COMM 421 F22 Group Project Report:

Analysis and Valuation for Cedar Fair Entertainment Company (FUN)

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COMM 421: Financial Statement Analysis

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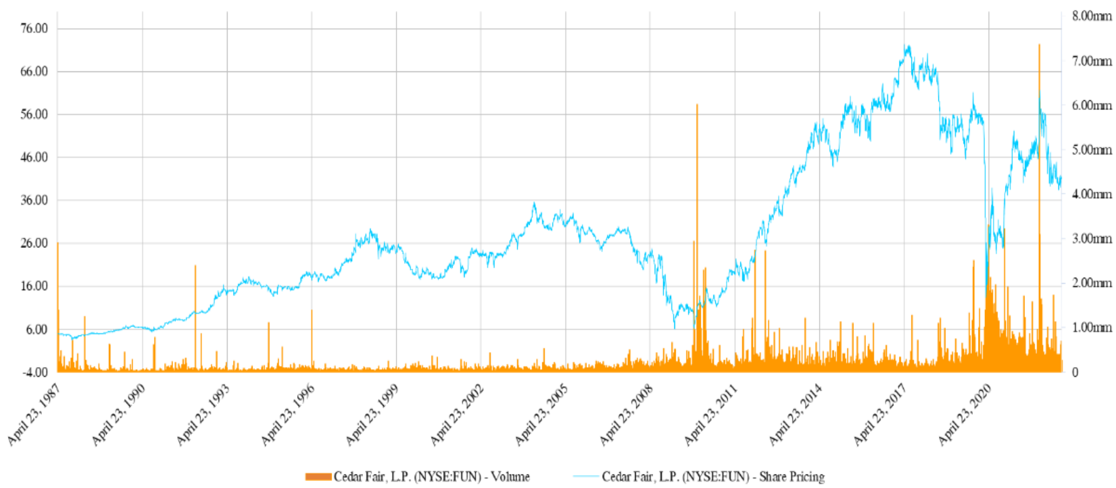
Cedar Fair Stock Price



Note. Cedar Fair share prices from April 23, 1987 to November 25, 2022[1].

Throughout Cedar Fair's stock history, like most stocks, Cedar Fair has experienced two major economic downturns - the financial crisis of 2007-2008 and the pandemic of 2020, followed by rapid growth shortly after.

Since going public on April 23, 1987, the share price of Cedar Fair has risen gradually from $5 per share to $35.71 per share before the 2008 financial crisis. The average stock price was $18.41 per share before the financial crisis of 2007-2008, with November 30, 2008 as the cut-off point. During the crisis, Cedar Fair's share hit a bottom of $6 before recovering.

From December 1, 2008 to January 31, 2020, Cedar Fair's average stock price was $41.67 per share, or 2.3 times its pre-crisis average price, with an all-time high of $72.29 per share.

After the pandemic began, Cedar Fair's stock price fell from $54 to $13.45 per share. In the Covid recovery period, its price rose gradually and peaked at $61.65 per share, just slightly lower than its pre-pandemic peak. Additionally, its average post-pandemic stock price of $41.61 (March 1, 2020 to September 30, 2022) was around its pre-pandemic average.

Future Forecasting

It is worth mentioning that eight analysts forecast the stock price of Cedar Fair in the next year, with a maximum of $74, a median of $59, and a minimum of $41[2]. Moreover, the credit rating of Cedar Fair by S&P keeps at B+[2].

Political: Employment law changes and trends, including increasing minimum wage, disconnecting employees after work hours, resisting non-compete agreements, and removing domestic experience requirements, have made employment level prospects at Cedar Fair optimistic. However, a potential increase in tax rates from 25% to 28% would increase tax expenses and reduce the amount of reinvestment.

Economic: The United States is in the late stages of economic expansion and the risk of recession is moderate. With global inflation, Fed rate hikes, and rising unemployment, Cedar Fair could be affected by all of these macroeconomics factors.

Social: Issues such as the spread of Covid may cause people to reduce their visits to amusement parks. Since amusement parks tend to be crowded, they are highly susceptible to Covid spreads. Furthermore, Cedar Fair's wide spread of amusement parks across North America is a demographic advantage, as visitors from different regions can visit amusement parks within their reach. Cedar Fair has many parks in North America with parks located in Ohio, California, North Carolina, South Carolina, Virginia, Pennsylvania, Minnesota, Missouri, Michigan, Texas, and Ontario. Therefore, Cedar Fair has a significant geographic advantage. In addition, the diverse theme parks can attract people with different interests, which is another exemplary aspect of Cedar Fair.

Technological: Free Wi-Fi is available parkwide in Cedar Point, an amusement park owned by Cedar Fair[3]. Furthermore, the amusement park industry’s demand is driven by new rides which forces companies like Cedar Fair to constantly innovate. In 2023, Cedar Fair will elevate its roller coaster technology at Canada's Wonderland with the addition of the Tundra Twister. It is a giant loop ride with a rotating basket arm that allows guests to spin, twist and spin 360 degrees upside down at dizzying heights. Also debuting next year is the Snoopy Racing Railway which will be the park's 18th roller coaster and can take visitors on wild rail adventures around Planet Snoopy. This family-launched roller coaster can go from 0 km/h to 50 km/h in seconds and zips through sharp turns while narrowly avoiding traps set by Woodstock and his Bad Seed Gang[4]. These are all examples of how Cedar Fair is continuously innovating to maintain its demand.

In conclusion, if Cedar Fair continues to maintain its competitive advantage in terms of political, economic, social, and technological aspects, Cedar Fair could see strong performance in the future.

1.2 Peer Group, System Classification, and Life Cycle

Peer Group and System Classification

We will construct a peer group for Cedar Fair in order to gauge the company's performance relative to benchmarks. The ultimate goal is to construct a peer group that can support a relative valuation. We will follow the below steps to build the group:

1. Examine Commercial Classification Systems.
2. Review Cedar Fair's Annual Report.
3. Review Cedar Fair's competitor's annual reports.
4. Review Industry Trade Publications
5. Confirm comparability with potential peers.

Step 1: Examine Commercial Classification Systems

The first commercial classification system we will use to identify companies within the same industry is the North American Industry Classification System (NAICS). Using the NAICS code *713110 - Amusement and Theme Parks*, we found the following companies:

Table 1

First Round Peer Group Selection

Six Flags Entertainment Corp	Parc Management LLC
Seaworld Entertainment Inc	Santa Cruz Seaside Company
Cedar Fair LP	Six Flags Theme Parks Inc
Disneyland International	Apex Parks Group LLC
Seaworld Parks & Entrmt Inc	G P Holding Inc

Note. 10 Companies were selected under the NAICS system[5].

The NAICS system filters companies by top annual sales. This is a reasonable criterion to group companies for our purpose as it shows the scale of the company's operations. On the other hand, Cedar Fair is primarily in the business of amusement parks, with its resorts and hotels being complementary to it. We will need to ensure that all the companies within the peer group are characterized the same way. For example, Disneyland is part of Disney Parks, Experiences and Products, which is only one of Walt Disney's five major business segments. This may not be a good comparable company due to the size and business of its parent company.

Step 2: Review Cedar Fair's Annual Report

In Cedar Fair's Annual Reports, under the competition section they state, "we compete for discretionary spending with all aspects of the recreation industry within our primary market areas, including other destination and regional amusement parks"[22]. While they do not identify any specific competitors, this does support our position that we should only look for companies primarily in the business of amusement parks for our peer group.

Step 3: Review Cedar Fair's Competitor's Annual Report

Since Cedar Fair did not list any specific competitors themselves, we will examine the annual reports of the companies listed by the NAICS system to check for competitors. In SeaWorld's Annual Report, they listed The Walt Disney Company, Universal Parks and Resorts, Six Flags Entertainment Corporation, Cedar Fair L.P., Merlin Entertainments ltd., and Hershey Entertainment and Resorts Company as direct competitors. Additionally, in Six Flags' Annual Report, they listed SeaWorld and Cedar Fair as direct competitors. It is interesting to note that Cedar Fair, SeaWorld, and Six Flags all consider each other as direct competitors.

Step 4: Review Industry Trade Publications

After reviewing amusement parks journals and trade magazines such as Amusement Today and Theme Park Adventure, we found that the mainstay companies are Cedar Fair, Disneyland, Universal Orlando Resort, SeaWorld, Hershey Park, and Six Flags.

Step 5: Confirm Comparability with Potential Peers

To finalize our peer group for Cedar Fair, we will use Capital IQ to screen from our list of competitors the companies that are of similar makeup to Cedar Fair. As mentioned previously, Cedar Fair has only one business segment in amusement parks. Hence, we need to ensure that our peer group consists of companies that primarily operate in the amusement park industry as well. Furthermore, Cedar Fair is a large company in its industry; it owns 13 parks in the US and Canada and has earned $1,338.2 Billion USD in total revenue in 2021. In forming the peer group, we will look for companies with similar total revenue as it is reasonable to assume that total revenue is reflective of how big and plentiful a company's parks are.

After compiling the LTM Total Revenue data for the companies in our current list we have:

Table 2

Second Round Peer Group Selection

Company Name	LTM Total Revenue
The Walt Disney Company (NYSE:DIS)	81,106.0
The Hershey Company (NYSE:HSY)	9,724.8
Universal Corporation (NYSE:UVV)	2,183.4
SeaWorld Entertainment, Inc. (NYSE:SEAS)	1,667.5
Six Flags Entertainment Corporation (NYSE:SIX)	1,528.6
Merlin Entertainments Limited	1,427.0
Cedar Fair, L.P. (NYSE:FUN)	1,712.7

Note. 6 peer groups were filtered by compiling the LTM Total Revenue data[6].

From this initial comparison we see that Disney and Hershey are the outliers in this list due to their sheer size and various business segments. We will eliminate these two companies from our list.

In our final screen for companies, we first set a criterion for the total revenue of the company to be between $800 million USD and $2,500 million USD. Additionally, to ensure that companies are primarily in the business of amusement parks, we will screen companies for their industry and their percentage of revenue attributed to the amusement and recreation business segment. We will set a 50% requirement for the *Amusement and Recreation Services - % of Revenue [LTM]* criteria. The results are presented below:

Table 3

Third Round Peer Group Selection

Exchange: Ticker	Industry Classifications	Total Revenue [CY 2021] ($USDmm, Historical rate)	Business Segments: Amusement And Recreation Services % of Revenue [LTM]	Business Segments Details: Amusement And Recreation Services % of Revenue [LTM]	
NYSE: SEAS	Amusement And Recreation Services (Primary)	$1,503.7	100%	Theme Parks:	$1,667.5 (100.0%)
NYSE: SIX		$1,496.9	100%	Parks:	$1,528.6 (100.0%)
NYSE: FUN		$1,338.2	100%	Amusement/Water Parks with Resort:	$1,712.7 (100.0%)
NYSE: MTN		$2,175.4	87.6%	Mountain Resort:	$2,213.1 (87.6%)
TSE: 4661		$1,943.6	79.2%	Theme Park:	$1,956.1 (79.2%)

Note. Confirming Comparability for Peer Group[7].

From our screening, we notice that SeaWorld and Six Flags are the only companies remaining from our original list. Furthermore, the 80% of total revenue from Amusement and Recreation Services for Oriental Land Co. comes from its Disney parks and resorts. Lastly, while Vail Resorts is classified as part of the Amusement and Recreation Services industry, it primarily operates ski resorts and hence, will not be part of our peer group.

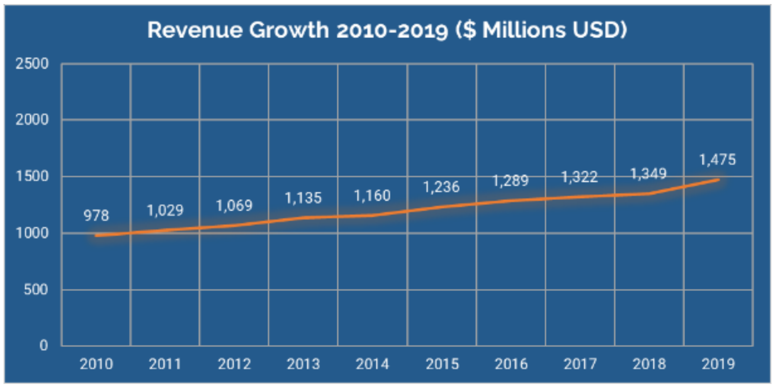
In conclusion, after screening our extensive list of potential comparable companies for total revenue and percentage of revenue attributed to amusement parks, our final peer group consists of SeaWorld Entertainment Inc., Six Flags Entertainment Corporation, and Oriental Land Co.

Industry Life Cycle

Cedar Fair is in the mature stage of the industry life cycle. This is evident in the year-to-year changes of their financial statements. Looking at the annual revenue data pulled from Capital IQ between the years 2010 to 2019, we see that the company is experiencing low growth in its revenues.

Figure 2

Revenue Growth from 2010 to 2019 (USD Millions)

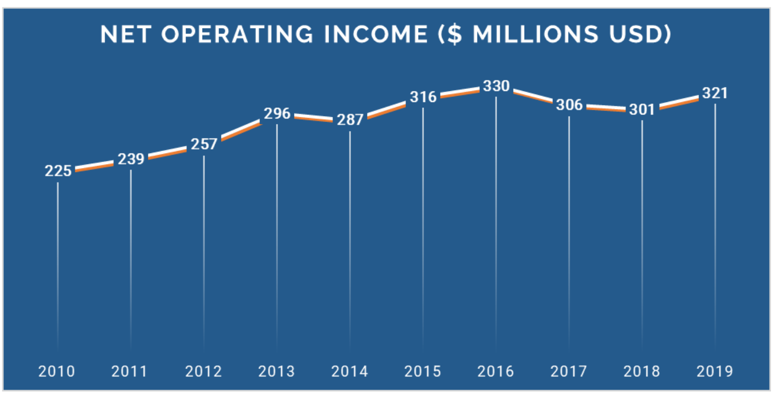


Note. Cedar Fair was experiencing low revenue growth from 2010 to 2019[8].

Next, we will use net operating income to measure the profitability of the business. From the chart below, we see that Cedar Fair's profitability is beginning to taper out and even decrease in recent years.

Figure 3

Net Operating Income from 2010 to 2019 (USD Millions)



Note. Cedar Fair was experiencing decreasing profitability from 2010 to 2019[9].

Furthermore, there are also immensely high barriers to entry as a huge amount of land and capital are needed to start a profitable amusement park. As a result of this, we see that Cedar Fair and its competitors have consolidated most of the regional markets that they are based in. All these quantitative and qualitative factors place Cedar Fair in the mature stage of the industry life cycle.

1.3 SWOT Analysis

In addition to analyzing the life cycle of Cedar Fair, a SWOT analysis will also be of great help in evaluating the company's internal and external factors, as well as its current and future potential. Below are CF's central identifiers in terms of SWOT.

Strengths

First, CF has a solid industry position. It has an excellent reputation as a publicly traded Master Limited Partnership (MLP) established in 1983. This is reflected in its high customer satisfaction rating of 87%[10]. Undoubtedly, as CF has grown, it is now the world leader in owning and operating regional amusement and water parks, as well as resorts, hotels, and leisure properties.

Weaknesses

We consider the lack of differentiation to be the main weakness of CF. Despite CF's continued operation in recent decades, its positioning and unique selling proposition have not been clearly defined, which could lead to an attack on the segment by competitors.

Also, the prices charged by Cedar Fair may be unreasonable compared to the product/service features. This suggests that pricing strategies may need to be revised. Therefore, the lack of business differentiation makes it difficult for CF to develop a unique niche.

Opportunities

The opportunity for CF is to enter new business segments. Since the first amusement park (Cedar Point) opened in 1870, clients have adapted and become accustomed to its traditional range of entertainment activities. To generate revenue by offering services separate from the central business line, CF may expand its portfolio of food and beverage products in the future[11]. By focusing on delivering signature menus and beverage items, consumer cravings for unique flavors and experiences can be met. Therefore, with this segment initiative, CF has the opportunity to attract more customers.

Moreover, maintaining and increasing cooperation with suppliers will also bring opportunities. During the pandemic, the entertainment industry has suffered an unprecedented blow. Compared with other brands, CF has a closer historical cooperation background with suppliers such as Keystar International Ltd. and Yangzhou Rich Arts Crafts Co., Ltd.[12]. By restoring the quality of products and services as soon as possible, CF can support heavier attendance after reopening from the pandemic.

Threats

One of the threats to CF is the hidden danger of market share. For CF, multiple brands in the amusement market are competing for the same customer base, such as Kings Island and Six Flags[13]. In addition, the growing strength of local net sales is also posing a threat to some market share as competitors are paying higher profits to local dealers. These threats, to a large extent, limit the organization's ability to maintain and expand its customer base.

1.4 Porter's Five Forces Analysis

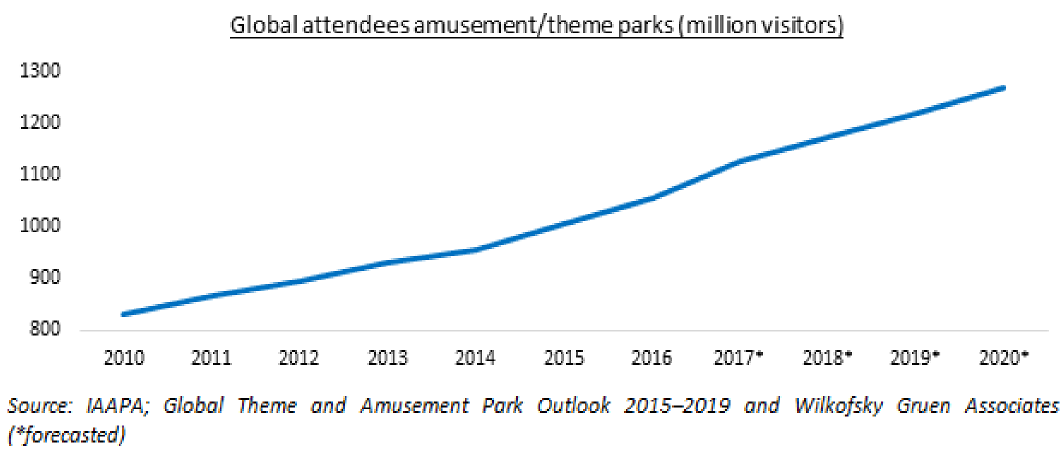
Porter's Five Forces Analysis is a holistic strategy framework, which includes Threats of New Entrants, the Bargaining Power of Suppliers, the Bargaining Power of Buyers, Threats of Substitutes, and Rivalry among Existing Competitors. It focuses on how Cedar Fair can build up sustainable and competitive advantages, evaluate a strategic position, and explore more profitable opportunities in the amusement park industry.

Threats of New Entrants

With the growing urban population and increasing GDP per capita, global attendance of amusement parks has grown steadily in the past 10 years (see Figure 4). This growth has become a driving force for new entrants.

Figure 4

Global Theme and Amusement Park Outlook



Note. Global attendee's amusement/theme parks grew steadily in the past 10 years[14].

This threat, however, is weak mainly due to the extremely large barriers to entry. New entrants require high capital investments and high cost of brand development for land, construction, maintenance, and advertising. The high barriers make the amusement park industry dominated by old established players like CF.

Rivalry among Existing Competitors

As a few existing competitors occupy a large market share, rivalry becomes a strong force to gain a leader position in the industry. Geographical location is a major consideration as visitors would more likely choose a closer amusement park unless another distant park has significant attractions. CF offers 17 amusement parks in different North American cities and 11 hotels to stay at with many retail stores and restaurants (see Figure 5).

Figure 5

Overview of Cedar Fair

Note. Cedar Fair offers 17 amusement parks and 11 hotels to stay[15].

The widespread parks and excellent services of shopping and accommodations make CF one of the more competitive companies in the market. To attract more visitors, parks would announce new rides and attractions, special events, coupons for tickets, and special offers for hotels and trip packages.

Bargaining Power of Suppliers

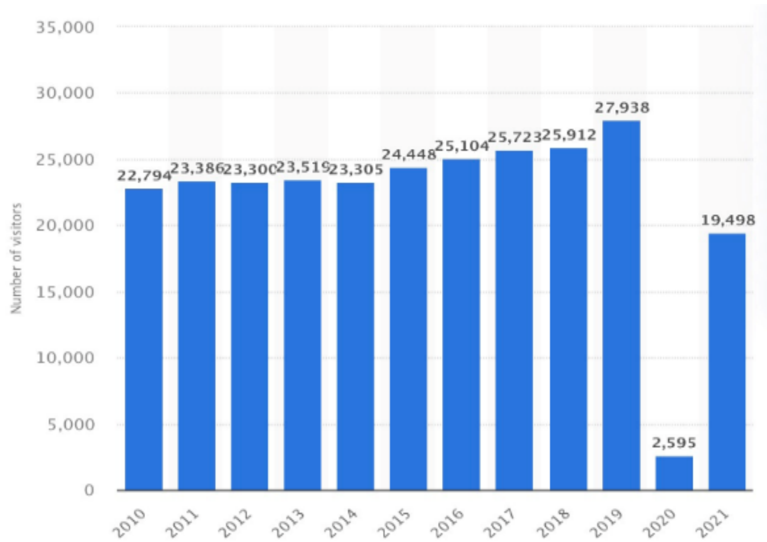
New technology and attractions from suppliers are the main force for revenue growth of amusement parks. This makes suppliers have large bargaining power. The capital plan of CF for 2023 discloses many innovations, indirectly reflecting the great power of suppliers. Its capital investments for 2023 will be the largest ever at approximately $200 million, which will bring new thrilling rides, revitalize theme areas, and finance the 50th anniversary celebrations at Carowinds and Worlds of Fun[16]. Additionally, licensing agreements are critical for theme parks' usage of cartoon characters to provide an enhanced entertainment experience. CF holds a long-term license of the PEANUTS characters, including Snoopy[17]. With low switching cost, CF can build an efficient and persistent supply chain with more suppliers to weaken the power of suppliers.

Bargaining Power of buyers

Due to low switching costs, buyers can easily switch from one park to another based on their preferences. Furthermore, customers' price sensitivity also puts pressure on CF. The target market of amusement parks is young people and families with young children. This demographic is more sensitive to price changes than the middle-age population. These two factors make the power of buyers strong. However, CF has built a large base of customers with strong brand loyalty. As a result, the power of buyers is significantly reduced. In addition, CF has suffered a tough period in 2020 because of the pandemic. Its number of visitors grew constantly from 2010 to 2019 but dropped dramatically in 2020 (see Figure 6).

Figure 6

Number of visitors to Cedar Fair parks in North America from 2010 to 2021



Note. Number of visitors dramatically dropped to 2,596 in 2020[18].

CF had to offer a significant discount to attract customers back and return to normal operations.

Threats of Substitutes

The amusement park industry has many substitutes as it is part of the larger entertainment industry. Instead of amusement parks, people can choose to go to parks, concerts, movies, sports, museums, etc. However, CF also offers additional services such as cartoon characters and family-oriented entertainment. This helps to distinguish CF from other substitutes. To weaken the threat of substitutes, CF should follow trends to cover more recreational activities such as shopping, shows, golfing, movies, etc. Providing a full vacation experience will be very competitive in the threat of substitutes.

2.0 Cost of Equity and Weighted Average Cost of Capital

2.1 Cost of Common Equity

Examination for Reasonableness

The Capital Asset Pricing Model (CAPM) was used to calculate the cost of equity as it considers a company's systematic risk relative to the market, as shown in the beta. The major consideration for using CAPM was the ease of accessibility of the model inputs. Data on a company's beta, risk-free rate, and market proxy are all published frequently and can be easily found on Bloomberg and Capital IQ.

Assumptions

CAPM calculates the expected return of an asset based on its beta and expected market returns. Assumptions about CAPM include:

a. Investors are risk averse.
b. Investors have equal access to information.
c. Investors can borrow and lend at a standard risk-free rate without limitations.
d. Investment is based on mean-variance optimization.
e. Investment allocations have perfect divisibility.
f. Investors' allocations cannot change market prices.
g. There are no transaction costs, taxes, or other frictions.
h. Relevant risk is systematic risk.

Calculations

Step 1: Risk-Free Rate

The on-the-run US 10 Year Treasury Rate of 3.654% as of November 27, 2022 was used as our risk-free rate. The US Treasury rates are considered risk-free because they are guaranteed by the US Federal government. Furthermore, we decided to use a long-term rate instead of a shorter one because it is more representative of our forecast horizon. Since we will be forecasting all of Cedar Fair's future cash flows, it is more reasonable to use a long-term rate to discount distant future cash flows. Additionally, the US 10Y Treasury Rate is also known as a "barometer for economic growth and inflation" signaling how individuals will spend their discretionary money[19].

$$R_F = 3.654\%$$

Step 2: 5-year Beta for Cedar Fair

We used Bloomberg to find Cedar Fair's 5-year beta from 2017 to 2022, which is calculated through regression of Cedar Fair's risk premium to the market risk premium.

The proxy that Bloomberg uses for the market is the S&P 500 Index. We chose the general market as our market proxy because the data on it is reliable, constantly updated, and representative of the health of the general economy. Furthermore, using the S&P 500 also tells us the level of systematic risk Cedar Fair has relative to the general market. We decided to use a 5-year beta instead of a 1- or 3-year beta because it captures Cedar Fair's sensitivity to systematic risk prior to the pandemic and after. A beta calculated solely from the losses of the pandemic will not be an accurate representation of Cedar Fair's sensitivity to systematic risk since the amusement park industry was hit particularly hard due to forced closures.

The result of the regression was a beta of 1.377 and tells us that Cedar Fair is more sensitive to systematic risk than the general market. There are multiple reasons why we believe this number is reasonable. One reason being that the amusement parks and recreation industry is classified under the consumer discretionary sector. This means that as the economy faces downturns, spending on amusement parks is likely to be cut. Likewise, if the economy is expanding, household disposable income is also rising and hence people are more likely to spend money on discretionary goods such as attending amusement parks. Another reason why we believe Cedar Fair has more systematic risk than the general market is because they use a lot of debt to finance capital expenditures on projects such as new roller coasters. This means that their capability to finance projects is very sensitive to interest rate changes, a major component of systematic risk. Ultimately, all these factors were considered in determining the beta of the company to be 1.377.

$$\beta = \frac{COV(FUN, SPY)}{VAR(SPY)} = 1.377$$

Step 3: Expected Risk Premium

The market risk premium is the difference between the expected return on a market portfolio and the risk-free rate. Since we are looking to calculate a long-term cost of equity for Cedar Fair, we will use a long-term average market risk premium to remove the effect of short-term volatility. The average annual return for the S&P 500 between 2014 and 2022 is 10.18%.

Therefore, the expected risk premium is:

$$E(R_M) - R_F = 10.18\% - 3.654\% = 6.52\%$$

Step 4: Required Return on Equity for Cedar Fair

Based on the CAPM formula and the inputs calculated in the previous three steps, the cost of common equity should be:

$$K_e = E(R_{FUN}) = R_F + \beta_{FUN}[E(R_M) - R_F]$$

$$= 3.654\% + 1.377 \times [10.18\% - 3.654\%]$$
$$= 12.635\%$$

2.2 Weighted Average Cost of Capital

Examination for Reasonableness

The weighted average cost of capital (WACC) represents the average after-tax cost of capital for a company from all sources, including stocks, bonds, and other forms of debt. Given the accessibility and generalizability of WACC, we use it to calculate the average interest rate that a company expects to pay to finance its assets. In the process, MVD and MVCE can be found on Cedar Fair's capital structure, while its cost of debt can be found in its financial statements.

Assumptions

Weighted Average Cost of Capital (WACC) is a company's average after-tax cost of capital based on its capital structure. Assumptions about WACC include:

a. Cost of Equity refers to required return on equity that is calculated by CAPM.
b. The market value of debt (MVD) is the current market value of debt.
c. MVD refers to long-term debt and long-term leases.
d. The market value of (common) equity is the current market value of equity.
e. There are no Preferred Equity[20].
f. The capital structure of Cedar Fair will stay the same in the future.
g. All debt has no attached options and are non-convertible.

Calculations

Step 1: Weights of MVD and MVCE

Market value of debt (MVD) is the market price that investors would be willing to buy the debt of Cedar Fair. It should only include long-term debt because WACC is used to appraise long-term investments. Market value of common equity (MVCE) is market capitalization, which is calculated by multiplying the total shares outstanding by the current price per share. The current market value of debt is 2350 million USD, and the current market value of common equity is 2354 million USD. The proportions allocated to debt and common equity are 50.04% and 49.96% respectively.

Step 2: Cost of Debt & Tax Rate

The cost of debt of a company is the yield to maturity of its long-term bonds. Using this approach, cost of debt is the weighted average YTM (weighted by face value) on existing long-term debt from 2024 to 2029 (5.6%). Interest on debt is tax deductible and ignoring the tax shield fails to consider a significant tax benefit which leads to undervaluing the business[21]. The current corporate tax rate is 21% and so the after-tax cost of debt is 4.424%.

Step 3: WACC for Cedar Fair

Based on the WACC formula and the inputs calculated before, the Weighted Average Cost of Capital should be:

$$\begin{aligned} WACC &= \frac{MVD}{MVD + MVCE} \times r_d(1 - Tax\ Rate) + \frac{MVce}{MVD + MVCE} \times r_e \\ &= weight\ of\ MVD \times r_d(after - tax) + weight\ of\ MVCE \times r_e \\ &= 50.04\% \times 4.424\% + 49.96\% \times 12.635\% \\ &= 8.53\% \end{aligned}$$

3.0 Relative Valuations

3.1 Price Ratios

Using P/B to evaluate the stock price does not make sense for Cedar Fair as it currently has a negative book value of -$6.05 per share. For this reason, we will first consider only the P/E ratio.

Assumptions

P/E measures the relationship between a company's stock price and its earnings per share. Assumptions about the relative valuation of Cedar Fair using the P/E ratio of comparable companies are as follows:

a. No negative, zero, or miniscule earnings.
b. Earnings are stable and permanent.
c. Earnings have not been manipulated.
d. P/E is related to stock returns.
e. Earnings per share is a driver of value.
f. Follows the law of one price

Calculations using P/E

Step 1: P/E for Peer Group

The first step is to collect price ratios from the 'Multiples' tab on Capital IQ for Cedar Fair, SeaWorld, Six Flags and Oriental Land. We then calculated the median and average P/E of the peer group. The data is presented as follows:

Table 4

Trailing and Forward P/E for Peer Groups

	Trailing P/E	Forward P/E
SeaWorld Entertainment Inc.	18.97	13.49
Six Flags Entertainment Corporation	13.51	10.20x
Oriental Land Co.	134.91	80.96
Cedar Fair	24.49x	14.81x
Average (excluding Oriental)	**16.24x**	**11.85x**
Median (excluding Oriental)	**16.24x**	**11.85x**

In examining the P/E ratios of our peer group, we decided to exclude Oriental's ratios from our average and median calculations as it is clearly different from the values of Cedar Fair and the rest of the peer group. This difference could be attributed to the fact that Oriental still operates its amusement parks under the Disney umbrella, which may have a role in inflating its stock price. Furthermore, Oriental also owns several other assets such as hotels, commercial complexes, and a monorail line servicing the Tokyo Disney Resort. This variety of asset holdings may play a part in setting its P/E ratio significantly higher than companies just operating amusement parks.

After excluding Oriental's values, our peer group now only consists of Six Flags and Sea World. This new group is more representative of Cedar Fair's business nature as both companies primarily operate amusement parks and have similar assets to Cedar Fair. Furthermore, we also see that the remaining two companies have P/E ratios that are close to Cedar Fair's. Since our peer group is now only two companies, our median and average P/E ratios are the same. Finally, we prefer using the trailing P/E since we have more confidence in the historical data than future estimates that can be severely impacted by lingering effects of the pandemic.

Step 2: EPS Forecast & Stock Price (Intrinsic Value)

The EPS forecast for Cedar Fair was found on Capital IQ in the Estimates tab. Based on the next four quarters, its EPS is \$2.95. From this, we calculated the intrinsic price per share by multiplying the peer group average trailing P/E ratio by the forecasted EPS.

$$Intrinsic\ value = Peer\ Group\ Avg. P/E \times Forecast\ EPS = 16.24\text{x} \times 2.95 = 47.91$$

Conclusions

- Since Cedar Fair's current stock price is \$41.36 and our intrinsic value calculated using the P/E multiple is \$47.91, its stock is undervalued under this method.
- Our peer group normal P/E (including Cedar Fair) is 18.99x and Cedar Fair's P/E is 24.49x. This indicates that Cedar Fair is a growth company.

3.2 Enterprise-Based Ratios

This section provides the process and conclusions of conducting relative valuations for Cedar Fair using EV/EBITDA and EV/EBIT multiples.

EV/EBITDA

The EV/EBITDA ratio compares the enterprise value of a company with its earnings before interest, tax, depreciation and amortization. As such, it is widely used as a valuation tool.

The following are some of the summarized data from the spreadsheet.

Table 5

LTM and NTM EV/EBITDA for Peer Groups

	EV/EBITDA (LTM)	EV/EBITDA (NTM)
SeaWorld Entertainment Inc.	9.76x	8.42x
Six Flags Entertainment Corporation	10.60x	10.03x
Oriental Land Co.	101.20x	43.67x
Cedar Fair	**16.15x**	**8.66x**
Average (excluding Oriental)	**10.18x**	**9.23x**
Median (excluding Oriental)	**10.18x**	**9.23x**

Notes. LTM: last twelve months. NTM: next twelve months.

Once again, Oriental's multiples are significantly different from Cedar Fair's and the rest of the peer group's. Due to the same reasoning as discussed in the P/E section, we will exclude Oriental from this section of the analysis. The remaining calculations will only include Six Flags and Sea World as part of the peer group. We will also only use the LTM values as we are more confident in it than the NTM forecast.

Calculations:

$$\begin{aligned} EV &= \left(Mean\frac{EV}{EBITDA}\right) \times EBITDA \\ &= 10.18 \times 517.8 \\ &= 5271.204 \end{aligned}$$

$$\begin{aligned} Equity\ value &= EV - Net\ debt - Cash - ST\ Investment \\ &= 5271.204 - 2061.60 - 288.7 \\ &= 2920.904 \end{aligned}$$

$$\begin{aligned} Stock\ price &= Equity\ val\ \div\ Tot\ shares\ out. \\ &= 2920.904/55.6 \\ &= 52.53 \end{aligned}$$

EV/EBIT

The EV/EBIT multiple is the ratio between enterprise value (EV) and earnings before interest and tax (EBIT). The following are some of the summarized data from the spreadsheet.

Table 6

LTM and NTM EV/EBIT for Peer Groups

	EV/EBIT (LTM)	EV/EBIT (NTM)
SeaWorld Entertainment Inc.	13.48x	11.47x

Six Flags Entertainment Corporation	14.88x	12.25x
Oriental Land Co.	174.22x	69.36x
Cedar Fair	**25.16x**	**12.93x**
Average (excluding Oriental)	**14.18x**	**11.86x**
Median (excluding Oriental)	**14.18x**	**11.86x**

Notes. LTM: last twelve months. NTM: next twelve months.

Calculation:

$$\begin{aligned} EV &= \left(Mean\,\frac{EV}{EBIT}\right) \times EBIT \\ &= 14.18 \times 355.4 \\ &= 5039.572 \end{aligned}$$

$$\begin{aligned} Equity\ val &= EV - Net\ debt - Cash - ST\ Investments \\ &= 5039.572 - 2061.60 \\ &= 2689.272 \end{aligned}$$

$$\begin{aligned} Stock\ price &= Equity\ val\ \div Tot\ shares\ out. \\ &= 2689.272 \div 55.6 \\ &= 48.37 \end{aligned}$$

Analysis and Conclusion

- After calculating EV/EBITDA and EV/EBIT, the range of stock prices based on the enterprise-based ratios are: [48.37, 52.53].
- For EV/EBITDA, Cedar Fair's multiple (16.15x) is above the average (10.18x). In addition, for EV/EBIT, Cedar Fair's multiple (25.16x) is also above the average (14.18x). Both multiples tell us that Cedar Fair is a growth company.

Level of Confidence in Relative Valuation

We are confident in the formation of our peer group to calculate the industry average/median ratios as each of the companies are very similar to Cedar Fair in both business nature and multiple values. Additionally, we also see that the intrinsic price per share under the different relative valuation models falls between the range of $47.91 to $52.53. This is a small range and adds to our confidence in the values as all the methods agree that the current stock price of Cedar Fair is undervalued.

4.0 Discounted Cash Flow (DCF) Models

4.1 Free Cash Flow to Firm (FCFF)

Model Rationale

The main valuation method we decided to use for Cedar Fair was a discounted cash flow model using the free cash flow to firm method. The main reason why we chose the FCFF method over FCFE is due to the level of confidence we have in the discount rate. The cost of equity used for the FCFE model is completely reliant on our judgements of what values of beta, risk-free rate, and market risk-premium to use. In comparison to the WACC used for FCFF models, since there are fewer assumptions required to calculate the cost of debt (a weighted average of the YTM on existing long-term debt), it makes the WACC a more objective discount rate. We decided against using a dividend discount model because the company has not been consistently releasing dividends in recent years. Furthermore, we did not use a residual income model as it is primarily used for companies that either do not pay a dividend or has negative free cash flows. Furthermore, since the book value per share for Cedar Fair is currently negative (-6.05), we cannot use the RI model as it will have a negative anchor.

Assumptions in the Model

In creating our FCFF discounted cash flow model, we made several assumptions. The first of which was regarding our 2023 revenue forecast. There were many concerns for us when it came to deciding a base number for 2023. Since this was also our first forecast year, it was very important for us to get this revenue right as it will serve as our anchor for applying growth rates and determining the ratios for each of our FCFF components. In the years leading up to 2023, Cedar Fair's revenue growth rate has been very volatile due to many factors such as the pandemic, high inflation, and high interest rates. As a result, we observed unprecedented revenue growth numbers such as 35% between 2021 and 2022 (LTM). Due to the reasons mentioned, we believe that these growth rates are just short-term anomalies and will not persist in the future. Furthermore, currently there are many economic indicators that suggest a recession is approaching soon. The yield curve has inverted multiple times (leading indicator) and the growth in real GDP has been negative for two consecutive quarters in 2022 (coincident indicator). To be more conservative and account for this potential loss, we decided to use Cedar Fair's average revenue growth rate during the last two recessions of 2001 and 2008 (-1.8%) as our revenue growth rate for 2023. Another reason why we believe a negative revenue growth rate for 2023 is reasonable is because a major reason for the 35% revenue growth in 2022 is due to inflation and not an increase in attendance. This is evident in Cedar Fair's 2022 Q3 report as it states that while its revenue has hit an all-time high, its attendance has decreased by 4% since 2021. These conflicting numbers indicate that Cedar Fair is already experiencing a drawback.

As for the remaining four years of our 5-year forecast, we used Cedar Fair's average revenue growth between 2014 to 2019 (4.5%) as we believe this is more representative of Cedar Fair's short-term revenue growth under normal economic conditions.

To forecast the remaining components after revenue to get to FCFF, we examined Cedar Fair's historical ratio for each component relative to revenue (e.g., net profit margin, depreciation-to-revenue, and etc.). We computed the ratios across a five-year period between 2015 to 2019 and took an average for each ratio. The assumption behind this is that while revenue may fluctuate from year-to-year, the company's ratios should remain stable. To get arrive at our forecasted values for each component, we applied the historical ratio to our forecasted revenues.

Finally, the last assumption we made was regarding the long-term growth rate in calculating our continuing value. Initially, we tried using the industry growth rate, however, we noticed that this value was greater than our short-term growth rate. We believe that this would not make sense for a mature company like Cedar Fair and led us to use its 8-year average revenue growth of 3.5% between 2012 to 2019 instead. We decided on this method based on the assumption that Cedar Fair's current annual revenue growth rates are short-term anomalies due to the pandemic and will eventually revert to this long-term mean.

Calculations

Table 7

Free Cash Flow to Firm Forecast

In Millions USD			Year 1	Year 2	Year 3	Year 4	Year 5	
	2021 Actual	Sep. 25, 2022 (LTM)	2023 Forecast	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	Terminal Value
Revenue	$1,338.20	$1,802.30	$1,768.06	$1,847.67	$1,930.87	$2,017.81	$2,108.67	$43,729.12
Revenue Growth Rate		34.7%	-1.9%	4.5%	4.5%	4.5%	4.5%	3.5%
Net Income			$198.97	$207.93	$217.29	$227.08	$237.30	$4,921.16
Depreciation			$167.97	$175.53	$183.43	$191.69	$200.32	$4,154.27
Interest			$131.38	$137.29	$143.48	$149.94	$156.69	$3,249.35
CAPEX			$185.65	$194.01	$202.74	$211.87	$221.41	$4,591.56
WCInv			-$26.37	-$27.56	-$28.80	-$30.10	-$31.45	-$652.26
FCFF			***$311.45***	***$325.48***	***$340.13***	***$355.45***	***$371.45***	***$7,703.11***

Table 8

FCFF Intrinsic Price per Share

Enterprise Value	$6,447.33
Total Debt	$2,350.24
Cash and Cash Eq.	$182.50
Equity Value	$3,914.59
Outstanding Shares	57
Price	***$68.68***

4.2 Sensitivity Analysis

Sensitivity Analysis for FCFF (Confidence in Model)

Table 9

Sensitivity Analysis for FCFF

		Sensitivity Analysis				
				WACC		
	$68.68	8.03%	8.28%	**8.53%**	8.78%	9.03%
g	2.79%	$73.20	$64.68	$56.48	$48.58	$40.95
	3.04%	$77.67	$68.75	$60.21	$52.01	$44.10
	3.29%	$82.62	$73.23	$64.29	$55.74	$47.53
	3.54%	$88.11	$78.18	$68.78	$59.83	$51.28
	3.79%	$94.25	$83.68	$73.74	$64.33	$55.38
	4.04%	$101.15	$89.84	$79.26	$69.31	$59.89
	4.29%	$108.99	$96.76	$85.43	$74.84	$64.87

Notes. g means the long-term growth rate.

To examine our estimation of Cedar Fair's price per share, we performed a sensitivity analysis on the long-term growth rate and WACC. We picked these two factors as they directly impact the continuing value which has a large weight in determining the price per share.

In the sensitivity analysis, we shifted our base WACC and long-term growth rate by 25 basis points to see how this will impact the price. We see that when we only shift the WACC, the average price is $69.24 with a standard deviation of $13.02 within a 50bps band of the base WACC (8.53%). This shows that our model is very sensitive to the WACC as it has a large effect on the continuing value. While the price may fluctuate significantly around our base WACC, we are still confident in it as we have considered many options in computing its components such as the cost of equity and cost of debt.

After careful consideration, we believe that this is the most faithful and accurate estimate for it.

As for our estimate of the long-term growth rate, we are less certain about its location since we assumed that Cedar Fair will eventually recover from the pandemic and revert to this long-term growth rate. To examine the model's sensitivity to it, we shifted it by 25 bps while keeping WACC the same. Within a 50bps band of the base growth rate (3.54%), the average price is $69.26 and the standard deviation is only $6.74. This tell us that our model is not as sensitive to the long-term growth rate as compared to the WACC. This makes us more confident in our result since our estimate of the long-term growth rate does not need to be extremely precise to get an accurate model price.

Overall, we are fairly confident in the price of $68.78 computed by our model. We have considered the fact that our model is very sensitive to the WACC and have made careful considerations in deciding what is a fair and faithful value for it. Furthermore, as for the long-term growth rate estimate, we believe that our assumptions made for it are reasonable and as long as the estimate is somewhat accurate, our model price will not fluctuate too much because of it.

Conclusion

To conclude our valuation analysis on Cedar Fair, we will sum up the different intrinsic share prices that we got from the different valuation methods considered. Based on the different multiples used in the relative valuation portion of the analysis, we have a range of $47.91 to $52.53 for the stock price. Additionally, from our DCF model using FCFF, our intrinsic stock price is $68.78 and should most likely fall between $52.01 and $89.84. Overall, we are more confident in our intrinsic value produced from the DCF model as we have incorporated more assumptions in it. This is because there are more components to calculate which enables us to make realistic assumptions at each step. While the result may vary more due to added assumptions, it is ultimately a more accurate depiction of the potential reality faced by Cedar Fair going forward.

To incorporate both the relative valuation price and the DCF model price into our final recommendation, we will calculate a weighted average of the two prices. For the relative valuation price, we will use an average of the three prices from the 3 multiples used. This average price is $49.60. Since we are more confident in our DCF model, we will weight its price 70% and the relative price 30%. Under this methodology, our final intrinsic price per share is $63.03 and hence, would recommend a buy on the stock.

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