Analysis of Investment Business Risks in the Beer Industry

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Abstract. This paper focuses on the financial situation of three modern brewery companies. In order to better analyze the profit data among the brewers and how investors can determine if they are correctly able to make a profit in the investment process. Using data from yahoo finance, this paper calculates for three companies, Budweiser, Heineken, and Carlsberg. The values of Leverage rate, Debt-to-equity ratio, Weighted average cost of capital (WACC), and Business risk are listed. The value of each company is analyzed by comparing different data for different companies. In addition, the reasons for the COVID-19 epidemic and the analysis of the import and export policies of different countries and the drinking characteristics are taken into account to make reasonable speculative recommendations. During this period, investment advice is given to brewers on the right business risks and suggestions for better development of brewers are given.

Keywords: Alcohol Beverage Industry; Business Risk; Investment; Financial analysis.

1. Introduction

1.1 Background

With the development of the times, alcoholic beverages have become a more common drink in people's lives. Whether it is at a gathering of friends and family or at a roadside table consumer are buying beer. Because of the changing consumer attitudes of the millennial generation and the rapid development of e-commerce channels, the beer industry is in full swing. Various brands of breweries are competing with each other by considering traditional flavors and constantly developing new ones. However, as the result of the COVID-19 epidemic, different breweries have suffered to varying degrees. How to properly invest in the beer industry and analyze the business risks became a factor for capitalists to consider the returns at the moment. Calculating values such as Leverage rate, Debt-to-equity ratio, weighted average cost of capital (WACC), and Business risk gives a general idea of the business value of a brewery company. Therefore, a side-by-side comparison of the business risk and financial calculations of different breweries can help investors to better analyze the market and thus achieve better profitability in the beer market.

1.2 Related research

Reid and Gatrell point out that the craft beer industry is an inaccessible part of everyday life for millennials. The authors selected several specific locations for their survey and analysis. The findings show that the development of the craft brewery business represents a watershed moment in millennial consumption. As millennials' consumption and values change, more money is being spent on beer, which is driving the growth of the industry [1]. Ong et al. Investigating the development of the beer industry during COVID-19. The authors conducted a survey in the Philippines in different categories of tables, for example, evaluating different aspects such as gender, price, and taste. The conclusion drawn from this was that although the intake of beer has decreased because of the epidemic. But from this, it was also discovered that consumer preferences impacted to the growth prospects of the beer sector in the future [2]. Plata et al. study the impact of COVID on the exact consumers. Alcohol regulation differs every nation, based on the economic and political circumstances, as well as epidemic prevention and control. Although the development of COVID-19 is fraught with uncertainty, alcohol sales through the internet are growing and there is a shift toward family unit experiences and a gradual shift toward higher quality alcohol choices [3].

Taveekitikun points out that Heineken is doing well in Asia because the brand is capturing the lifestyle and emotional needs of its customers and is reducing costs by acquiring plants or building them in the Asia Pacific. The strategic shift in the Asia Pacific has brought Heineken great profits and opportunities [4]. Freeman applied error correcting methods to investigate the link between the consumption of beer and economic cycles. Generally, both beer and cigarettes are immune to business cycles, but a betas comparison found that beer is still subject to some business cycle fluctuations. During economic downturns, people choose cheaper beer for consumption rather than wine [5]. Zhang presents an analysis of the internal environment and external factors of both PepsiCo and Coca-Cola respectively. The author identifies the similarities and differences between PepsiCo and Coca-Cola. The financial risks of the two companies are analyzed and reasonable recommendations are given to reduce the risks. Companies are able to meet the needs of consumers while keeping an eye on the changing landscape of the world market to obtain different financial solutions to face the ever-changing world landscape [6].

Dondeti et al. applied the values of operating leverage and financial leverage for the calculation of beta coefficients regarding PepsiCo and Coca-Cola companies. After calculating the different financial value formulas for the two companies, it was concluded that the beta coefficient of Coca-Cola was higher than that of PepsiCo for the period 2004 to 2012 [7]. Gardner et al. used data from the Coca-Cola Company to fully demonstrate the value of sustainable growth of the company through financial analysis to determine. Other different rates or percentages are performed through assets, liability, and debt. The authors used the DuPont system to ensure that the company gets the maximum return on its work with the best financial leverage [8].

Gardner et al. used the values of Coca-Cola to calculate the company's return and profitability. The authors use real data from the SP500 and Coca-Cola to describe how to verify the market's index and calculate returns. The authors illustrated how to use the downloaded data to calculate the index and the monthly returns for Coca-Cola, and also show how to utilize the returns to derive the beta coefficients and the necessary rate of return [9]. De uses formulas such as the beta coefficient to provide a very detailed analysis of Budweiser. The author describes not only the overall market situation but also the situation of the company in recent years due to the epidemic and debt. The equity value and cost of debt are also calculated. The author also gives recommendations and hopes that Budweiser will go up in the market [10]. Mayer's analysis of Carlsberg's financial performance is based on calculations that give Carlsberg a valuation and assumptions. The author’s analysis was based on the company's financial data as well as financial studies, industry rivals, and assumptions in order to assure accuracy and dependability. In the state of COVID-19 impact, the authors make different assumptions about Carlsberg's future. By understanding Carlsberg's financial indicators, Carlsberg is evaluated in different scenarios [11].

1.3 Objective

The purpose of this paper is to calculate the business risk as well as the different exchange rates for the financial changes of three brewers, Budweiser, Heineken, and Carlsberg in 2021. This gives investors a more intuitive way to make comparisons to make the most profitable investment analysis for themselves. From an introduction to the beer industry to a business presentation for each of the three companies, the business analysis in this paper becomes more specific so that data is available for derivation and conclusion. This allows investors to make better recommendations for the future development of the industry and investment priorities.

2. Method and Data

2.1 Financial index

The leverage ratio calculates the ratio of debt to assets to assess a company's capacity to satisfy its financial commitments. A good leverage ratio means that the business will not take on too much debt and has a high probability of obtaining loans. If the leverage ratio is too high, it means that too much debt could overwhelm the company.

Leverage rate:

$$L=D/V=D/(D+E) \tag{1}$$

The weighted average cost of capital represents the cost of capital of a company. L means Leverage. Re denotes the expected cost of equity capital, whereas Rd denotes the expected cost of debt capital. This value is usually very important to investors. A lower WACC value indicates a relatively healthy business profile that is more attractive to investors.

WACC (weighted average cost of capital):

$$WACC=(1-L)Re+L(1-T)Rd \tag{2}$$

β_A refers to Business risk. β_E refers to Equity beta. Equity beta is also known as leveraged beta. It represents the business risk and the risk of taking on debt. T stands for Marginal corporate tax rate, which is based on regulations in the headquarters country. L means leverage, which stands for debt/equity. For each pure participant to receive their Business Risk (β_A), the β_E must be delivered. However, a variety of factors, such as consumer choice, demand, sales volume, pricing, etc., might affect business risk. Asset beta, a measure of a firm's business risk, is connected to how globally integrated the company is; globally integrated organizations have fewer business risks, whereas locally integrated companies have greater business risks.

$$\beta A=\beta E/((1-TL)/(1-L)) \tag{3}$$

2.2 Listed companies

The first beer was Budweiser, an American pale lager brewed by Anheuser-Busch, part of Anheuser-Busch InBev. Budweiser is one of the most popular alcoholic beverages in the United States and is a brand known for its very classic red cans. Budweiser also produces Budweiser Supreme, Budweiser Select, Budweiser Select 55, and a special flavors Budweiser Chelada. And Bud Zero, a low-calorie, non-alcoholic beer. The brand focuses on users between the ages of twenty-five and thirty-four. And it pays great attention to the development of localization in the country, such as the Super Bowl.

The second is Heineken, the Dutch brewing company Heineken makes a pale ale, Heineken. The Heineken logo is a red star setting on a green bottle. In addition to Heineken Original and Heineken Light, Heineken also launched Heineken 0.0 in 2017. Since 1975, most of Heineken's beers have been made in the Netherlands. Today, it is in more countries, including the UK, Australia, New Zealand, and more, and distributed to over 170 countries. Heineken is gradually promoting high-end, and expanding the variety of beer, such as research and development with fruit flavor, and non-alcoholic varieties.

Carlsberg is a Danish multinational brewer. Carlsberg is one of the brands under the Carlsberg Group. It is a 5 percent pilsner beer distributed worldwide to one hundred and forty markets. Carlsberg not only has 5% beer but also Carlsberg 1883, Carlsberg 0.0%, Carlsberg Elephant, and other drinks of different alcohol levels. The target audience for the new posture has been reviewed and narrowed down. Previously, Carlsberg had a sizable and generally mature target market. It will continue to focus on them while also broadening its audience to include the newer generation of beer consumers or those who are over the age of 28.

3. Results

To examine the investment value of these three companies, the study used beverage-brewer production data from the Yahoo Finance database. The time period chosen was the change in belongings over the past twelve months from now. Separate tables were presented for comparison through different ratios and values, as shown in Table 1.

Table 1. Financial values of three listed companies

Company	Budweiser	Heineken	Carlsberg
Market value of equity	11.083B	19.700B	48.756B
Market value of debt	0.245B	16.870B	28.920B
Leverage	2.16%	46.13%	37.23%
Debt-to-equity ratio	0.02	0.86	0.59
Marginal corporate tax rate (based on regulations in the headquarters country)	30.57%	19.17%	21.70%
Equity beta	0.5	0.75	0.65
Expected cost of equity capital (Re)	0.11	0.15	0.13
Expected cost of debt capital (Rd)	7.76%	2.83%	2.24%
Weighted average cost of capital (WACC)	10.50%	8.91%	8.81%
Business risk (β_A)	49.24%	44.32%	44.38%
All-equity expected return on assets (r_A) implied by delevering equity beta	0.11	0.10	0.10

As shown in Table 1, the main data chosen for comparison are leverage, debt to equity ratio, WACC, and Business risk (βA). It is not necessary to pay too much attention to the market value of equity and debt; a side-by-side comparison of the size does not show much difference. Relatively speaking, it is the variety of ratios that are key to evaluating how to make an investment.

4. Discussion

4.1 Leverage Rate

By estimating the number of assets required to pay back loans, leverage is used to assess the financial risk faced by a corporation. The data through Table 1 demonstrates that Budweiser's leverage ratio is much lower than other companies, which indicates that the company's debt burden is all within a manageable range. Also, Table 1 shows that Heineken has the greatest trend in the debt ratio. Therefore, the company's high degree of debt raises the danger of default.

4.2 Debt-to-equity ratio

The debt-to-equity ratio (D/E) assesses the capital structure of a corporation. Budweiser's debt-to-equity ratio is very small, indicating greater equity for the company's shareholders and far more capital available to operate the company than is financed by borrowing, indicating the stability and low risk of investing in the company. Budweiser is a brand of Anheuser-Busch InBev, indicating that the company as a whole has great strength and label. And the brand becomes stable under the multinational company's operation. Comparatively, since Heineken has a larger D/E ratio than other companies, Table 1 Heineken acts as a leveraged company and takes advantage of the opportunity to draw on borrowed funds.

4.3 WACC

WACC is a measure of a company's cost of capital that accounts for the proportional weighting of each form of capital. Heineken and Carlsberg is the lowest-ranked company on the chart, which means that they can acquire money at a low cost.A lower WACC frequently indicates a strong firm that can attract investors at a cheaper cost. Budweiser, on the other side, has a comparatively high WACC, which is regarded as high risk and requires investors to be compensated with larger profits.

4.4 Business risk (βA)

The level of a company's internationalization is correlated with its operational risk or asset beta. The operational risk decreases with a company's level of globalization while increasing with a company's level of localization. Between 40% and 60%, which is a tolerable range, is the risk for Budweiser, Heineken, and Carlsberg. All three companies are internationally traded and produce beer that is not just served in one country but spread around the world. So, the business risk they have is not so high that they can go out of business at the start of economic fluctuation.

5. Conclusion

This paper examines the business situation of three different brewers by calculating different rates, WACC, and Business risk. In summary, the business risk of all three companies is between 40% and 60%, which is a tolerable risk range for development. Although Heineken has the highest leverage in comparison, Heineken also has a high gearing ratio from which the company can have a higher level of aggressiveness to make money. Budweiser's relatively highest WACC means another slightly higher risk compared to the other two. But in general, the risk of investment for all three companies is within a very reasonable range. According to the psychological situation the average investor would choose the middle value of Carlsberg. But in fact, the calculated risk of all three companies is not very different. Although the business situation will be affected by the epidemic in these years, it is very good to invest or buy shares of all three companies because they are international companies and occupy the top 10 positions in the international market. Even in difficult times, the different companies were able to reduce their debt through the regulation of different markets. In turn, looking ahead, with the gradual relaxation of the epidemic control, each company will gradually recover to its original level. This article strongly recommends investing in such companies with mature production in the international beer industry.

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