Kaiserwasser s.r.l., involved in the bottling of the beverage wholesale business, with 11 employees and €764,526 revenues from sales, and Scheiber s.r.l., specialized in the wine and beverage wholesale business, with 33 employees and €8,880,836 revenues from sales. To facilitate its processes, the Forst Group is also involved in the rental of businesses with Kirchsteigeralm s.r.l. (0 employees, €24,000 revenues from sales) and Spiller s.r.l. (1 employee, €751,070 revenues from sales), with the latter previously managing the premises directly, and in the rental or

leasing of individual property with Montedinove Energy s.r.l. (0 employees, €1,160,046 revenues from sales) and Ripatransone Energy s.r.l. (0 employees, €587,111 revenues from sales). Two other important subsidiaries of the Group are Aquaeforst s.r.l. (9 employees, €2,215,624 revenues from sales), involved in the production and bottling of mineral water, and Marche Solare s.r.l. (0 employees, €1,405,543 revenues from sales), involved in the production of electricity.

In 2020 the Forst Group achieved revenues from sales and services of 167,445,074 euros (Exhibit 1). This result was achieved through the employment of 618 employees (average for the financial year).

1.2 The brand and its value proposition

For generations Birra Forst has been committed, with passion and expertise, to preserving the pleasure of the art of brewing, offering Forst's specialties that have always maintained the highest standards of quality. The desire to preserve the brewing culture and the attention to details that can be felt throughout the company are also perceived in the many Forst's premises, scattered throughout Italy, where the beer enthusiasts can experience them in a convivial atmosphere. This company is strongly tied to its territory, values, and traditions, growing with full respect for nature and the environment. Its philosophy has in fact remained unchanged over the years: superior quality, respect for nature and state-of-the-art technology. Closely linked to its places and people, Birra Forst is committed to the community with a strong sense of social responsibility, which takes shape in the support of numerous organizations and associations throughout the country.

1.3 Environmental and social impact

The connection between Birra Forst and nature is made evident from the very beginning: the company's logo is green and depicts three trees. But beyond appearances, over the years the Forst Group has worked and invested to keep true to its respect for the territory and the

environment in which it operates. In fact, even though the Group is not a microbrewery, it reflects the concept of Neolocalism, according to which businesses build an identity that is directly linked with the territory and that allows consumers to reconnect with the places of production (Cipollaro, Fabbrizzi, Alampi Sottini, Fabbri, Menghini 2021). There has been no shortage of initiatives to support this value: from the implementation of a model based on returnable empties, to the creation of virtuous activities for the community, to investments in plants that help reduce emissions.

Birra Forst has also decided to have an impact on the territory from a social point of view, participating in and supporting sports and other events throughout the year. In this way, over the years Forst has increased its brand awareness, thereby expanding the pool of people passionate about the beer produced in Bolzano. Of particular interest is the partnership signed between Forst and the Italian Winter Sports Federation (FISI). The union between FISI and Forst stems from a common vision that is to be found in the strong link with the mountains and their traditions, the passion for the environment, the culture of sacrifice and the attention to details. Victories and Olympic medals on the one hand, a beer that embodies the values of the territory of origin and of the highest quality on the other: these are the results of the paths that unite the two entities. Thanks to this partnership, Birra Forst has won its positioning as beer of skiing, and more generally of the mountains.

From the mountains of Trentino Alto Adige to the sunshine of Palermo, Birra Forst has also a strong presence in Sicily, where the only bottling plant in southern Italy is located. Even in the southernmost region of Italy, the Bolzano-based brewery is not only bringing the flavors of its beer, but also aims to be socially relevant by organizing events such as the “Oktoberfest” and visits to the plant to learn about and appreciate the historic beer.

1.4 Innovation processes

Over the past decade, the Forst Group has made investments to be able to compete nationally with large multinationals from a production standpoint. In fact, as previously anticipated Birra Forst, despite its positioning as a craft beer, is a brewery with industrial production, and as such needs to invest in the efficiency of its production processes so as not to be excluded from market dynamics. One example is the recent renovation of the bottling process, whose new system represents a significant upgrade in both efficiency and ease of maintenance.

In 2014, the fifth brewhouse in Birra Forst's history was inaugurated. In addition to ensuring continuous product control, from an environmental point of view the brewhouse can recover 47 percent of consumption, decreasing the average consumption of electricity and water. This is not only important but also consistent with the industry's increased attention on implementing more sustainable production systems and operations (Ness 2018). "Innovation and quality were the driving forces behind the realization of the brewhouse with which we place ourselves at the top of technology in beer production, while preserving the taste of our tradition", Margarethe Fuchs von Mannstein, CEO of Birra Forst, had commented on the day of the inauguration.

1.5 History

Birra Forst, as well as being a historic company, is also one of the very few still family-owned. A family company is defined as such when an individual or a family owns more than 50% of outstanding shares (Minichilli, Corbetta, MacMillan 2010). The brewery was created in 1857 by the entrepreneurs Johann Wallnöfer and Franz Tappeiner at a location near Lagundo, in the province of Bolzano, called Forst, the same name the brewery took. In 1863 the company, which produced just 230 hectoliters a year, was purchased by Joseph Fuchs. It is to him that we owe the construction of the actual industrial site that has come down to us. In 1892 the firm was

already producing 8900 hectoliters, rising to 22,500 in 1901 and 64,000 in 1913. Over the century Forst has grown to become one of the leading brewing companies in Italy, producing over 700,000 hectoliters per year. With the construction of a new facility and its state-of-the-art technology, production capacity has been increased to 900,000 hectoliters per year.

If Forst became a real player in the nascent Italian beer market, it was certainly also thanks to the improved general economic situation. However, the main factors must be assigned to industrial innovations, large structural investments, and the expansion of the market through commercial and production consolidation.

1.6 The business model

The Forst Group has a vertical specialization on beer. Its various subsidiaries enable it to follow all stages: from production through bottling to sales.

1.7 Product and activities

The analysis of the sales of the Forst Group shows that the company's core business is related to the production and marketing of beer through its parent company Birra Forst.

There are six different types of beers that the company sells both in bottles and cans, in different 660 ml or 330 ml formats: Birra Forst Sixtus, Birra Forst Felsenkeller, Birra Forst Premium, Birra Forst 1857, Birra Forst 0.0%, and the newest addition to the Forst house, Birra Forst Kronen. In 2019 Forst launched its non-alcoholic beer by virtue of positioning the brand on ski slopes in national and international competitions, sending a signal that beer can also be consumed by sportspeople. One special format sold by Forst is the 5-liter keg, a reminder that Forst is also about conviviality.

Moving away from beer production, in April 2012 Birra Forst introduced Spiller, a chain that now has ten restaurants located in northern Italy. The goal of Spiller s.r.l. was to create restaurants where the end consumer could enjoy traditional Tyrolean dishes accompanied by a

Forst beer. After making losses from 2012 to 2016, between 2017 and 2018 the Forst Group decided to switch from direct control of the premises to renting the assets, thus decreasing the company's commitment to management.

1.8 Customers

Birra Forst's business model is both B2B and B2C.

As far as B2B is concerned, Birra Forst is sold to restaurants – more than one hundred dealers scattered throughout the territory who in turn resell the product – and to supermarkets. The main Italian supermarkets selling Birra Forst include Bennet (one product sold), Iperal (7 products sold), Esselunga (2 products sold), and Coop (3 products sold).

Regarding the B2C channel, Forst sells its products within Forst branded restaurants and premises. These venues can be operated directly or indirectly by the Forst Group and usually also serve as shops where products can be bought for consumption at home. To reach as many people as possible, Birra Forst is also sold online. In fact, despite accounting only for a limited part of total sales in Italy, e-commerce enables craft breweries to expand their business and find new audiences (Rivaroli, Hingley, Spadoni 2021). The main channels used by Forst are the marketplace integrated within the company's website and Amazon.

1.9 Ownership and organizational structure

For more than 160 years Birra Forst, and the Group as a whole, has been controlled by the Fuchs family. Specifically, Maria Gabriella Bianchi Fuchs controls 30 percent of the company and serves as chairman of the board, while her daughters Cordula Benedicta von Mannstein and Margaretha Celina von Mannstein control 35 percent of the company, respectively. Margaretha Celina von Mannstein serves as the company's chief executive officer.

The share capital of the Forst Group is €1,100,000: specifically, there are 2000 shares of the company with a par value of €550 per share. The share capital represents the value of the sums and assets contributed by the shareholders, as equity, when the company was established.

Due to the crisis caused by COVID-19, the number of employees during FY2020 decreased from 655 registered as of January 1st to 618 as of December 31st, which corresponds to a 5.64% decrease in the workforce. Specifically, as of December 31st, the breakdown of employees by role was as follows:

- 11 executives (unaltered number);
- 238 employees (+2 compared to 01-01-2020);
- 374 workers (-39 compared to 01-01-2020).

2. Beer Market

2.1 Past and future

According to studies conducted by Statista, globally produced revenues from the beer market in 2020 were $527 billion, down from $637 billion in 2019, thus marking a 17.2 percent decrease (Exhibit 2).

The COVID-19 pandemic and the resulting restrictions enforced by governments regarding the ability to travel have caused a drastic reduction in beer consumption. This is due to the fact that, on the one hand, a significant number of cafés, restaurants, pubs, and bars have been forced to close and, on the other hand, there has been a weak demand by the stakeholders of the whole supply chain (Siddiquei, Khan 2020). The figure gets worse if we consider that only in Europe the reduction in beer sales in bars and restaurants would have been 42 percent, impacting the entire chain (The Brewers of Europe).

In contrast to the beer market in general and consumption in bars and restaurants, home beer consumption has maintained steady growth, driven by the restrictions mentioned above. For the first time since 2012 (latest data available), the percentage consumption of beer at home, 54 percent, exceeded beer consumption away from home, 46 percent (Exhibit 3). 94.7% of sales occurred offline, while the remaining 5.3% occurred online (Exhibit 4). The percentage of online sales increased considerably in 2020, marking a 1.8 percentage point increase over 2019.

2018 and 2019 had marked a steady increase of 0.6 percentage points over the previous year. As Rivaroli, Hingley, Spadoni (2021) states the COVID-19 pandemic has influenced the intention to buy online of consumers in a considerable and positive way.

Although 2020 was a down year for the entire beer industry, strong growth is expected in the coming years. Globally, beer is the best-selling alcoholic beverage in terms of volume. This is also reflected in revenues: beer bills 38 percent of the entire alcoholic beverage industry (Exhibit 5). Research by Fortune Business Insights points out that beer is becoming increasingly popular among Millennials and Generation Z, two attractive consumer segments for artisanal breweries, and is crossing the borders of Europe and North America, the regions where more beer has historically been consumed. Coupled with this is a divergent consumption trend from the past: people are more and more looking for sophisticated and premium beers, not only in terms of flavor but also in terms of the aesthetic and the values that the brewing company represents. This aspect specifically characterizes the generations mentioned above and the ever-increasing quest for authenticity and tradition in the food products they consume (Rivaroli, Hingley, Spadoni 2021). This search is leading to the emergence and establishment of local breweries, which are expected to be the driving force in the market over the next decade. The situation depicted is expected to lead the big players to operate with even more conviction in the area of acquisitions and partnerships in order not to lose important market share to the new players.

In the beer landscape, another strong trend is related to non-alcoholic beer sales, which generated revenues of $22.83 billion in 2020, returning to pre-Covid levels in 2021 with revenues of $25.44 billion (Exhibit 6). This market is projected to be worth $46.60 billion in 2025.

As previously anticipated, the beer sector is expected to grow in the coming years. According to Allied Market Research, market value is forecasted to grow at a CAGR (Compounded Average Growth Rate) of 2.70% until 2030, reaching a total value of $816.84 billion.

2.2 Geography

In absolute terms, China has the highest revenues ($121.90 billion), followed by the United States ($109.00 billion), Brazil ($23.93 billion), Mexico ($19.88 billion) and the United Kingdom ($19.35 billion) (Exhibit 7).

2.3 International players

The beer market is a very concentrated market: six players control 70% of it. The various changes that have taken place in recent decades on the international scene have in fact enabled breweries to strategically enter new markets by acquiring local breweries, leveraging economies of scale to grow their business even further (Madsen 2019; Török, Szerletics, Jantyik 2020). The principal players in this market are Anheuser-Bush InBev, with a 30 percent market share, followed by Heineken N.V. (20 percent), Asahi Group (5 percent), Carlsberg Group (5 percent), China Resources Beer (5 percent), and Molson Coors (5 percent). The remaining 30% is controlled by companies with lower market shares (Exhibit 8).

2.4 The Italian beer market

Italy is mainly renowned for wine production and export, but the country also plays a significant role when it comes to beer consumption and export. In the decade 2009-2019, the volume of beer consumed grew steadily from 16 million hectoliters in 2009 to 21 million in 2019. However, due to the pandemic, in 2020 the volume of beer consumed decreased to 19 million hectoliters, at the 2015 level. The volume per capita of beer consumed was 31.7 liters in 2020, far from the 182 liters consumed in Czech Republic or Germany's 97 liters, even though the number is still growing (Exhibit 9). In 2021 there was a rebound that brought consumption back to pre-Covid levels. Geographically, beer consumption is highest in the northern and central

regions of Italy, whereas it is consumed less in the southern regions, expect for Calabria. Since 2008, the amount of active breweries in Italy increased steadily, more than tripling over the decade, from a total of 220 in 2008 to a peak of 874 in 2018. However, the number of breweries reached 769 in 2020.

An amount of large brewing companies have their industrial production in Italy, a market where they also operate: Heineken Italia, Birra Peroni, Birra Castello, Carlsberg Italia, Birra Forst, Menabrea, and several smaller companies such as Birra Lucana, Theresianer, Amarcord, Semedorato, and Birrificio Messina. They manage a total of about 20 production plants, located in different parts of Italy. To these are then added the numerous craft production units (more than 900).

Some of these microbreweries have been acquired by large industrial groups, of which they are now an integral part: Birrificio del Ducato is controlled by Duvel Moortgat, Birra del Borgo is part of AB InBev Italia, Birradamare is controlled by Molson Coors. However, the market is quite concentrated, as the top 4 groups (Heineken Italia, Birra Peroni, AB InBev Italia and Birra Castello) make about 65 percent of domestic sales. More than 2,000 imported brands are also marketed in the Italian market, distributed:

- Partly through the Italian production groups mentioned above, on the basis of specific commercial partnership agreements;
- Partly through commercial subsidiaries of foreign breweries operating in our territory, such as AB InBev Italia, Swinkels Family Brewers Italia (formerly Bavaria It.), Ceres Italia (Royal Unibrew Group), Radeberger Italia, Warsteiner Italia, Diageo Italia (Guinness), Paulaner Italia, Kulmbacher Italia, Mahou San Miguel Italia, Kühbacher s.r.l., Herrnbrau Italia, John Martins Italia;
- Partly through specialized national distribution organizations including: Czech Beer, K.Kiem, Eurosaga, Brewrise, Interbrau, Ales&Co, Atlante, Cuzziol, Asolo, Beer

Gravity, GMA, GS Distribuzione Italia, Uniontrade, Plaza Latina (the latter two specializing in ethnic beers) and others;

- Finally, others operate through a network of local distributors/dealers.

2.4.1 Competitors landscape

Today, the beer industry is characterized by high concentration as a result of the massive M&A transactions that have followed in recent years. However, as Török, Szerletics, Jantyik (2020) states, competitiveness remains high due to continuously renewed consumers' tastes and preferences, which challenge the industry whereby the Forst Group operates.

Heineken Italia

Heineken Italia is part of the Dutch Heineken Group, the world's second largest brewing group with 222 million hl of beer produced and a turnover of €24 billion. In 2019, Heineken alone generated a turnover of more than €620 million (Muraca 2022). The company has been brewing beer in Italy for more than 40 years, becoming the leading brewing company in the country and marketing about 6.3 million hl of beer (33% share). In Italy, Heineken operates first and foremost with historic national brands such as Birra Moretti. Closely linked to Italian tradition, it offers an articulated assortment of beers that covers all the main segments of the market. Only the premium segment is strongly manned by the international brand Heineken, which is also produced in Italy under license from the parent company. Finally, Heineken Italia operates with several other minor brands produced in Italy and imported from the subsidiaries of the Group, but also from other breweries. Heineken Italia also operates with a distribution network – Partesa – specializing in sales, distribution, consulting, and training services for the HoReCa channel, where an articulate network of peripheral warehouses operates.

Birra Peroni

For more than 170 years the story of Birra Peroni has been strictly tied to Italy. Today the brewery is part of the Japanese Asahi Group, which produces 56 million hl of beer per year,

occupying seventh place in the ranking of the world's major beer producers. With its presence in Italy Birra Peroni makes an annual production of beer that amounts to more than 5 million hl, of which more than 3 million are sold on the domestic market (18% market share) and just under 2 million are exported. The turnover was about 400 million euros in 2020. The historic brand Peroni, to which belongs a wide assortment of beers, covers all the main segments of the market. The premium segment is however manned by Nastro Azzurro, which has become the spearhead in international sales (the most exported Italian beer brand in the world). Finally, the company distributes numerous imported brands mostly belonging to other group units.

AB InBev Italia

AB InBev Italia is the Italian subsidiary of the AB InBev conglomerate, the world's largest brewing group with a production of 467 million hl and a turnover of about €52 billion in 2020. With more than 1.6 million hl of beer sold in Italy (8.6% of the total market by quantity), AB InBev Italia represents the third player of the domestic market. However, in this market it operates mainly with the conglomerate's imported beer brands.

Birra Castello

Birra Castello is the only brewing industry wholly owned by a group of Italian beverage distributors specializing in the HoReCa channel. The company was born from the acquisition of two former Heineken Italia breweries, and it has been able to relaunch its business both by developing its own brands and by producing private label. In 2020 it achieved sales of 1.1 million hl of beer with a turnover of more than €100 million. It ranks fourth on the list of large producers operating in Italy with a 5.8 percent share in quantity.

Carlsberg Italia

Carlsberg Italia is the Italian subsidiary of the Danish Carlsberg conglomerate, the world's third largest brewing group with a production of 110 million hl and a turnover of about €8 billion in 2020. Carlsberg Italia ranks fifth among domestic producers with sales of about 1 million hl

(5.1 percent share) and a turnover of more than €110 million. Its plant produces under license the Group's most famous brands as well as Birrificio Angelo Poretti beers.

Swinkels Family Brewers Italia

Swinkels Family Brewers Italia is the Italian subsidiary of the Dutch Group of the same name that, with 7.7 million hl of beer produced annually and a turnover of about €900 million, represents one of the largest independent breweries in Europe. Swinkels Family Brewers has been able to enter the Italian market well with an effective policy in the GDO channel and now the Italian subsidiary operates commercially in the country with annual sales of about 500,000 hl and a turnover of about €60 million.

Royal Unibrew Italia (Ceres)

Royal Unibrew Italia is the Italian subsidiary of the Danish Royal Unibrew Group, one of the most important and qualified European producers of beers and soft drinks, with annual sales of more than €1 billion. It has been successfully operating in Italy for several years with a volume of about 400,000 hl of beer and an annual turnover of more than €100 million.

3 Valuation

3.1 Valuation frameworks

The term "valuation" refers to the analytical method of establishing the current or projected value of an asset or a firm. We can therefore describe valuation as the quantitative process that determines the fair value of an asset, an investment, or a company (Chen 2022). In general, the value of the company can be determined looking at its own performance and capital structure, or by using its relative key financials (EBITDA, EBIT, Revenue Growth, FCF, FCFF) to compare it with companies similar for size, geography, and classification (if they are public or private firms).

In this dissertation, the valuation starts from the individual analysis of Birra Forst (leader of the Forst Group) and from the individual analysis of its minorities, namely the companies where

Forst owns more than 51% of the equity. More specifically, through the individual comparison of each company it is possible to comprehend how the capital structure is composed and what it can be expected for the future projections of the business, in an exit situation where a private equity fund or a multinational group that works in the beer industry is assumed as potential buyer.

3.1.1 Reclassification approach

Since the Forst Group is an Italian group, the reclassification of the three financial statements was made, so to get the starting point for the analysis of the financial metrics and to figure out the capital structure of the companies that compose the Group, differentiating the valuation approach for core companies and non-core companies.

3.1.2 Financial and profitability ratio

To measure a company's performance, numerous studies over the years have demonstrated not only the usefulness of financial ratios, but also the key role they play in such evaluations (Chen, Shimerda 1981). As Barnes (1987) states, financial ratios can be used in relation to different objectives, for instance the company's ability to repay debt or its ability to grow over time. However, following some studies (Whittington 1980), there is evidence that financial ratios are primarily linked with the desire to evaluate the company as time passes and as size changes, and to compare it with the other players of the industry. This two-pronged approach will be used within the analysis of Birra Forst's financial ratios.

NFP/Equity is an important metric in corporate finance, which is used to assess a company's financial leverage. Net financial position is the capability of a company to pay its debts if they are due immediately, while equity is the amount of money that a company's owner has put into it or owns. The comparison of these two figures explains how much financing sources a firm must use if it has to pay its debts instantly. A lower ratio is good for a corporate because it represents stability between sources and uses. By contrast, a higher ratio represents instability

and means that a firm will have to use more financing sources, like retained earnings or the money of equity investors, to pay its financial debts. The average of NFP/Equity of Forst is 42.1% (Exhibit 10), lower than its competitors. It is an important data because it demonstrates a lower exposure to default for equity investors.

NFP/EBITDA is also a measure of a company's financial leverage. To be calculated, there is the need to use the last financial statements available for companies. This ratio is used to compare the operational profitability with the financial debts, which permits to understand whether the corporate is capable to repay its debts and in how many years (Yon 2021). However, if a company has more cash than debt, the ratio can be negative. Usually, a higher ratio sets off alarm bells because it indicates that the company is less likely to handle its repayment of debts. In the case described, the average of NFP/EBITDA is 8.8x for Forst (Exhibit 11), four times bigger than the average of peers (2.3x). This can be explained by the huge decrease of the EBITDA of 2020 of Forst compared to the years 2017, 2018 and 2019. As we can imagine, this decrease was due to the COVID-19 pandemic.

Among the profitability ratios what has been considered is the EBITDA margin, which shows the percentage of earnings before interest, taxes, depreciation, and amortization. The EBITDA margin however excludes some factors from the equation, namely interest on debt, non-cash expenses, capital expenditures, and taxes, so it cannot be the only element at which investors should look. At the same time, it is a very useful indicator for comparing the profitability of different companies. In the case of Birra Forst we can see a sharp decline in profitability in 2020 to 4.3 percent (Exhibit 12), affected by the COVID-19 pandemic, and an average EBITDA margin over the last 4 years of 12 percent, 7.7 percentage points lower than the average of comparables. Two other profitability ratios that are commonly used are ROE and ROA (Exhibit 13 and 14). ROE is given by the ratio of a company's net income to its shareholders equity, and it measures the company's profitability from the perspective of shareholders and potential

investors. In order to compensate for the risk taken, ROE should be greater than the risk-free rate of the investors (Welc 2022). As already stated for the EBITDA margin, the COVID-19 pandemic marked a drastic decline in Birra Forst's profitability (Prometeia 2019), with the ratio marking -3.55% in 2020. Also, by analyzing the average of the last 4 years (2.7%) we observe that the Bolzano-based company underperformed its comparables, which maintained an average ROE around 10%. The last profitability ratio considered is ROA, which relates operating results to total assets. This measure provides an indication of management's ability to exploit the assets at hand. The trend in ROA for Birra Forst is very similar to that of the two ratios listed above, with the ratio registering -2.05% in 2020. Even compared to the market, the average over the past 4 years is 4.7 percentage points lower.

From the analysis of these three ratios it can therefore be seen that there was a sharp deterioration in 2020, but the negative trend actually began in 2019 already, due to a decrease in the value of the company's production.

To understand Birra Forst's liquidity (Exhibit 15), the cash ratio was considered. The cash ratio measures the company's short-term liquidity by comparing total liquid funds to current liabilities. Due to its characteristics, this liquidity ratio is perceived as very conservative (Gibson 2013). In the specific case of Birra Forst, this ratio has gradually declined since 2018, marking a -30% in 2020 YOY. The average ratio (0.8) is 3.5 times lower than that of the comparables (0.27). Generally, a ratio below 0.5 is considered risky (Kenton 2022). Birra Forst could therefore run into liquidity problems in the short term. Another liquidity ratio used is the quick ratio, which measures the overall liquidity position of the company by looking at current assets and current liabilities. Historically this value had to be at or above 1 to estimate a good position for the company; however, over time this view has been revised and even a value below 1 is now considered acceptable. Birra Forst maintained an average quick ratio above 1 in 2018 and 2019, given by a high value of receivables and a modest value of current liabilities. The

pandemic of COVID-19 mainly affected short-term debt, which came to be worth 130 million euros, bringing the quick ratio to 0.41. Birra Forst's quick ratio (0.81) is in line with that of the market (0.80). The last liquidity ratio studied is the current ratio, which determines the willingness to pay short-term debt through the valuation of current assets. Until the first half of the 1960s this value had to be above 2 in order to be considered sustainable; over the years it has been lowered to 2 and even today 2 remains the benchmark value for many. Despite this, the general rule is that the market in which the company operates remains an excellent proxy (Gibson 2013). Other studies set the threshold for this ratio at 1 (Robinson, Henry, Pirie, Broihahn 2015). As with the liquidity ratios seen above, the current ratio has been strongly influenced by sharp increase in current liabilities (about 50%), seeing the value of the ratio more than halve (1.09 in 2019, 0.46 in 2020). On average the ratio for Birra Forst over the last 4 years has been 0.91, below the market average of 1.38. In general, a low value of less than 1 impacts the company's strength (Durrah, Rahman, Jamil, Ghafeer 2016).

The last metric considered is the cash conversion cycle (Exhibit 16), which is of critical importance in the working capital management branch of study in order to generate revenue. This measurement is used to determine the amount of days it takes to convert a product into sales (Costa 2014). For Birra Forst this figure has varied greatly over time, from 9.2 in 2017 to 101.8 in 2020. On average this number is lower than the market average of 148 (considering only 2020), which is however heavily influenced by some outliers.

Working capital management (WCM) is considered by companies as a strategic indicator to generate cash. The management of the cash is crucial when considering the cash conversion cycle due to the fact that its components have a direct impact on the cash outflow and inflow of the company. Specifically, the Cash Conversion Cycle (CCC) measures the ability of a company to convert rapidly its products into liquidity through their sales. For instance, by analysing some industry stars such as Heineken, Carlsberg, AB InBev, and Asahi Group, one

can see a negative cash conversion cycle. This has also been shown by empirical evidence (Fillbeck, Krueger 2005), according to which there is a negative correlation between company size collection days.

3.2 Discounted cash flow

The discounted cash flow is a valuation approach used by companies with stable and predictable cash flows. Based on different assumptions, it consists of discounting the future cash flows of a firm to understand how they could be evaluated in the following years.

The DCF method is composed by two metrics: the projection period and the terminal value. Before going into details about this analysis, from discounted cash flow and free cash flow to the firm's calculations, a brief overview on the discount rate used in the model should be provided.

3.2.1 Weighted Average Cost of Capital (WACC)

The weighted average cost of capital is a widely used benchmark for the discount rate that calculates the anticipated FCF and terminal value of a company's present value. It stands for the average of the necessary return on the invested capital, which is typically debt and stock in a specific business. Because the risks associated with debt and ownership are different, WACC depends on a company's "target" capital, characteristics, and tax implication's structure. The weighted average cost of capital formula is (Dahlquist, Knight 2022)

$$\boldsymbol{WACC = Ke\ x\ (E/D + E)\ +\ Kd\ (1 - t)\ x\ (D/D + E)}$$

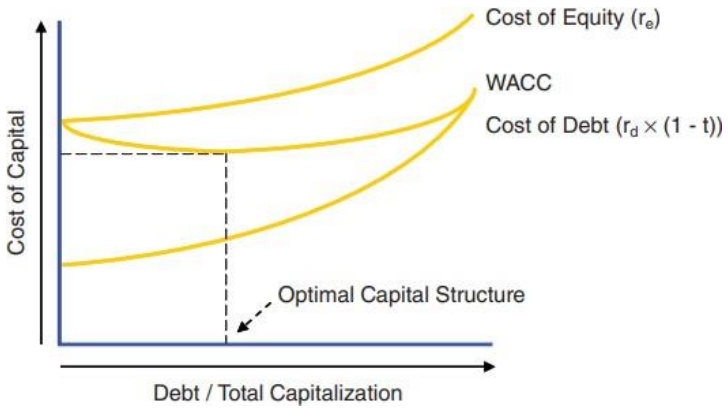
where:

- Ke is the Cost of Equity
- E is the Equity of the firm
- D is the Debt of the firm
- Kd is the Cost of Debt
- (1 – t) is the Tax shield

As we can see from the formula, in evaluating the weighted average cost of capital, we give much importance to the target capital structure of the company. The latter is given by the debt to total capitalization (D/(D + E)) and equity to total capitalization (E/(D + E)) ratios. In general, the banker considers the business' current and historical debt-to-total capitalization ratios as well as the capitalization of its competitors in the absence of explicit company guidance on target capital structure. Since it is presumed that the management teams of similar public companies attempt to maximize shareholder value, these companies serve as useful benchmarks for the goal of capital structure.

As it can be clear looking at the graph below, the WACC of a company is influenced by its capital structure. In the case in which the capital structure is unlevered, the cost of equity coincides with the WACC. On the other hand, after a debt increasing, the WACC decreases due to the tax deductibility of interest expenses. The WACC keeps diminishing until the optimal capital structure is reached. When the latter is overcome, the advantages deriving from the deductibility of debt are overridden by the potential financial distress cost. (Rosenbaum, Pearl 2020).

Table I: *Graph of Optimal Capital Structure*



Source: *Rosenbaum, Joshua, Joshua Pearl, Joseph R. Perella, and Joshua Harris. Investment Banking Valuation, Lbos, M&A, and Ipos.*

The capital structure of the company has already been discussed during the due diligence. In fact, after analyzing the debt structure of the company, taking into consideration the main debt ratio, a comparison with the ones of the comparables of the Forst Group has been made.

As already specified, NFP/Equity is a measure of a company's financial leverage which is computed by the ratio between net liabilities and stockholders' equity. The NFP/Equity ratio of Birra Forst is slightly lower than its peers, respectively 42.1% and 51.4%. The average between these two values could be a proper proxy of the optimal capital structure which was estimated to be 46.74%. The latter was then used as D/E to get the value of the WACC. The average of these two ratios could be considered as the long-term optimal capital structure of the firm.

To reach the cost of equity the formula of the Capital Asset Pricing Model (CAPM) was used. The CAPM is built on the rationale that equity investors have to be compensated for their expected level of systematic risk. These could be granted by receiving a risk premium, or an amount of market return over a specific risk-free rate.

The formula of CAPM is

$$\boldsymbol{CAPM = rf} + \mathrm{Q}_L \times \boldsymbol{Market\ Risk\ Premium}$$

where:

- rf is the Return of the Bond of the country where the company operates
- β_L of our company is the Beta adjusted for the capital structure of the target company
- Market Risk Premium is the spread of the expected market return over the risk-free rate

Starting from the risk-free rate, the average of the return of the Italian government's 10 years bond from December 2010 to December 2020 was used, since the company operates in Italy. In retaining the risk-free rate, it was considered that in 2020 the value was lower than a potential estimate related to 2022. This is well explained by the fact that the inflation goal for the European Central Bank was to maintain a value of 2%.

The calculation of the beta is crucial to the calculation of the weighted average cost of capital and it represents the variance between return of the market and return of our company. It is important to point out that there are different approaches to the computation of the beta. The three most important theories in the field of valuations are:

- Myers (1974)
- Harris and Pringle (1985)
- Damodaran (1994)

Myers' approach introduced the APV (adjusted present value). According to it, the value of the levered firm is equal to the sum of the amount of the unlevered company and the present value of the tax deductibility of interest expense. According to Myers, the value of tax shields is computed by discounting the tax savings at the cost of debt (Kd). So, the Myers' formula is (Fernandez 2006):

$$VTS = PV\ [Kd;\ D\ T\ Kd]$$

It is of clear understanding that the relationship between levered beta and unlevered beta implied by the value of tax shield (VTS) for growing perpetuities is:

$$\beta L = \beta u + (D\ /\ E)\ (\beta u - \beta d)\ [1 - T\ Kd\ /\ (Kd - g)]$$

Harris and Pringle theorize that the PV of tax savings should be reached by discounting the tax shields at the required return to assets. They continue assuming that the systematic risk of the interest tax shields is the same of the firm's underlying cash flows and, therefore, should be discounted at the required return to assets. Then, according to Harris and Pringle (1985), the value of tax shields is (Fernandez 2006):

$$VTS = PV\ [Ke;\ D\ Kd\ T]$$

So, the relationship between levered beta and unlevered beta following Harris and Pringle's approach is (Fernandez 2006):

$$\beta L = \beta u + (D / E)(\beta u - \beta d)$$

The last and probably most important approach is the Damodaran's. This assesses that if all the business risk is sustained by the equity, then the formula for the levered beta will be (Fernandez 2006):

$$\beta L = \beta u \, x \, [1 + (1 - t) \, x \, D/E)]$$

Damodaran's approach also suggests that a component of debt has tax benefit to the firm. This is the method that investment banks use the most when it comes to valuations and is the same approach that the following analysis follows to find the appropriate beta. The starting point are the 5-years-average betas levered of the peer companies. In this first part it is important to highlight that each company has a different capital structure (D/E), which means that it is not possible to use the betas levered of the peers to find a correct beta for Birra Forst. For that reason, the betas levered of the peers have been unlevered by using this formula:

$$\beta u = \frac{\beta L}{[1 + (1 - Tax\ Rate) \times (\frac{D}{E})]}$$

The unlevered beta measures the risk of the company taking off the financial risk of the leverage. After finding each unlevered beta of the peers, the beta levered was calculated, starting from the median of them and using the capital structure of Birra Forst (D/E). In this way, it was possible to calculate the beta used for the cost of equity calculation.

$$\beta L = \beta u \times [1 + (1 - Tax\ Rate) \times (\frac{D}{E})]$$

Size premium

To conclude the calculation of the return of equity, the size premium has been taken into consideration. The idea of a size premium is supported by factual data that suggests that smaller businesses are riskier and should thus have a higher cost of equity. This concept relies on the

idea that smaller companies' risk is not entirely represented by their betas given their stocks' modest trading volumes, making covariance estimates inaccurate.

To justify the perceived higher risk and hence projected higher return for smaller companies, an in-depth WACC analysis often requires adding a size premium to the CAPM method. Duff & Phelps offers size premia for businesses based on their market capitalization. So, as the rate for the size premium depends on the dimension of the company analyzed, it is possible to distinguish three types of sizes: small-cap, mid-cap, and large-cap. For the case, considering that Birra Forst is a private company – so, a firm without a market capitalization –, revenues and number of employees have been used as parameters to establish its size; from this, it was possible to pick a size premium of 1.37% from the Duff & Phelps website. The range established by the Corporate Finance Institute to assess a corporate as a mid-cap firm is in fact an annual revenue between 100 million euros and 3 billion euros and a number of employees between 100 and 1,999 (CFI 2022a). Respectively, in 2020 Forst had revenue for 100,214,552 million euros and a total of 389 employees.

Country risk premium

Country risk premium (CRP) is the additional return requested by investors to compensate them for the higher risk coming from investing in a foreign country, with respect to investing in the domestic market (Picardo 2020). Being Birra Forst an Italian firm, a country risk premium rate of 2.18%, which is the CRP for the Italian country, has been used. This value comes from the Damodaran table for the country risk premium (Damodaran, 2022).

Cost of debt

The cost of debt of a company reflects the credit rating of public companies that have access to capital markets. In the absence of market data, as in the case of private companies such as Birra Forst, a good proxy is to use the peer companies credit rating. For this assessment the credit ratings of comparables have been used, linking them with the respective probability scoring.

From this it was possible to derive an average, associating it with the respective credit rating. After that, by using the table of Damodaran about the spread of the risk-free, it was possible to get the cost of debt.

After the calculation of all the components of the weighted average cost of capital we obtain a value of 5.78%. The table below summarizes the calculation of the weighted average cost of capital and the result obtained for each component.

Table II: *Calculation of WACC*

WACC Calculatiom	
Risk-free Rate	2.89%
Beta Levered	0.61
Market risk premium	0.95%
Country Risk Premium	2.18%
Firm-specific risk premium	1.4%
Cost of equity	**7.02%**
Pre-tax cost of debt	4.14%
Tax Rate	24.67%
D/E	46.74%
(D/D+E)	31.85%
WACC	**5.78%**

Source: *Computation of WACC in the Excel Sheet "Calculation WACC"*

3.2.2 Projection period

Before starting with the construction of this model it is fundamental to understand the assumptions that better apply to the industry in which the company operates. For this reason, the starting point of the analysis has been a thorough comprehension of the beer industry, in which Birra Forst is involved and whose characteristics were studied in the initial chapter of this dissertation.

After the calculation of each component used to discount the free cash flow to the firm, it is the moment to set the discounted cash flow model. The method starts with the reclassification of the company's assets on its balance sheet depending on their operating and non-operating nature. There are different reasons for such reclassification. On the one hand, it is easier and

more accurate to forecast the underlying performance of the firm since it is not impacted by non-operating items. On the other hand, it helps investors have a better view of the operating performance of the company as well as compare it with similar peers.

The first year of our discounted cash flow was 2020. From that year, assumptions were used to calculate the line items that are useful to compute the free cash flow to the firm, which has this formula:

$$FCFF = Ebit\ x\ (1 - t) - Capex + D\&A - \Delta\ NWC$$

Free cash flow to the firm is the cash flow entitled to debt holders, preferred stockholders, common stockholders, convertible bond investors. This can also be called unlevered free cash flow, and it represents the cash available for the companies after that the debt was paid.

Assumptions for the discounted cash flow

As previously mentioned, the projection step of the DCF is guided by some assumptions that were used to calculate the expected growth of the Birra Forst's business in the period that goes from 2021 to 2025. The assumptions are as follows:

- An increase in the compound annual growth rate (CAGR) of 15% for 2021, 10% for 2022, 5% for 2023 and 2.70% for 2024 and 2025 (Allied Market Research);
- The EBIDTA margin was calculated by taking the average of the period from 2015 to 2019, with the exclusion of 2020 because the data was affected by the COVID-19 pandemic;
- The weighted average cost of capital was computed as noted before;
- For the growth rate (g) used in the terminal value it was assumed a percentage of 2.6%, which is the growth expectation of analysts for the Italian GDP (ISTAT, 2022);
- A decrease in CapEx of 10% every year due to the fact that, according to the model idea, the company, after having invested a lot of money in PP&E in the precedent years, will decide to maximize the warehouses by reducing them in number;

- For the effective tax rate (24.7%) it was used the average of the tax rates for the period that goes from 2017 to 2020;
- For the depreciation and amortization assumptions the starting point was the ratio between the D&A of 2020 and CapEx of the same year. The margin (69%) was maintained constant and, based on the assumptions already done for CapEx, it was assumed that the D&A of the following years will be as that percentage of CapEx for all the discounted cash flow models.

All the appropriate calculations have been made starting from the revenue of 2020, computing each free cash flow to the firm for the projection period (2021-2025). In the end, the FCFF was discounted with the WACC (5.78%) already calculated.

3.2.3 Terminal value

The estimation of the terminal value is computed in the second phase of the DCF. The terminal value can be defined as the value of an asset, a business, or a project beyond the projected period when the forward-looking cash flows can be forecasted. In particular, the terminal value assumes a business will keep growing at a specific g (growth rate) forever after the projected period. It often entitles a large percentage of the total assessed value. Terminal value is widely used in discounted cash flow analysis, and it brings down the limitation of cash flow projections to a longer period. It must always be considered that predicted values imply a great uncertainty involved in forecasting industry and macroeconomic conditions beyond some years.

There are two types of terminal value: the perpetuity method and the exit multiple method. The former allows investors to assume that cash flows will grow at a steady rate forever, starting at some point in the future. The formula is:

$$TV = [FCF\ last\ year \times (1 + g)]/(WACC - g)$$

In the second method, the terminal value must equal the net realizable value of a company's assets in that period. This often means that the company's equity will be purchased by a bigger group or firm, and that the value of the transactions will be calculated using exit multiples

(Ganti 2022). Exit multiples are used to predict a price by multiplying financial metrics such as sales, profits, EBITDA, or EBIT by a factor which is common for similar firms which operate in the same industry. Nevertheless, the most common method is the perpetuity one.

3.2.4 Enterprise value of Birra Forst

The enterprise value (EV) of a firm measures the company's total value, and it is often used instead of the equity market capitalization. The EV calculation takes into consideration the market capitalization of a firm as well as short-term, long-term debt and any cash or cash equivalents reported on the company's balance sheet. The formula is

$$Enterprise\ Value = Equity\ Value + Net\ Debt + Minorities - Associates$$

where:

- Equity Value is the equity of the firm;
- Net Debt is the difference between Interest Bearing Debt and Cash and Cash Equivalents;
- Minorities are the participations in other firms where Forst owns a percentage of equity of 51% or higher;
- Associates are the participations in other firms where Forst owns a percentage of equity of 49% or lower.

Using the DCF, the EV of Birra Forst was computed by summing the discounted FCFF and the discounted terminal value. As observed, the EV is 161,358 million euros and the impact of terminal value is around 93.21% of the total EV.

Valuation of Forst's participations

As the valuation has been made not only for Birra Forst but also for the Forst Group, it is important to understand the impact of the participations of Forst and whether they are core or non-core for the estimation of the enterprise value. To make this comparison two different approaches were used.

Valuation of core subsidiaries

The Forst Group presents participations in different subsidiaries where it owns up to 99% of the equity. These subsidiaries were divided in core and non-core, and their business was analyzed. The four core companies owned by Forst are:

- Enterprise s.r.l.
- C.I.S.P.A. s.r.l.
- Agostini M. & C. s.r.l.
- Scheiber s.r.l.

These companies are strictly involved in the core business of Forst while also working independently in Italy. Potentially, they could be considered as synergies for a potential buyer, but each of them has been analyzed in details to determine their impact on Forst. To evaluate these core subsidiaries a DCF model was used applying the same assumptions for the DCF of Birra Forst. The two most relevant subsidiaries for this valuation are Enterprise s.r.l. and Scheiber s.r.l., with respectively an EV of 15,914.09 million and 21,772.10 million euros. As for the other two, Agostini M. & C. s.r.l. and C.I.S.P.A. s.r.l., the EV is of 4,502.57 million and 2,902.60 million. All these companies represent Forst's minorities. A minority interest is an ownership position in which a shareholder has more than 50% of outstanding shares and is entitled on control over decisions. Nevertheless, it was used a discounted cash flow model to evaluate these participations because they are either involved in the distribution process of Forst or they sell other products and, theoretically, a buyer may not be interested in an acquisition because they are not directly related to beer.

Valuation of non-core subsidiaries

As mentioned above, Forst has also different participations in subsidiaries that are not related to its core business, where it owns 98-99% of the equity. These companies are:

- Spiller s.r.l.
- Aquaeforst s.r.l.

- Kaiserwasser s.r.l.
- Kirchsteigeralm s.r.l.
- Marche Solare s.r.l.
- Montedinove Energy s.r.l.
- Ripatransone Energy s.r.l.

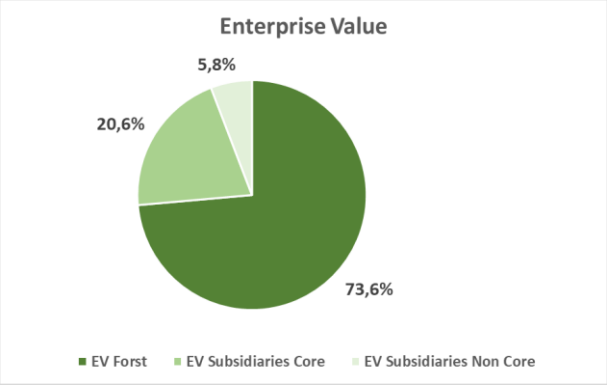
All these firms operate in the energy and water industries. Given the small size of these companies and the fact that their financial structures are not relevant for the valuation of the Group, these non-core subsidiaries have been included in the valuation of Forst by using the multiple valuation approach. Valuation multiples are financial measures that evaluate one financial metric as a ratio of another. This is done to ensure companies between different companies in terms of capitalization. In our assessment a multiple of 15.9x was used for the energy sector (Statista Research Department) and a multiple of 16.6x was used for the water sector (utilities) (James, 2022). The total EV of the non-core subsidiaries is 12,788 million euros.

The total enterprise value of Forst including core and non-core subsidiaries can be therefore calculated in this way:

- Enterprise value of Birra Forst is 161.358 million euros;
- Enterprise value of core subsidiaries is 45.091 million euros;
- Enterprise value of non-core subsidiaries is 12.788 million euros.

Consequently, the enterprise value of the Forst Group is 219.237million euros. From the graph below we can see the percentage composition of core and non-core subsidiaries that have been used for the total enterprise value of the Forst Group:

Table III: *Composition of Forst Group Enterprise Value*



Source: *Composition of EV in the Excel Sheet "Valuation Beer Forst&Sub"*

3.3 Multiple valuation

Discounted cash flow analysis is the most exhaustive and efficient method for valuing companies or projects. Nevertheless, other valuation models can also be used, such as the multiple valuation. A multiple is an expression of the market value in relation to a key statistic that one assumes relates to the value. Under this approach, the object of the valuation is priced looking at the price of its comparable companies. The main idea behind the approach lies on the fact that similar assets should sell for similar prices. For the sake of completeness, a comparison of the results found using the discounted cash flow model and the multiples of comparable companies and precedent transactions of the beer industry will be made.

3.3.1 Selection of comparable companies

Before moving forward it is important to mention the criteria used to determine the comparable companies. There was in fact the need to investigate companies that operate in the same industry and that have similar sizes of operations, measures of profitability and cash-flow, and capital structure. Naturally, having the chance to choose the peers to analyze, the model is affected by a freedom that might not have assessed the right parameters.

Theoretically, the most appropriate multiples for Birra Forst should be non-listed companies that operate only in the beer industry. Nowadays these conditions are however not easy to find in the market. Therefore, since the most important brands in Italy are owned by multinationals, the comparables that have been used are huge groups like Heineken N.V., AB InBev, Carlsberg, Diageo, and Asahi Group Holdings. Some of these groups, like Diageo, Asahi and AB InBev, do not offer only beer but several product lines that are diverse from it, and beer sales only belong to a part of their overall revenues.

3.3.2 Selection of multiples

The relative value of the target company's equity comes from the market value of its comparable companies, using multiples and then adjusting for differences presented in fundamental relationship between the peers. In the case of a share of stock, there are different types of multiples. Investment banks use different multiples for their models, like:

- P/E (Price-to-Earnings);
- EV/EBITDA;
- EV/Sales;
- EV/EBIT.

In this paper the focus will be on these four multiples, because they are the most used multiples in M&A.

EV/EBITDA multiple

The enterprise value, also known as enterprise value multiple, is a ratio used to determine the value of a company. The EV/EBITDA looks at a company the way potential acquirer would, by taking into account the company's debt. A good or a bad enterprise value multiple will largely change basing it on the industry where it is applied. This multiple is mainly used to understand if a company is overvalued or undervalued. When this ratio is compared to peers or

historical average, a low multiple means that the company could be considered undervalued, and a high ratio indicates that the company could be classified as overvalued (Hayes 2022).

EV/Sales multiple

EV/Sales is a financial valuation measure that compares the enterprise value to the annual sales of a firm. It allows investors to value the company comparing a figure as the enterprise value, wherein are included company's equity and debt, using the sales accounted on the income statement. Generally, a lower EV/Sales multiple indicates that a company could be seen as more undervalued or attractive in the market (Hayes, 2021). It is often used for startups because they do not have many investments in capital expenditures and because they do not generate many cash flows. For the purposes of this valuation this multiple is not considered appropriate, but it helped provide a general overview regarding the enterprise value over sales of the other companies.

P/E multiple

The price-to-earnings ratio evaluates a company by measuring its current share price relative to its earnings per share. As a result investors use it to compare the relative value of a company's shares to its comparable companies (Fernando 2022). Also, this ratio is one the most used by investors to figure out the valuation of a stock. Its main goal is to get if a stock is undervalued or overvalued. The ratio was used in this valuation to get a better understanding of the stock's value of Forst's public company peers, but it could not be applied to decide the correct offer price because Birra Forst is a private company.

EV/EBIT multiple

The enterprise value over earnings before interest and taxes multiple is used to compare the relative value of different businesses. A low EV/EBIT multiple indicates that a company's stock may be undervalued, but that the firm is more stable and secured. A high ratio means that the company is overvalued and that its operating business is not stable and secured (CFI 2022b).

An analysis of the EV/EBIT of the comparables has been conducted to understand when a beer company could be defined stable, but it is not the most appropriate multiple because beer corporates have many investments in CapEx that this multiple does not consider.

3.3.3 The range

Using Refinitiv it was possible to download the EV/EBITDA, EV/Sales, P/E and EV/EBIT of about 23 companies with large-cap and small-cap. The first quartile and the third quartile of each multiple have been calculated. These ranges composed by the first and the third quartile were then used to take just the multiples included in these values and, after this, the maximum value, the minimum value, the average, and the median of the new ranges were calculated.

Table IV: *Summary Comparable Multiple Analysis*

EV/EBITDA	
Max	**16,8x**
Min	**9,2x**
Average	**12,3x**
Median	**11,7x**

P/E	
Max	**29,0x**
Min	**10,6x**
Average	**22,0x**
Median	**23,6x**

EV/Sales	
Max	**2,8x**
Min	**1,1x**
Average	**1,8x**
Median	**1,6x**

EV/EBIT	
Max	**21,7x**
Min	**15,8x**
Average	**18,3x**
Median	**18,5x**

Source: *Calculation the Excel Sheet "Comparable Multiple"*

3.4 Precedent transactions

Precedent transactions analysis is a valuation method in which the price paid for similar companies in the past could be seen as an indicator of a company's overall value. This analysis therefore uses past performance results of a company to compute the company's valuation and it estimates the value of a share of a stock in the case of an acquisition. Precedent transactions

analysis is an efficient method to use when evaluating a company whose assessment needs to be strengthen by more intricate analysis. Nevertheless, this method also presents a weakness: it is in fact difficult to apply the market environment at the time of a previous valuation or during a defined performance period to a current valuation. This type of valuation helps investors figure out the multiples or the premium they should pay for a publicly traded company. It is important to specify that the premium paid by the investors is to get control of the target, meaning to acquire more than 50% of it.

One useful component of this model is the criteria that is used to identify the transactions which are the most crucial for our valuation. First, companies should be chosen based on the size of the firm involved in the model, so it is fundamental to consider financial metrics before starting to select the transactions. Second, the geography where the companies operate is relevant to figure out how the industry varies in different countries. Third, recent transactions are considered more valuable in terms of usefulness for the analysis. For this model a selection of 18 transactions (Refinitiv) completed between 31 December 2010 and 31 December 2020 in Europe was made, taking into consideration only M&A deals in the distillers & wineries sector. The analysis involved two larger ranges for the period and for the sector due to the few information around the beer industry in a time period of 3 to 5 years. In the Appendix (Exhibit 17 and 18) the EV/EBITDA and the EV/Sales are reported. The data was downloaded through Refinitiv as explained before, and also the quartile was computed to filter the range of precedent transaction.

In conclusion, the below table reports a summary of the average, the median, the maximum and the minimum multiples found from the analysis of precedent transaction:

Table V: *Summary Precedent Transaction Analysis*

	EV/EBITDA	EV/Sales
Average	**14,56**	**1,90**
Median	**14,61**	**1,86**
Max	**20,00**	**2,71**
Min	**10,41**	**0,96**

Source: *Data from Refinitiv and computation in the Excel sheet "Precedent Transaction"*

4 Football field and Conclusion

As far as the valuation of a company is concerned, the football field could be defined as a graphical representation whose aim is to compare and summarize the results obtained from the various valuation approaches. It is prepared by using a floating bar chart in Excel and it sums up a range of values for a company, based on different valuation models and assumptions. The football field is commonly used in investment banking and the purpose of the chart is to give a visual representation of the valuation range, average and target valuation for the company. The weakness of this method are the uncertainties and the margin of error; to reduce them, investment banks may include in the graph more than one valuation methodology. Following this concept, the three valuation methods mentioned so far were used: Discounted Cash Flow model, Comparables and Precedent Transactions (Mehta 2021).

The range of these models was computed by using the EBITDA and the sales of 2019 of Birra Forst, as it is possible to view this as the most appropriate year to be considered, not being affected by the consequences of COVID-19. Then the multiples obtained from our previous analysis were grouped in low, high, and median multiples, and each of them was applied to the respective figures. The Table VI shows the low, high, and median of EV/Sales, EV/EBITDA, DCF analysis, Precedent Transactions EV/EBITDA, Precedent Transaction EV/Sales:

Table VI: *Summary of EV and Multiple results*

	Enterprise Value			Multiple		
Valuation	Low	High	Median	Low	High	Median
EV/Sales	219.461€	565.719€	327.734€	1,1x	2,8x	1,6x
EV/EBITDA	142.808€	260.346€	181.917€	9,2x	16,8x	11,7x
DCF EV/Sales	167.709€	351.660€	219.237€	0,8x	1,8x	1,1x
DCF EV/EBITDA	167.709€	351.660€	219.237€	10,8x	22,7x	14,1x
Precedent Transaction EV/EBITDA	161.373€	309.928€	226.499€	10,4x	20,0x	14,6x
Precedent Transaction EV/Sales	190.961€	539.959€	370.848€	1,0x	2,7x	1,9x
			265.247€			

Source: *Computation in the Excel Sheet "Football Field"*

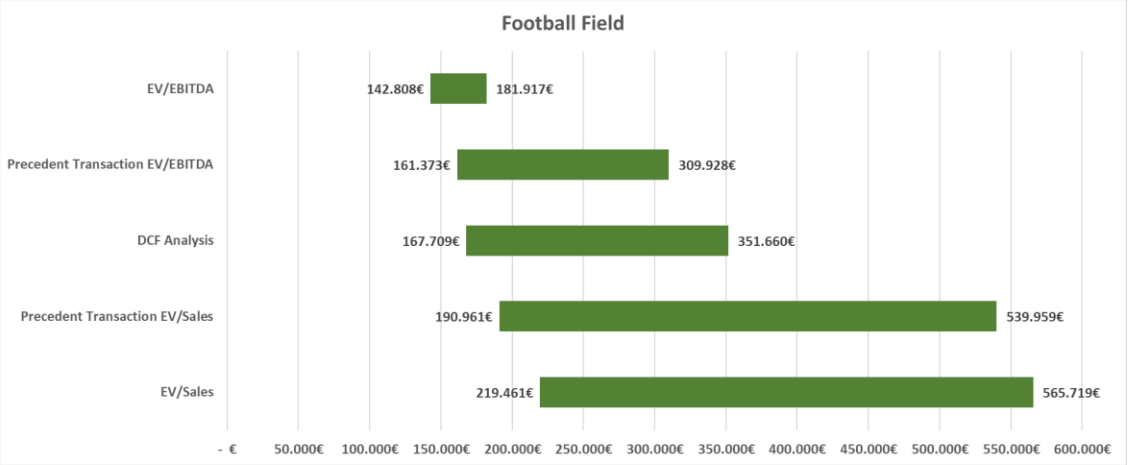
Theoretically, we can order the valuation methods from the highest valuation to the lowest, with an outcome that would respectively see precedent transactions, discounted cash flow model and comparables for different reasons. This happens because the precedent transactions include the acquisitions premium that buyers pay to get control of the target. Often, it is a premium for equity investors because the acquisition price is based on the equity value. The second method that gives the highest valuation is the discounted cash flow model. This depends on the assumptions used to build the model. Obviously, the assumptions are used for the growth of the company in the projection period, which means that the value of the corporate will be higher at the end of the period than the value at the first year. Sometimes, if the assumptions are very aggressive, discounted cash flow could give a higher valuation than precedent transactions, but it is a rare case. The lowest valuation comes from the comparable multiples. The basic concept is that same assets should have same value. This method gives the lowest value because the valuation is based on the current data of the firm and it does not include any control premium or assumptions (Andrew 2007).

In this valuation, as it can be clearly seen from the multiple analysis in the above table, it was highlighted how the theory explained above is properly followed. In considering the EV/EBITDA ratio, the precedent transactions median (14,6x and EV of 226,499) is higher than the one obtained through the DCF (14,1x and EV of 219,237) analysis as well as through the comparable multiple (11,7x and EV of 181,917) approach. Moving to EV/Sales ratio, it can be

seen how the precedent transaction method reaches the highest value between the approaches (1,9x and EV of 370,848), while as a difference, the DCF presents the lowest one (1,1x and EV of 219,237). This result coming from the DCF may arise due to the high number of sales (€199,542 million) which the Forst Group experienced in 2019. In fact, revenues in 2019 overcome all the other past values. Moreover, a crucial explanation of the low EV/Sales of the DCF analysis in 2020 could be linked to the economic results of 2020 (EBIT of -6,712 million and net income of -5,073 million) impacted by the COVID-19 pandemic outbreak. These values bring the first year of our FCFF value lower, which has a clear influence on the EV of 2020.

Moreover, with the data found from this analysis, it was possible to build the football field. This includes all the different valuation multiples and methods used during our dissertation:

Table VII: *Football Field of Enterprise Value*



Source: *Computation in the Excel Sheet "Football Field"*

Also the football field for the multiples EV/EBITDA and EV/Sales for precedent transaction, comparable and DCF has been built. The other two football fields are reported in Exhibit 19 and 20 with the respective multiples found.

To conclude the valuation, it was possible to figure out the average enterprise value combining all the methodologies used to evaluate the Forst Group. Assuming the acquirer will repay debt

investors and equity investors, it was considered the average of the medians of the enterprise value of all valuation methods used in the model. As from the below Table VIII, the average EV found is 265,347 million euros.

Taking into consideration the amount that the company is obliged to pay to only liquidate the shareholders of the Forst Group, the equity value must be looked at. To compute the latter, the net debt equal to €101,138 million (Exhibit 21) was subtracted from the EV found at the end of this analysis. As it can be seen by the table below, the equity value is equal to 164,109 million euros.

Table VII: *Equity Value Calculation*

Source of value	Equity Value
Forst standalone EV	265.247 €
Net Debt	101.138 €
Forst standalone Equity Value	**164.109 €**

Source: *Computation in the Excel Sheet "Football Field"*

The potential Exit-Strategy in a Sell-side process with Asahi Breweries (by Claudio Mazzola)

1. Introduction

The main objective of this analysis is to determine the intrinsic value and the possible synergies if Birra Forst was acquired by a multinational group as Asahi Breweries. The principal method used to reach this objective is a fundamental analysis starting from the enterprise value obtained from the discounted cash flow of Birra Forst and implementing any type of possible synergies that could increase the acquisition price.

2. Choice of the company

Valuation is one of the core subjects in the field of finance. It is the subject that allows the development of abilities in areas such as valuation models, financial statement analysis, and accounting.

For a variety of factors, Asahi Breweries was selected as a potential buyer. First off, the Forst Group is one of the biggest participants in the beer industry, with a variety of brands available in Italy, where it conducts business. Second, by studying Asahi, it was possible to go further into a sector with very strong development expectations.

2.1. Overview Asahi Breweries

Asahi Breweries, Ltd. is part of Asahi Group Holdings. It is a Japanese global beer, spirits, soft drinks, and food business group headquartered in Tokyo.

Asahi was founded in Osaka in 1889 as the Osaka Beer Company. In 2021 the Group had revenue for 2.1 trillion of JPY (20,145M of USD). More that the 40% of revenues come from the alcoholic beverage business, while the other 60% comes out from soft drink business, food business, and “other” business. Asahi is the largest beer brewers in Japan followed by Kirin

Beer and Suntory. It is listed on the Tokyo Stock Exchange in the TOPIX Large 70 components Index.

2.2. Asahi's business

In response to expanding its business in the beer industry, Asahi broadened its geographic footprint and business portfolio by acquiring different brands in Europe to cover more countries than Japan. This brought Asahi to enlarge its presence and market share in many European countries, such as beer market share of 44% in the Czech Republic, 32% in Poland, 36% in Romania, and 18% in Italy. Beyond the European headquarters, it has different subsidiaries worldwide dividing its business in other three different regions: Japan, Oceania, and Southeast Asia.

The most significant countries for Asahi are Japan and some countries in Europe like Czech Republic and Poland. From these segments it gets about 50% of the revenues which come from the alcoholic sector. Particularly in Europe, Asahi has been developing different strategies to improve the sales of the five global brands in its portfolio and focus on selective leading local brands. At the same time, Asahi is very focused on the environmental impact. To do this, it is promoting initiatives that lower the environmental impact to guarantee the great adoption of renewable energy and the use of recyclable containers and packages even to reduce costs and increase the profitability.

2.3. International Brands

As mentioned above, Asahi is basically present in every geographical area of the globe, owning several brands in different regions and countries. For this analysis, the European brands with which profitable synergies could be put into action will be considered and evaluated. First, since Forst operates only in the Italian market, Asahi's controlled Peroni and Nastro Azzuro represent two perfect candidates to implement revenues and costs synergies. Indeed, these two historical Italian brands are nationally recognized not only for the quality of their products but also for all

the ongoing marketing campaigns intended to increase their visibility. Similarly, even if in a smaller measure, also the Italian company Raffo is associated with quality as it represents niche brand for beer in the South of Italy. Looking more generally into the European market, Asahi owns different brands which are present both continentally and locally – Kozel, Grolsch and Pilsner Urqell are some of the most important European brands owned by the Japanese company. Overall, it can be seen how Asahi has the possibility to take advantage from the acquisition of Forst, not only in the Italian market but also pursuing profitable synergies within the European one.

2.4. Business strategy

Asahi's business strategy is based on different business goals, as stated in its yearly reports. First, the corporation wants to dominate the premium beer industry on a global scale. In addition, it wants to dominate the marketplaces where it competes with a wide range of brands by ranking first or strongly second. To increase productivity and reduce costs, it also seeks to take advantage of the economies of scale. The business also makes strategic investments and takes initiatives in the hopes of achieving future growth. What is more, Asahi's work is driven by sustainability - it aspires to significantly enhance the environments, local communities, and societies in which it works. Furthermore, one of the most crucial facets of its strategy is to continually engage and invest in its workforce. Finally, Asahi aims to use and incorporate information technology into its structure and business models to effectively adapt, remain relevant, and take advantage of new opportunities. Indeed, this is because technology is becoming increasingly important, and the external environment is changing quickly.

3. Synergies

In this dissertation, the Forst Group was analyzed from the point of view of advisors for a sell-side process. The last step of this valuation is to assess the potential synergies that Asahi could get from the acquisition of the Forst Group and its subsidiaries.

First, it is essential to understand the decision to bring a company to acquire another firm. This decision is driven by multiple factors, including growth, enhancing and widening an already existing business platform. Sometimes, an acquisition represents an opportunity that is less risky, cheaper, and faster than starting a new business from the beginning.

It brings many advantages also from a strategic oint of view. The risk is higher when we want to expand into a new region and explore a new line of products. It is in fact more time consuming than acquiring a company which already works. Naturally, we can define an acquisition "successful" when the acquirers are capable of fully integrating the new companies in an efficient way and reducing the disruption of the existing business.

Acquisitions usually are done to improve the strengths of the acquirer and the aim is to deliver growth and increase profitability to give the shareholders a higher return. The acquirers must create opportunities from merging businesses, such as cost savings or increases in revenues.

Going deeper in the definition of synergies, they can be referred to as cost savings, growth opportunities, and other financial advantages which come from the merge of two or more companies. In M&A, they are one of the most relevant components, specifically in cases in which targeting companies are in core or related businesses. To establish the purchase price, we must consider the size and the impact of synergies. This is since in a competitive bidding process, the acquirer whose goal is to exploit synergies typically pays a higher price rather than who lack them. Consequently, strategic acquirers could need financial sponsors to do a buy-offer.

3.1. Types of synergies for Asahi

Generally, the main synergies between two companies are Cost synergies and Revenue synergies. In this dissertation the focus is on both of them.

3.2. Assumptions for the synergies

For the calculation of the synergies, different assumptions regarding a decreasing in costs and an increase in revenue have been made. The table below shows the assumptions used for the new Enterprise Value:

Assumptions
Average of the WACC of Forst and Asahi as discount factor
Increasing in revenues of 2.83% of the total revenue of Forst from 2021 and 2025
A costant decrease in costs of 2.83% of the total operating costs of Forst from 2021 to 2025

Moreover, the percentage of synergies was found using online research from BCG called "BCG The Real Deal on M&A, Synergies and Value".

This paper assumes that in each deal the percentage of synergies should be strictly related to the P/E or the companies involved in the deal. However, Forst is not public, so there was the need to use the dataset provided by the BCG research. In the table below there is the percentage of synergies used in this model:

Percentage of Synergies		
Max	**Min**	**Average**
4,00%	1,65%	2,83%

The average was assumed as increase in revenues and decrease in costs.

Naturally, it was essential to know the factors to calculate the Weighted Average Cost of Capital. Refinitiv was used to get the data for the Cost of Equity, Cost of Debt, and the ratio Debt-to-Equity, while for the Tax Rate the same value used for the Valuation of Forst was adopted. For Asahi parameters the source is Refinitiv. The table below shows the calculation of the Weighted Average Cost of Capital:

WACC recomputation	Group Forst	Asahi Holdings
Cost of equity	**7,03%**	**7,3%**
Pre-tax cost of debt	4,14%	4,14%
Tax Rate	24,67%	24,67%
D/E	46,74%	90,70%
E/D+E	68,15%	52,44%
WACC	**5,79%**	**5,31%**

4. Cost synergies

Cost synergies, also called “hard synergies”, are those synergies where the potential buyer could get a reduction in operating costs if it acquires the target. For instance, cost savings are a reduction of headcount, reducing number of headquarters and facilities assets, and the opportunity to purchase crucial inputs at lower prices because of an increasing of the purchasing power. A practical example is that if a company buys another company, they do not need of two CEOs or more than one department for the same function. In addition, buyers see opportunities to acquire companies of the same industries because this permits to them to enlarge the business, without reducing the chance to increase revenue and profit. This happens because of same assets have same productive processes, it means that the company which buy does not have the need of invest in Capital Expenditures.

Increasing the sizes give to the firm a way to amortize and to leverage its fixed cost base across existing and new products, as well as the number of customers get bigger because the acquired company already has a portfolio’s client. This main idea strengthens the concept of the economies of scale, where larger companies can have more profit because they buy at a smaller price than competitors. An increasing in size also improves the capability of a company to allocate resources used in its business across the regions where the firm works. So, the main idea of cost synergies is to implement process globally by the combined company.

4.1. Cost synergies calculation

About the calculation of cost synergies, the average of operating costs for the period which goes from 2015 to 2020 was computed, after which it was calculated the decrease in costs as 2.83% of the average (106.5 million euros). This reduction is caused for the Economies of Scale which can affect Beer Forst for the acquisition of Asahi Breweries.

A valuation of the cost synergies has been made starting from the value pre-taxes and arriving at the value post taxes. The value is around 2.3 million euros. The synergies were discounted with the average between the Weighted Average Cost of Capital (5.79%) of Forst and the Weighted Average Cost of Capital (5.31%) of Asahi. The average is 5.55%. The sum of the discounted value of each synergy is the value that Asahi will have to pay to acquire Forst.

The use of an average for the discount factor is due to the fact that the Weighted Average Cost of Capital of Forst could not be appropriate for Asahi, even if in this case the value is quite similar.

A haircut could have been applied considering the possibility of Asahi of using capital markets as a source of financing but it was preferred to use only the average because of the assumption that Asahi does not use additional debt to implement Forst's performance. The following table shows the calculation of the cost synergies:

	2020	2021	2022	2023	2024	2025
Cost Synergies	106.481,06 €	109.489,15 €	112.582,22 €	115.762,67 €	119.032,97 €	122.395,65 €
Synergies		3.008,09 €	3.093,07 €	3.180,45 €	3.270,30 €	3.362,68 €
Effective Tax Rate		25%	25%	25%	25%	25%
Taxes		742,18 €	763,15 €	784,71 €	806,88 €	829,67 €
After tax CF		2.265,91 €	2.329,92 €	2.395,74 €	2.463,42 €	2.533,01 €
Discount factor		0,947	0,898	0,850	0,806	0,763
PV of CF		2.146,78 €	2.091,37 €	2.037,39 €	1.984,80 €	1.933,57 €

Net Present Value	10.193,91 €

5. Revenue synergies

Regarding the revenue synergies, they refer to the possibility of a growth in sales thanks to the combination of businesses. A first of example of revenue synergies is the capability of the buyer to sell the products of the target using its own distribution channels without a cannibalization of existing acquirer. For instance, Asahi could buy Forst to sell, through its channels, some brands owned by Birra Forst. The synergies here would be the chance of using Asahi's larger distributions channels to expand the sales of the target already acquired. Another type of

revenue synergies happens when the acquirer uses the technology, geographic presence and research and development skills of the target to expand and improve its products offered.

It is essential to highlight that often revenue synergies are considered speculative because they are not considered so much predictable. Indeed, investment banks tend to use more conservative assumptions to assess the revenue synergies.

5.1. Revenue synergies calculation

About the calculation of the revenue synergies, the average of the revenues of the period which goes from 2015 to 2020 was made. The average of the percentage of synergies (2.83%) was applied to the average of revenues (115.4 million euros) to get the possible synergies which will grow during the years.

This increasing in revenue is caused by an improving in Forst's performance thanks to the distributive channels of Asahi Breweries.

As mentioned before, the average of the Weighted Average Cost of Capital of Forst and the Weighted Average Cost of Capital of Asahi are used because the discount factor of Forst could not be appropriate for the valuation of synergies. The table below shows the calculation for the revenue synergies:

	2020	2021	2022	2023	2024	2025
Revenue Synergies	**115.422,61 €**	**118.683,30 €**	**122.036,10 €**	**125.483,62 €**	**129.028,54 €**	**132.673,59 €**
Synergies		3.260,69 €	3.352,80 €	3.447,52 €	3.544,91 €	3.645,06 €
Effective Tax Rate		25%	25%	25%	25%	25%
Taxes		804,50 €	827,23 €	850,60 €	874,63 €	899,34 €
After tax CF		2.456,18 €	2.525,57 €	2.596,92 €	2.670,28 €	2.745,72 €
Discount factor		0,947	0,898	0,850	0,806	0,763
PV of CF		2.327,05 €	2.266,99 €	2.208,47 €	2.151,47 €	2.095,94 €

Net Present Value	**11.049,92 €**

6. Equity Value of Forst with synergies

After having calculated the two synergies value, the new Equity Value incorporating the value of the Cost Synergies and the value of the Revenue synergies were computed, respectively of

10.2 million euros and 11 million euros. The new Equity Value is 185,353 million euros as the table below shows:

Source of Value	Equity Value	as %
Group Forst Equity	164.109,30 €	88,54%
Revenue synergies	11.049,92 €	5,96%
Cost synergies	10.193,91 €	5,50%
Total	**185.353,13 €**	**100,00%**

The Equity Value was used because it was assumed that Asahi would have bought paying the Equity value plus synergies to get control of Forst but getting the debt of it to repay them in the future. This is the difference between paying Enterprise value and Equity Value. In the second case, the buyer acquires the target with just Equity.

7. Range of offer price

To complete the valuation of how much Asahi Breweries should pay to acquire Forst considering all the possible synergies, a range of offer price considering the control premium that the buyer must pay to get control of the target was made.

The control premium of a target is an excess amount between the standalone value and the price paid. To calculate the range of the different offer prices a control premium range was assumed with a minimum value of 2.97% and a maximum value of 6.82%. These two data are respectively the estimation taken from Merger Market about the expectation of the analysts one month after and one day after the deal, before the announcement date with the amounts. To get this data, transactions of the last 10 years in the Beverage Alcoholic Sector through Merger Market were exported.

To establish the correct offer price, a sensitivity analysis was made considering that Asahi could get a range between 50% and 80% of synergies. Naturally, the different percentage will have a different impact on the price. The table below shows as the acquisition price changes compared to the different percentage of synergies which Asahi Breweries can get from Forst:

Range of Offer Price with Synergies and Acquisition Premium			
% Synergies	3%	7%	Average Range
50%	179.920,74 €	186.653,71 €	183.287,22 €
60%	182.108,21 €	188.923,05 €	185.515,63 €
70%	184.295,69 €	191.192,39 €	187.744,04 €
80%	186.483,17 €	193.461,72 €	189.972,44 €

As we can see from the graph above, a range for each percentage of synergies applying the average between minimum and maximum value of control premium has been built. The result is a range from 183.3 million euros and 189.9 million euros.

8. Conclusion

The aim of this dissertation is to demonstrate how the price to acquire a target can change when there are synergies between companies involved in the deal.

In conclusion, Asahi would have to pay an amount between 182 and 189 million euros to get control of Forst repaying the Equity investors. The price will depend on the percentage of synergies that Asahi will find in line with its structure in case of deal and if it will generate value for the company and the stockholders.

This deal would be a great occasion for Asahi for some reasons. First, it would have the chance to increase its market share in Italy where the firm has already started an expansion process through previous acquisitions like Peroni. Secondly, Asahi could optimize costs such as those in Warehousing, Capital Expenditures and production and add to its product portfolio a brand that in a year of recession such as 2020 still performed strongly in terms of revenues.

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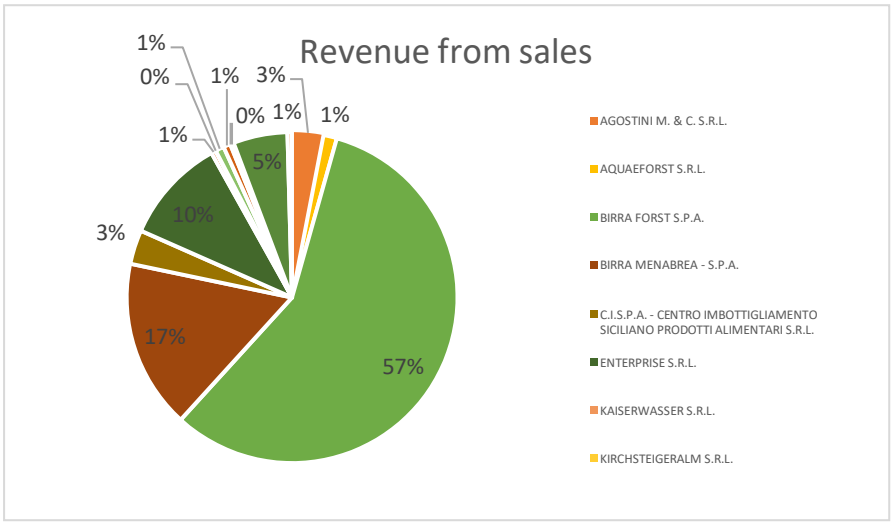
Appendix

Exhibit 1: *Revenue from sales of the Forst Group, divided by subsidiaries*

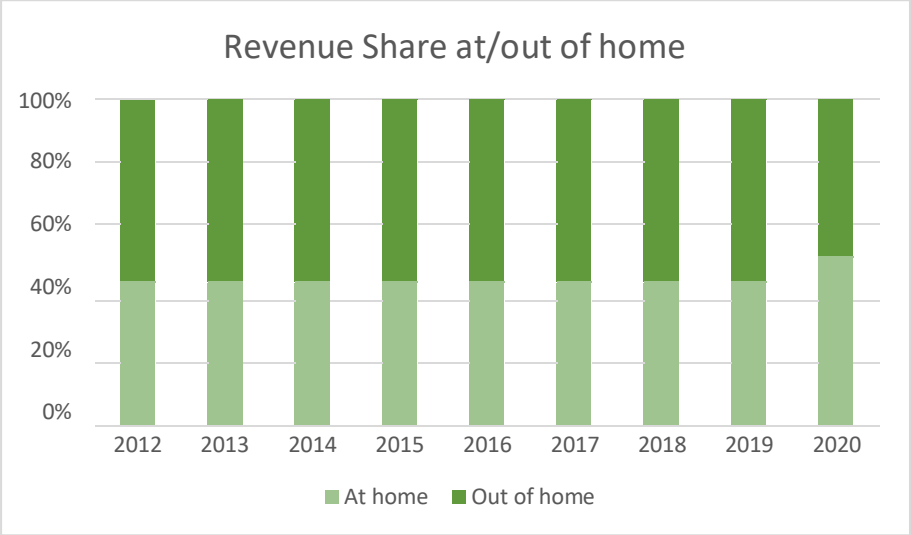


Source: Aida

Exhibit 2: *Revenue of the beer industry worldwide*

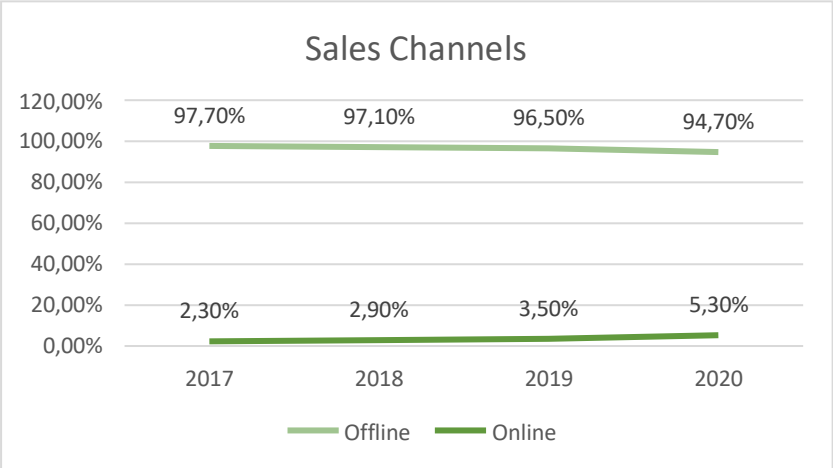
Source: Statista. "Beer - Worldwide". Accessed December 08, 2022.

Exhibit 3: *Revenue share from at and out of home beer consumption*



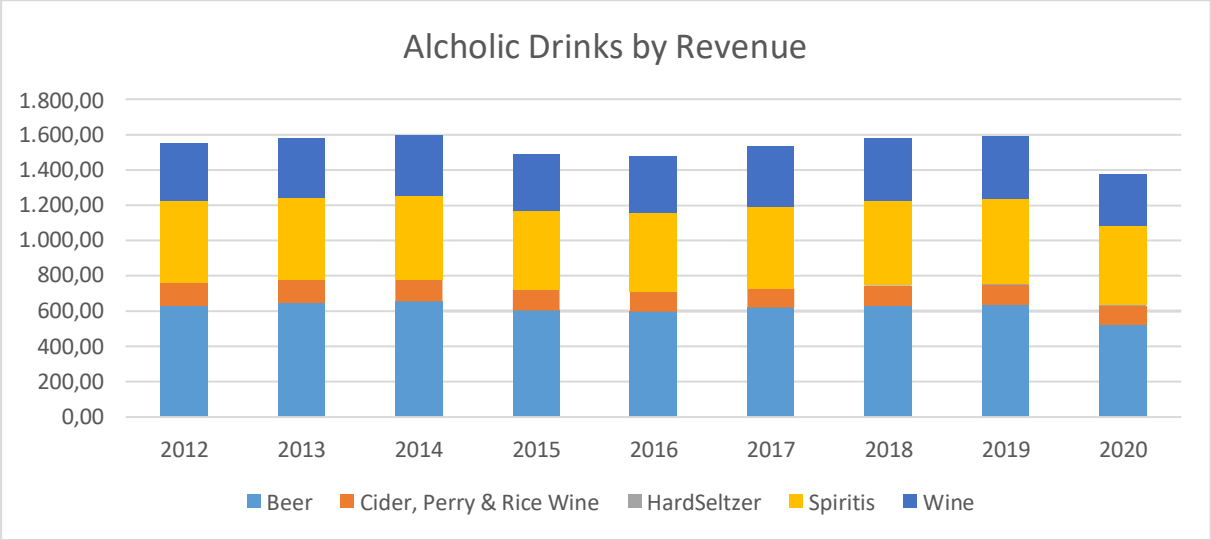
Source: Statista. "Beer - Worldwide". Accessed December 08, 2022.

Exhibit 4: *Sales channels of the beer industry*



Source: Statista. "Beer - Worldwide". Accessed December 08, 2022.

Exhibit 5: *Alcoholic drinks by revenue*

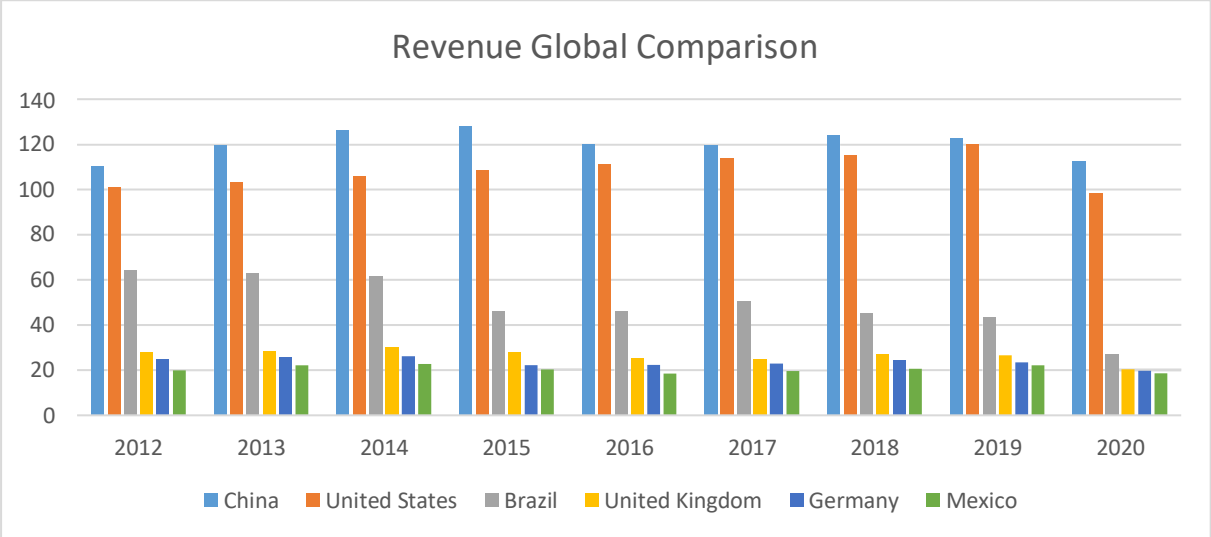


Source: Statista. "Alcoholic Drinks – Worldwide". Accessed December 08, 2022.

Exhibit 6: *Revenue of non-alcoholic beer worldwide*

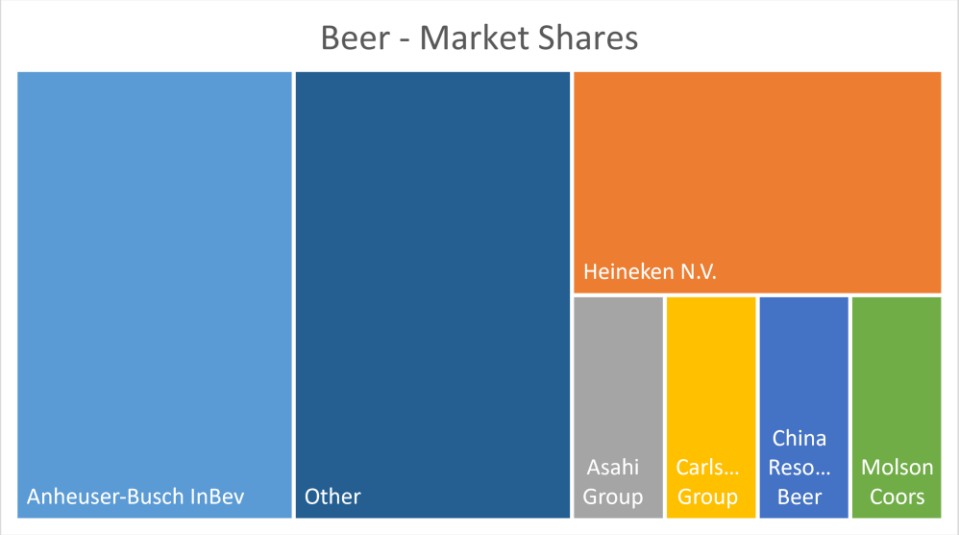
Source: Statista. "Alcoholic Drinks – Worldwide". Accessed December 08, 2022.

Exhibit 7: *Revenue global comparison*



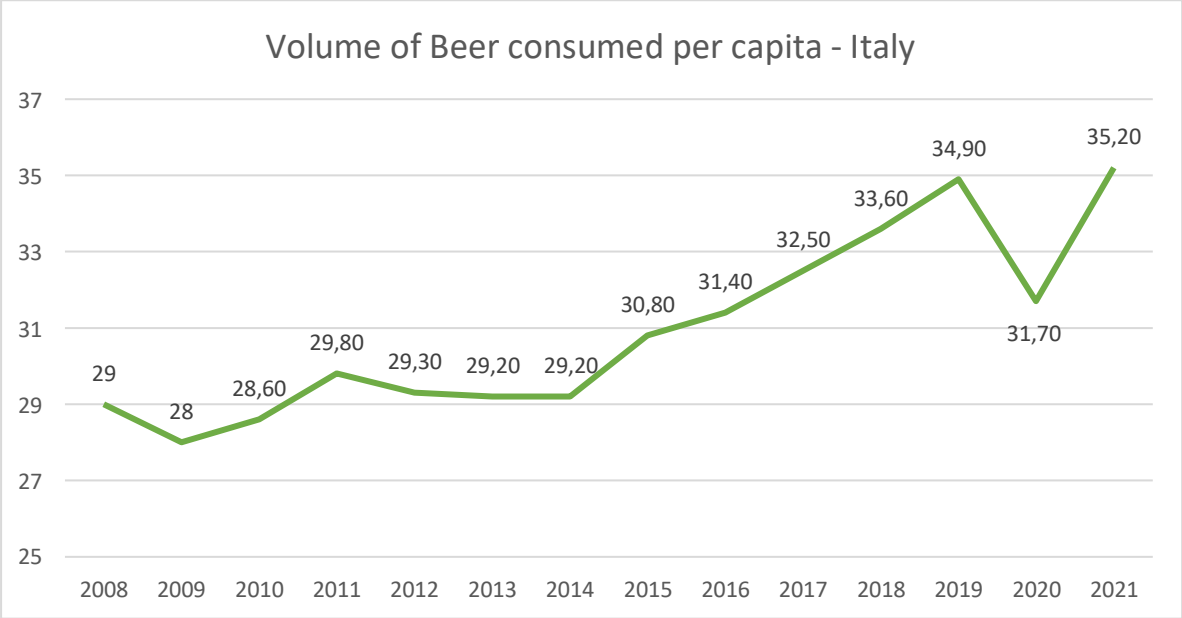
Source: Statista. "Beer – Worldwide". Accessed December 08, 2022.

Exhibit 8: *Market share of beer companies*



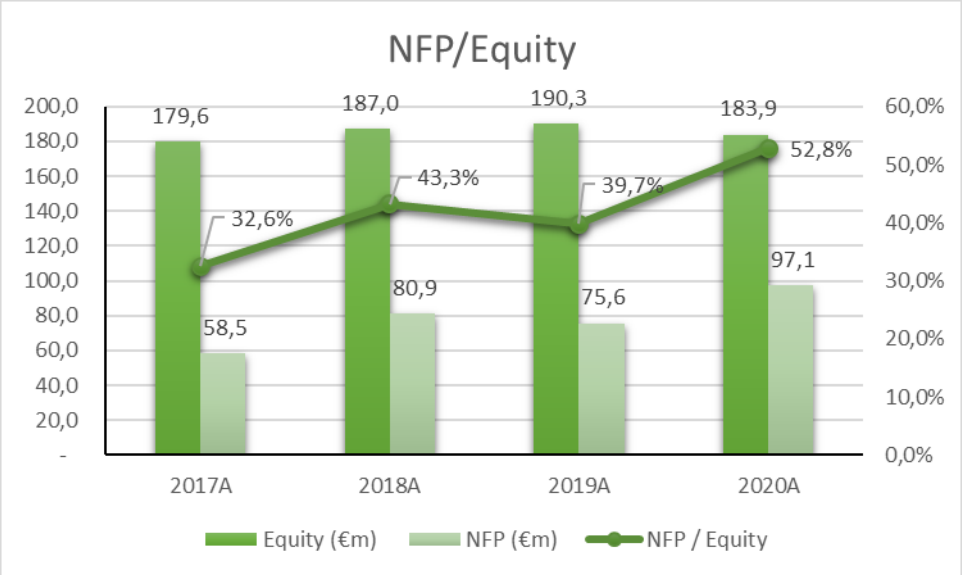
Source: Statista. "Alcoholic Drinks – Worldwide". Accessed December 08, 2022.

Exhibit 9: *Volume of beer consumed per capita in Italy*



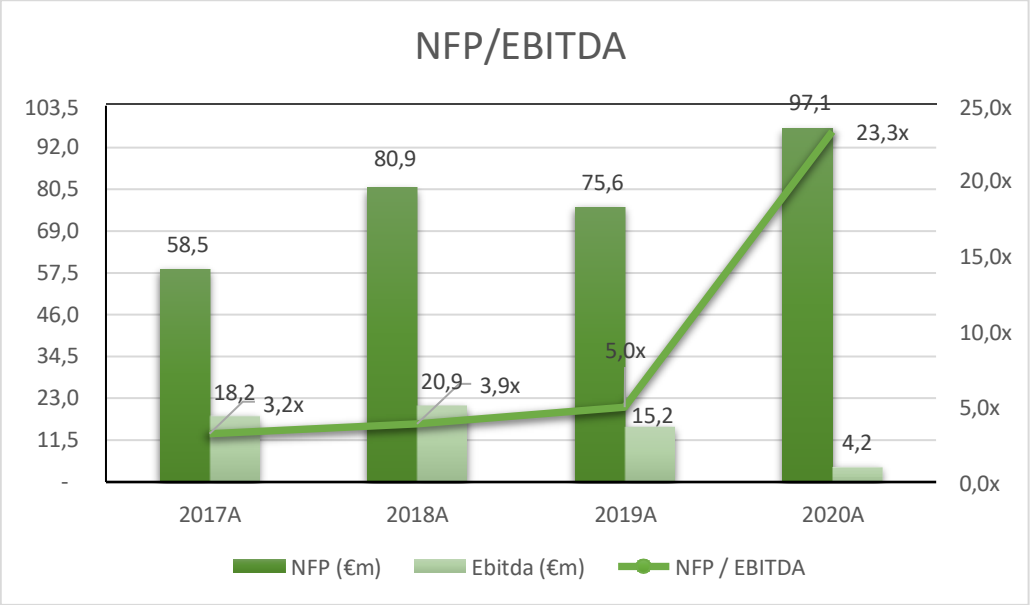
Source: Assobirra. 2022. "Annual volume of beer consumed per capita in Italy from 2008 to 2021 (in liters)". Statista, Accessed December 08, 2022.

Exhibit 10: *NFP/Equity Graph*



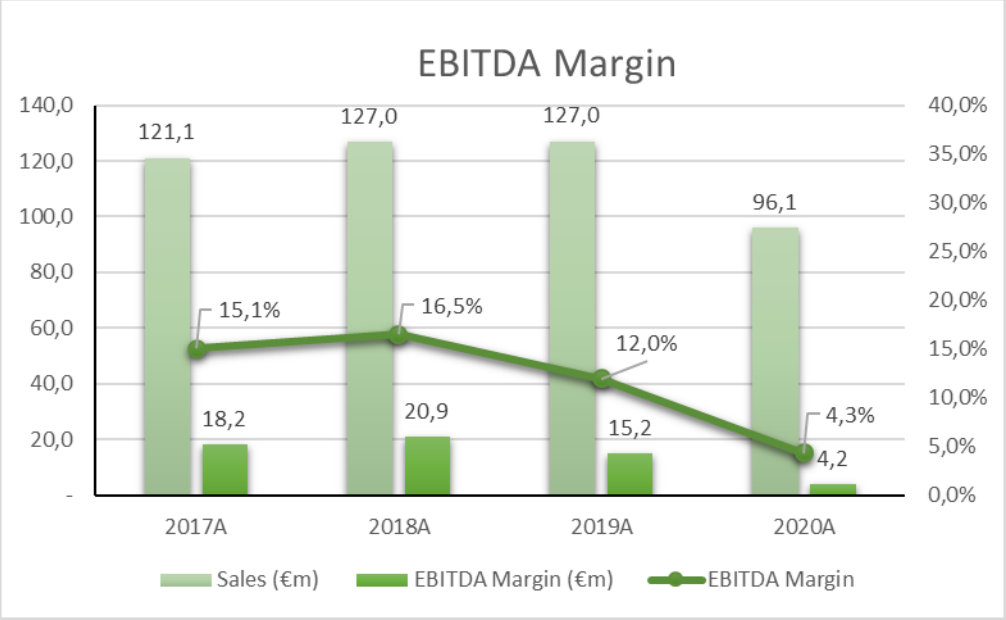
Source: *Computation in the Excel Sheet "Charts&Ratio"*

Exhibit 11: *NFP/EBITDA Graph*



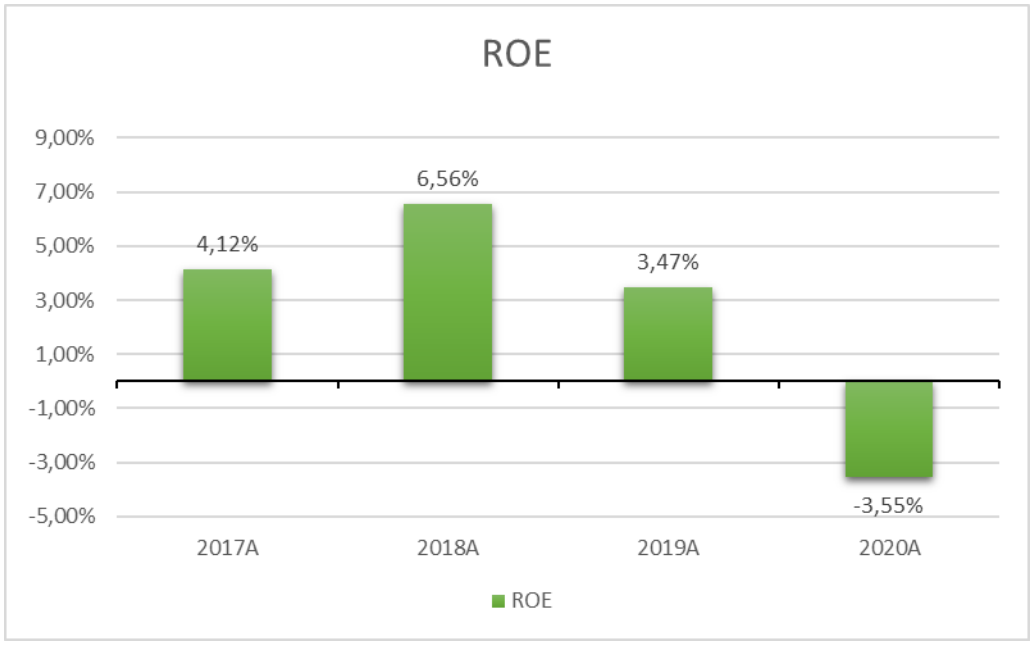
Source: *Computation in the Excel Sheet "Charts&Ratio"*

Exhibit 12: *EBITDA Margin Graph*



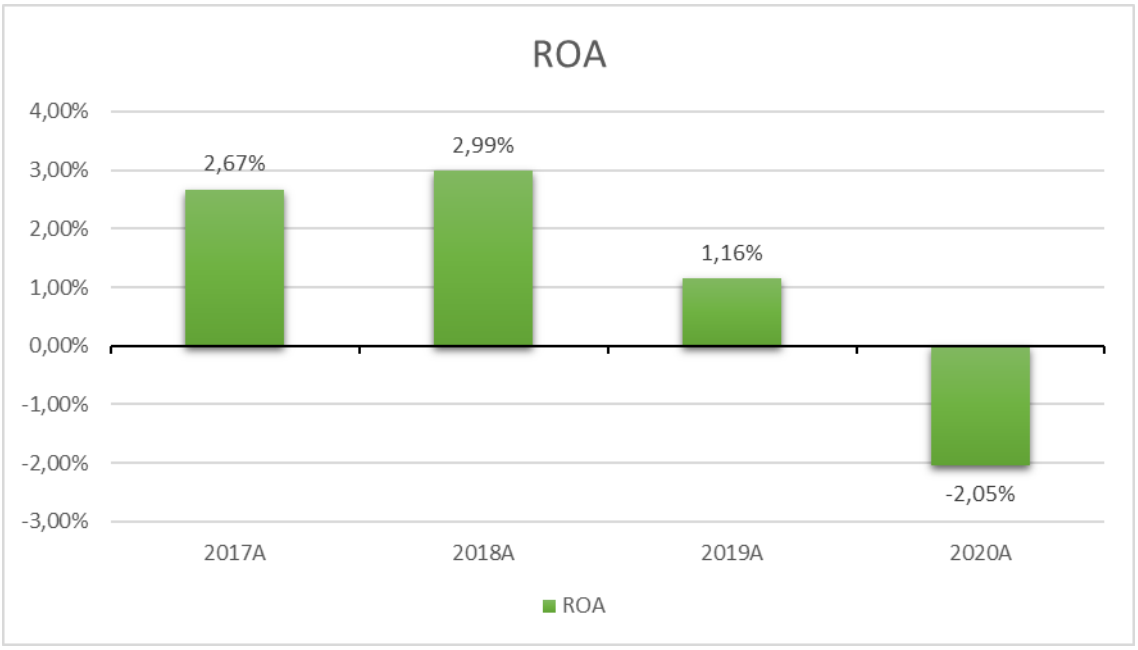
Source: *Computation in the Excel Sheet "Charts&Ratio"*

Exhibit 13: *ROE (Return On Equity) Graph*



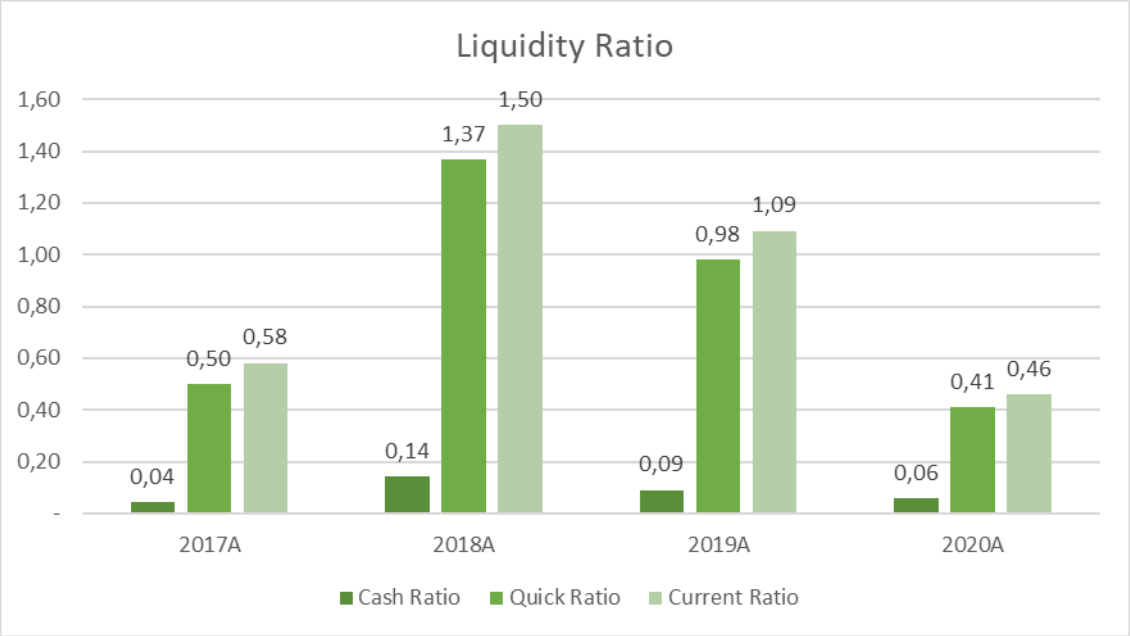
Source: *Computation in the Excel Sheet "Charts&Ratio"*

Exhibit 14: *ROE (Return On Asset) Graph*



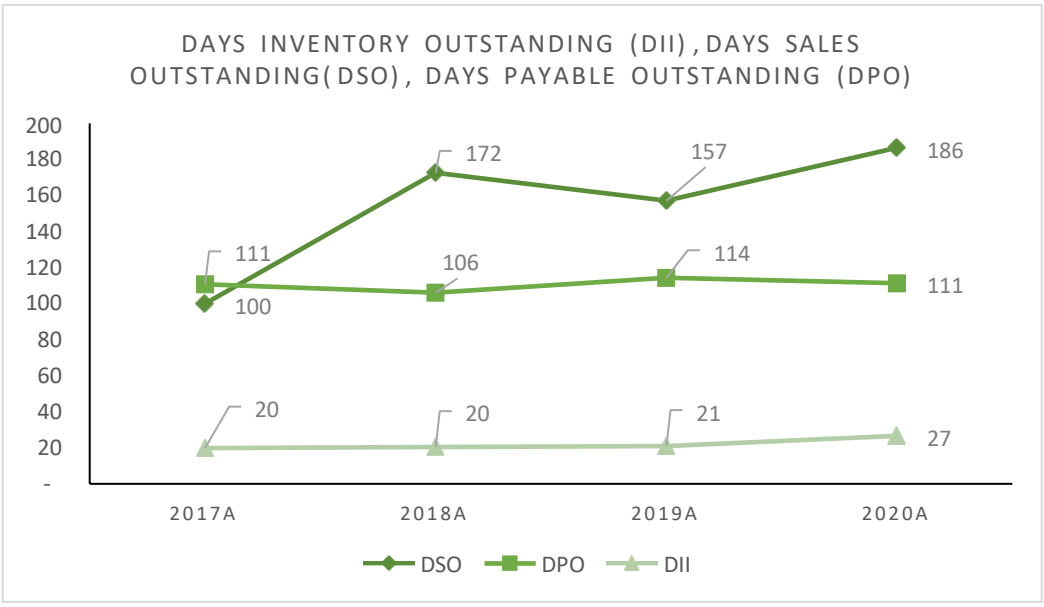
Source: *Computation in the Excel Sheet "Charts&Ratio"*

***Exhibit 15**: Liquidity Ratio Graph*



Source: *Computation in the Excel Sheet "Charts&Ratio"*

Exhibit 16: *Component of Cash Conversion Cycle Graph*



Source: *Computation in the Excel Sheet "Charts&Ratio"*

Exhibit 17: *Sample and Quartile of Precedent Transaction Sample*

Ratio of Enterprise Value to EBITDA	Ratio of Enterprise Value to Sales
10,82	1,50
4,67	0,57
30,60	1,50
5,99	0,54
11,92	1,52
40,65	2,15
14,59	0,91
32,80	2,57
10,41	3,19
12,93	2,91
6,79	2,34
16,38	0,96
14,64	0,88
9,76	3,53
15,47	2,71
39,83	6,56
20,00	1,93
18,43	1,78

Quartile Ev/Ebitda
22,65
10,25

Quartile Ev/sales
2,76
0,95

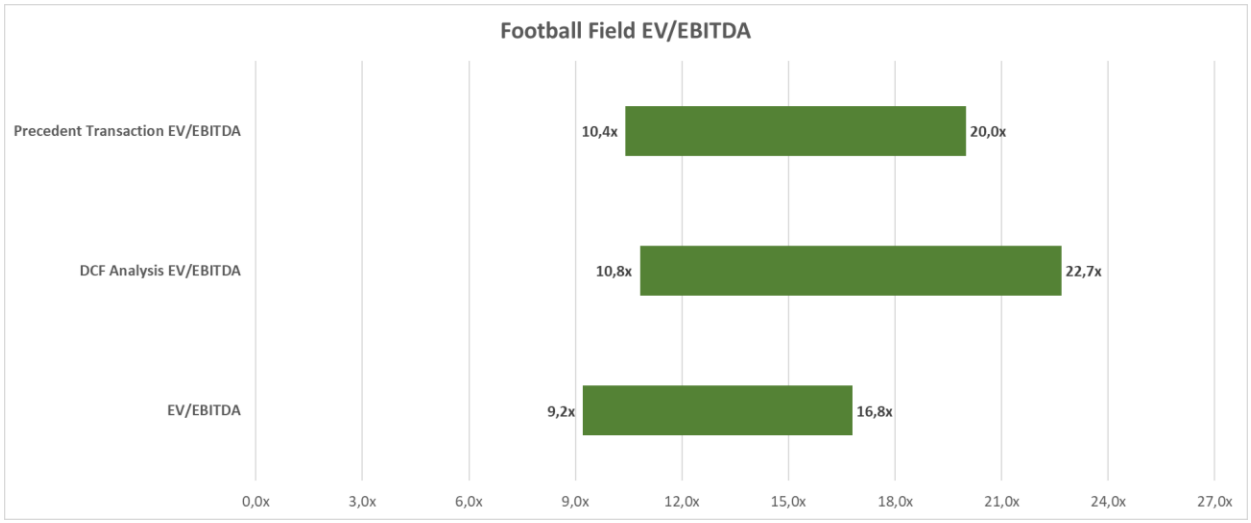
Source: *Data from Refinitiv and Computation in the Excel sheet "Precedent Transaction"*

Exhibit 18: *Final sample selected of Precedent Transaction*

Ratio of Enterprise Value to EBITDA	Ratio of Enterprise Value to Sales
10,82	1,50
-	-
-	1,50
-	-
11,92	1,52
-	2,15
14,59	-
-	2,57
10,41	-
12,93	-
-	2,34
16,38	0,96
14,64	-
-	-
15,47	2,71
-	-
20,00	1,93
18,43	1,78

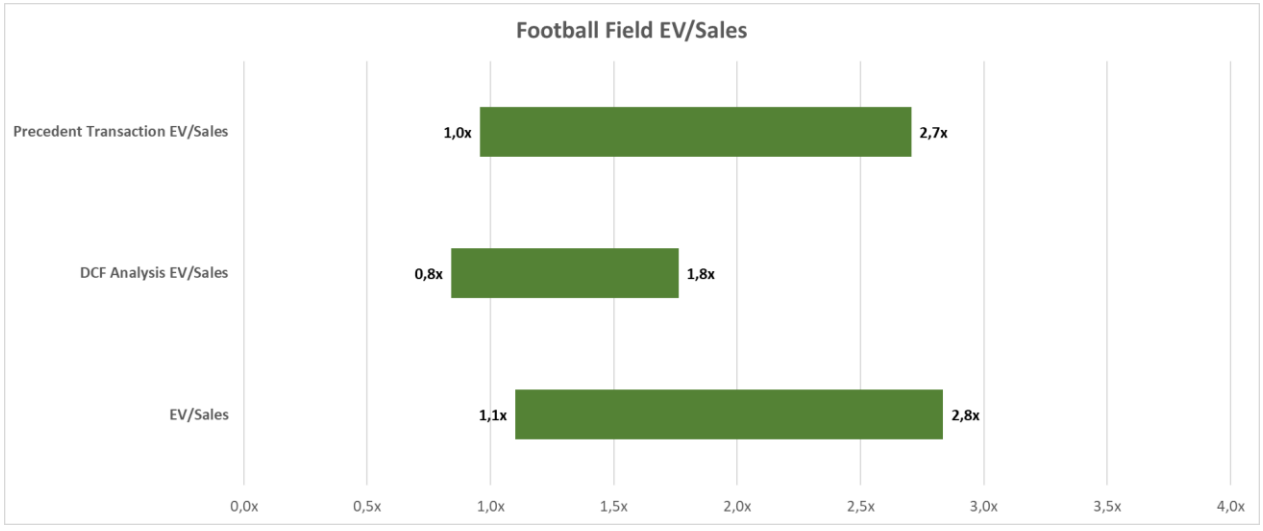
Source: *Data from Refinitiv and computation in the Excel sheet "Precedent Transaction"*

Exhibit 19: *Football Field of EV/EBITDA Multiple*



Source: *Computation in the Excel Sheet "Football Field"*

Exhibit 20: *Football Field of EV/Sales Multiple*



Source: *Computation in the Excel Sheet "Football Field"*

Exhibit 21: *Net Debt Calculation*

Net Debt		
Net Debt Forst		97,122€
Net Debt Sub Non Core		6,185€
Net Debt Sub Core	-	2,169€
Total Net Debt		101,138€

Source: *Computation of Net Debt in the Excel Sheet"Valuation Beer Forst&Sub"*

Exhibit 22: *Operating Synergy Model (Lapo Luciani)*

		2020	2021	2022	2023	2024	2025
85,46%	Revenue Heineken	687.131,00€					
14,54%	Revenue Forst	116.927,42€					
	Cumulated Revenue	804.058,42€	807.566,24 €	811.089,36 €	814.627,86 €	818.181,79 €	821.751,23 €
14,38%	Operating Cost Heineken	645.215,00€					
85,62%	Operating Cost Forst	108.374,97€					
	Cumulated Cost	753.589,97 €	750.338,72 €	747.101,50 €	743.878,24 €	740.668,89 €	737.473,39 €
	Revenue Synergies		3.507,82 €	3.523,13 €	3.538,50 €	3.553,93 €	3.569,44 €
	Cost Synergies		3.251,25 €	3.237,22 €	3.223,26 €	3.209,35 €	3.195,50 €
	Pre Tax Sinergies		6.759,07 €	6.760,35 €	6.761,75 €	6.763,28 €	6.764,94 €
	Effective Tax Rate		21,7%	21,7%	21,7%	21,7%	21,7%
	Taxes		1.466,72 €	1.467,00 €	1.467,30 €	1.467,63 €	1.467,99 €
	After tax Synergies		5.292,35 €	5.293,35 €	5.294,45 €	5.295,65 €	5.296,95 €
	Discount factor		0,947	0,897	0,850	0,805	0,763
	PV of CF		5.013,77 €	4.750,75 €	4.501,61 €	4.265,61 €	4.042,06 €
	Net Present Value	22.574 €					

Source: *Computation of Synergy in the Excel Sheet "Sinergies Valuation"*

Exhibit 23: Cost/Revenue ratios

	Birra Forst S.p.a		Carlsberg Italia S.p.a	
Year	2019	2020	2019	2020
	127.030,77 €	96.110,16 €	113.731,20 €	105.322,76 €
Raw, consum. mat. and goods for resale	35.513,29 €	26.480,62 €	76.955,36 €	71.464,55 €
%	28%	28%	68%	68%
Services	28.734,22 €	25.323,97 €	40.396,82 €	33.365,39 €
%	23%	26%	36%	32%
Personnel	23.420,46 €	20.387,04 €	11.701,10 €	9.486,92 €
%	18%	21%	10%	9%

Source: *Computation in the Excel Sheet "Synergies"*

Exhibit 24: *Carlsberg WACC Calculation*

Wacc Calculation	Forst	Carlsberg
Cost of equity		**6,8%**
Pre-tax cost of debt		2,40%
Tax Rate		26,70%
D/E		86,62%
E/(D+E)		0,535848248
WACC	**5,79%**	**4,46%**

Source: *Computation in the Excel Sheet "Synergies"*