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University of Stavanger**



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Valuation of Spotify

“What is Spotify valued at as of spring 2023?”



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Preface

This bachelor's thesis is the final project of my studies in economics and administration at the University of Stavanger. My favorite courses are accounting and finance courses because I've always enjoyed working with numbers. As a result, it was only natural that I picked valuation as the topic for my thesis. I've wanted to learn more about stocks and investing for some time. However, I found it challenging to get started owing to the overwhelming amount of information provided. This thesis has provided me with vital tools and knowledge that will allow me to begin taking investing more seriously.

I'd like to express my gratitude to my supervisor, Egil Steinberg, for his helpful input and assistance with the development of this thesis. I would additionally like to thank Marius Sikveland, the valuation lecturer, for his great teaching and for sparking my interest in valuation. Their efforts have been vital in the successful completion of this thesis. As my undergraduate studies come to a close with my bachelor's thesis, I am convinced that the skills and information I have obtained will serve me well in my future efforts.

At this point, I'd want to emphasize that my initial intention was to conduct a NEL ASA valuation. However, after consulting with my supervisor, it was decided that valuing Spotify Technology S.A. would be better. This decision was made because I have a fondness for the firm and use its application regularly. This personal interest may motivate me to accomplish this task satisfactorily.



Meelad Azizollah

Summary of thesis

This thesis' primary objective is to present an extensive valuation of Spotify Technology S.A. as of spring 2023. The research specifically seeks to estimate a share price that could offer a buy or hold recommendation based on the share price's market value.

To accomplish this, the paper first provides a comprehensive review of Spotify Technology S.A. and the industry in which it operates. Following that, several theoretical methods of valuing a corporation are addressed, including how to estimate cash flows and calculate a rate of return using the discounted cash flow model. Furthermore, the study looks into relative valuation, which necessitates a strategic analysis in order to effectively anticipate future cash flows. To provide the highest level of precision in cash flow estimation, this is supplemented by an accounting analysis.

To observe differences in findings, the calculated cash flows and return rates are subjected to a sensitivity analysis. Furthermore, a relative valuation is performed by comparing Spotify to similar corporations and calculating various share prices using different ratios. Spotify's share price was determined by both the fundamental and relative valuations, which were 103.9 USD and 139.7 USD, respectively.

After a thorough assessment, a weighted average of 80-20 in favor of fundamental value was applied, resulting in a final share price of 110.9 USD. Spotify's share price was 133.6 USD as of the 28th of April 2023. As a result, a hold recommendation was issued for Spotify's shares based on this valuation.

This thesis's contribution to the field lies in providing a thorough valuation of Spotify Technology S.A. The results can be helpful to investors, analysts, and market participants interested in making informed decisions about investing in Spotify Technology S.A.

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1 Introduction

1.1 Choice of assignment

We have earned excellent knowledge and skills after three years of studying economics and administration, which we are ready to put into action. The topic of valuation was a natural decision because it symbolizes the final chapter of our bachelor's degree and requires us to apply our knowledge from numerous fields of study, mainly accounting and finance. Furthermore, the ability to value organizations is an essential skill for someone since it could prove valuable in future endeavors.

Spotify Technology S.A. has been chosen for valuation. Spotify's strong prominence in the music streaming sector prompted the decision to investigate it. Most people around me utilize Spotify as their primary source of music, making it an intriguing topic to explore deeper. Despite its market dominance, Spotify still needs to succeed in turning a profit. The company is evolving from a music streaming service to a complete auditory platform, including recent podcast investments. Observing how Spotify's future develops and whether these investments are successful in turning around the company's financial fortunes will be captivating.

1.2 Thesis statement

The purpose of this thesis is to calculate the value of Spotify Technology S.A. The key problem that this essay seeks to answer is:

“What is Spotify valued at as of spring 2023?”

The purpose of this thesis is to calculate the value of Spotify Technology S.A. To determine this value, we will use numerous valuation theories and methods, with a particular emphasis on share price. In addition, a strategic and accounting analysis will be performed to aid in the valuation of the company. It is crucial to note that the majority of the factors used to estimate the share price will be gathered earlier than May 1, 2023, ensuring that our research is based on the most up-to-date and relevant data.

1.3 Limitation

To measure a company's success in the industry, a normal accounting analysis would compare its financial statements to those of its peers. However, such a comparison is not possible in this case because the majority of enterprises within this sector are either privately owned or subsidiary. In this instance, there will not be any comparisons between the accounting of the firms.

Because Spotify publishes its financials in Euros, the accounting analysis will be undertaken in Euros as well. However, since the company is traded in US Dollars (USD) and is listed on the New York Stock Exchange (NYSE), the required rate of return and final share price will be estimated in USD. To do this, a EURUSD exchange rate of 1.1 will be utilized. This will provide an appropriate value of Spotify's stock in the US market, allowing potential investors to make well-informed judgments.

2 Presenting Spotify Technology S.A. and the industry

This chapter aims to provide an overview of the company and the industry in which it operates. The first section will provide an overview of Spotify's history, vision, mission, and values, followed by an overview of the company's organizational structure. The second half of this chapter will concentrate on the music streaming industry, providing insights into its current state as well as the market's important players. This chapter lays the groundwork for the subsequent valuation research by offering a complete review of both the firm and the industry.

2.1 Spotify Technology S.A

2.1.1 Presenting Spotify

Spotify is an auditory streaming service, which can be accessed with virtually every smart device. It is a subscription-based software, offering a free and a premium version. The free version is naturally more limited than the premium version with ads between songs, limited number of skips, and needs internet connection to stream the content. The premium version, however, is ad-free, offers unlimited number of skips, and can be accessed offline as well. Both versions allow users to create a playlist with content of their likings and sharing the playlist to the public, but only the premium version allows users to download

these contents to their devices. In addition, it is possible to collab with another user and create a collaborative playlist which both users have access to. Spotify uses cutting-edge technology in order to collect data from users and offer them songs and playlist which match the given users listening habits.

Spotify is a cutting-edge audio streaming service that is available on a range of smart devices. It is available in two versions: free and premium, both of which allow users to make and share playlists of their favorite songs. The premium edition, on the other hand, provides additional features such as no advertisements, unlimited skips, and the opportunity to download music for offline listening. Spotify also has collaborative playlist features, which allow users to collaborate and to create playlists. The company collects data from its customers in order to recommend music and playlists based on their listening patterns.

Spotify's content library includes more than 100 million tracks, five million podcast titles and 300,000 audiobooks (Spotify, n.d.a). The majority of the content in Spotify's collection is obtained through licensing agreements with the particular artist's record company, although independent musicians can also contribute their work to the platform. Furthermore, Spotify has committed resources in acquiring many podcast companies and partnering with some of the world's most prominent podcast creators, like Joe Rogan.

Spotify has several subscription choices, the most popular of which is the premium individual subscription, which costs \$9.99 per month. Premium duo and premium family plans are also available, allowing two or up to six people living at the same household to each have their own account and pay a monthly price of \$12.99 or \$15.99. Spotify also has a premium student option, which gives students at higher education institutions access to Hulu and SHOWTIME for \$4.99 a month (Spotify, n.d.b).

As a result, Spotify has evolved into a platform that not only provides a vast music collection, but also a diversified selection of podcast and audiobook content to consumers worldwide.

Plan	Individual	Duo	Family	Student
Price	\$9,99	\$12,99	\$15,99	\$4,99
Account(s)	1	2	6	1

Table 1: Spotify's premium plans

2.1.2 History

Spotify started up in 2006, when Daniel Ek and Martin Lorentzen launched the company in Stockholm, Sweden. Initially, the company solely concentrated on getting licenses to play music on its website, a task that was particularly time-consuming and difficult due to various streaming restrictions across nations. Finally, on October 7, 2008, the full product was released, with two subscription models available: free and premium. The application was made available on mobile devices within a few months, which resulted in a considerable rise in users.

Spotify has since acquired or collaborated with a number of companies, including Sony, Microsoft, and Samsung. In some situations, such as with Microsoft and Samsung, the collaboration resulted in the closure of their respective music streaming platforms as they migrated their content to Spotify. Furthermore, Spotify has bought podcast advertising businesses Chartable and Podsights, as well as exclusive rights to popular podcasts such as Joe Rogan Experience and Armchair Expert.

Spotify continues to expand its platform with new features such as real-time lyrics via a relationship with Musixmatch. The Spotify Wrapped campaign, which began in 2016, is one of the company's most popular offerings. This campaign highlights each user's most-listened-to artists, tracks, podcasts, and genres from the year prior.

Despite its prominence as an industry leader, Spotify has yet to earn a profit since its inception, which remains a huge hurdle for the company. It does, however, want to become profitable in coming years by evolving from a music streaming service to a comprehensive auditory platform.

2.1.3 Vision, mission, and values

Spotify's ambitious vision is to become the world's top audio network, expanding on the music industry's pioneering change from a "transaction-based" model to a "access-based" model. But Spotify doesn't intend to stop there: the company's ultimate goal is to repeat this transition for podcasts as well. Its mission is to enable artists to make a living from their art while simultaneously enabling fans to enjoy it wherever they are. Spotify, being a multifaceted platform for both artists and fans, allows musicians to monetize their work and attract new audiences, while also providing consumers with access to a broad diversity of content and personalized suggestions based on their musical preferences. In order to

achieve this lofty goal, Spotify adheres to a set of basic values that include innovation, passion, collaboration, transparency, and fairness.



Figure 1: Spotify's vision, mission, and value

2.1.4 Organizational structure

Spotify's organizational structure is unique in that it is suited to the company's specific demands. This structure, based on a matrix organizational framework, has been developed and refined to match the needs of Spotify. Henrik Kniberg and Anders Ivarsson published the "Spotify model" paper on Spotify's structure in 2012 (Kniberg & Ivarsson, 2012). It's worth noting that, as an agile firm, Spotify's structure is flexible and adaptive, and it may be changed at any time to benefit the organization.

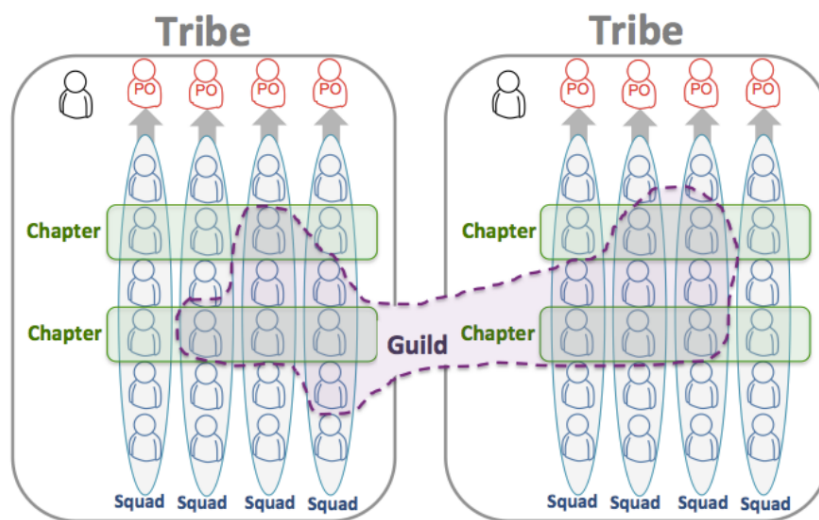


Figure 2: Spotify's organizational structure (Kniberg & Ivarsson, 2012)

The "Spotify model" is made up of "squads, tribes, chapters, and guilds." Squads, which normally comprise of 6 to 12 persons, are the backbone of this system. Each squad is

allocated a long-term goal that must be met (Kniberg & Ivarsson, 2012). Squads are self-governing, and the goal of their work is more important than the approaches used to achieve it. Squads can create tribes or chapters, which are groupings of people that have a certain philosophy or skillset. The goal of this organizational style is to foster self-management and knowledge exchange within the organization. One of the most pressing concerns about the "Spotify model" is whether or not the corporation still employs it. Spotify, as an agile business, is always seeking innovative solutions to its problems and trying to adapt.

2.2 Music streaming service industry

The music streaming service market is still in its nascent stages, having begun in the late 1990s and the beginning of 2000s. This ground-breaking technology offers consumers a seamless streaming experience of diverse audio content, such as music, podcasts, and audiobooks. With a subscription-based business model, most services also provide a free version with limited functionality, which is subsidized by adverts that are played in between content. Most providers have created sophisticated algorithms that offer individualized suggestions for each user, ensuring that they are presented with audio content that fits with their specific preferences.

2.2.1 Changing the music industry

With the introduction of music streaming services, the music industry has been completely digitized, rendering the conventional concept of acquiring and owning physical records obsolete. Piracy was one of the most prevalent problems plaguing the music industry, with peer-to-peer file sharing programs such as Napster constituting a substantial threat. Spotify's founder, Daniel Ek, has vowed to deliver a service that distributes music legally while also compensating the music industry for their efforts (The Local, 2018).

2.2.2 Competition

The music streaming industry is highly competitive, with multiple organizations trying to provide clients with the best experience possible. The biggest names in the market include industry titans like Spotify, Apple Music, and Amazon Music, as well as smaller companies like Tidal and Deezer. Market share data for these firms is displayed in the visual below to help you understand the market landscape:

MARKET SHARE

■ Spotify
 ■ Apple Music
 ■ Amazon Music
 ■ Tencent Music
 ■ YouTube Music
 ■ Other

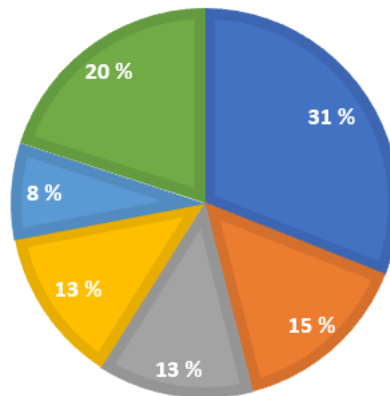


Figure 3: Market share of music streaming industry (SiriusXM, 2022)

Furthermore, some music streaming services specialize to certain geographic locations. Pandora, for example, is only available in the United States. A table outlining particular characteristics given by various music streaming services is presented below:

Company	Spotify	Apple Music	Amazon Music	Tidal	Deezer
Price	\$9,99	\$9,99	\$9,99	\$9,99	\$9,99
Free	Yes, with ads	No	Yes, with ads	Yes, with ads	Yes, with ads
Music library size	Over 100m	Over 100m	Over 100m	Over 100m	Over 100m
Family sharing	\$15,99	\$15,99	\$15,99	\$14,99	\$17,99
Student	\$4,99	\$5,99	\$5,99	\$4,99	\$5,99
Offline	Yes	Yes	Yes	Yes	Yes
Radio station	Yes	Yes	Yes	Yes	Yes
Podcast	Yes	Yes	Yes	Yes	Yes

Table 2: Companies within the industry

Close study reveals many parallels between the music streaming providers in question, including pricing structures, library sizes, and offerings such as podcasts, offline mode, and radio stations. The extent to which these similarities signal that the industry is highly competitive and that enterprises must differentiate themselves to stand out from their competitors.

3 Valuation theory

The basic goal of valuation is to determine the value of a business or asset. Valuation approaches are numerous and diverse, with each method offering a distinct perspective on the valuation process. The purpose of this chapter is to investigate and explain some of the most important valuation methods and their underlying components. This analysis' findings will be used to the valuation of Spotify Technology S.A., offering a full grasp of its value.

3.1 Discounted cash flow (DCF)

The discounted cash flow (DCF) approach is a widespread valuation tool that calculates a company's or asset's present value based on estimated future cash flows. The DCF analysis calculates an asset's current value by forecasting the cash flows it will generate in the future (Damodaran, 2012). To perform a DCF analysis, we must estimate the asset's lifetime, cash flows, and a risk-adjusted discount rate. DCF can be calculated using the following formula (Fernando, 2023):

$$\text{Value} = \sum_{t=1}^{t=n} \frac{CF_t}{(1+r)^t}$$

t = lifetime of asset
CF = cash flow
r = discount rate

Equation 1: Present value of cash flow

DCF cash flows can be based on either equity or the firm's value. It is crucial to stick to the methodology used and guarantee that the values are either nominal or real.

3.1.1 Free cash flow to equity

This approach of valuation aims to ascertain the cash available to shareholders as a return on their investment. To arrive at this metric, we first convert the firm's net income into cash flow by deducting any reinvestment requirements. Additionally, it is important to consider the impact of changes in debt levels on cash flow (Damodaran, 2012). The calculation for this method may be expressed as follows:

	Net income after taxes
+	Depreciation
-	Capital expenditure
+/-	Δ Working capital
+	New debt issued
-	Dept repayment
=	Free cash flows to equity

Table 3: Free cash flow to equity

3.1.2 Required rate of return to equity

The required rate of return, most often referred to as the discount rate, is an important parameter in valuation analysis since it shows the level of risk associated with the estimated cash flows (Damodaran, 2012). This rate represents the return an investor could earn by investing in alternative securities that have a similar risk profile. Moreover, it is used to discount future estimated cash flows to their present value.

As an investor, you must be compensated for both the time value of money and the level of risk associated with the investment. The rate of return on equity is the reimbursement paid to investors for their equity investment (Damodaran, 2012). The Capital Asset Pricing Model (CAPM), which is based on business theory and defines the relationship between expected return and market risk, is the most extensively used model for estimating expected return on equity. Market risk, also known as systematic risk, impacts all businesses in the market and cannot be avoided (Damodaran, 2012). Such hazards include financial crises and changes in the macroeconomic environment.

Unsystematic risk, also known as diversifiable risk, on the other hand, is business-specific and can be minimized to some extent by diversifying the business portfolio (Damodaran, 2012). The risk-free rate, which represents the time value of money, the beta coefficient, which shows the additional risk that the investment has on the market portfolio, and finally, the risk premium, which is the extra return expected by investing in riskier assets than risk-free ones, are all components of CAPM. These components are represented in the CAPM formula:

$$r_e = r_f + \beta_i(r_m - r_f)$$

r_e = expected return
 r_f = risk free rate
 β_i = beta of investment
 $(r_m - r_f)$ = risk premium

Equation 2: Capital Asset Pricing Model (CAPM)

Risk free rate

The risk-free rate is a fundamental concept in finance that is utilized in the valuation of financial assets. It indicates the theoretical rate of return that an investor can obtain by investing in a risk-free asset. However, such an asset is unheard of, and only a few investments may be regarded actually risk-free. Two requirements must be met for an investment to be considered riskless. To begin with, its actual return must equal the predicted return, implying that there can be no default or reinvestment risk (Damodaran, 2012). Unfortunately, despite of size, private firms will always have a default risk. Second, because future interest rates will likely fluctuate, there will always be a reinvestment risk. These factors must be considered when evaluating the risk-free rate, and any perceived risk must be represented in the asset's price.

Beta

Within the framework of the Capital Asset Pricing Model (CAPM), beta is used to quantify market risk and to reflect the volatility of a company's returns in comparison to the entire market portfolio. A beta value of one signifies market risk, while values greater than one suggest higher degrees of volatility and risk. Beta values less than one, on the other hand, indicate lower levels of volatility and risk (Damodaran, 2012). As a company grows and expands its market share, its beta tends to approach one. Both regression analysis of historical data and fundamental calculations can be used to compute beta values, with both methods providing generally used findings.

Regression beta

Regression analysis is a statistical tool used in the valuation process to establish the relationship between two variables: a company's return and the market's return (Damodaran, 2012). Regression analysis can help evaluate company risk by examining these factors, which is a vital component of estimating the required rate of return. The following formula is used to calculate business risk:

$$\text{regression beta} = \frac{\text{covarians } (x, y)}{\text{var } (x)} \quad \begin{array}{l} y = \text{business return} \\ x = \text{market return} \end{array}$$

Equation 3: Regression beta

Adjusted beta

It is often assumed that when a company expands in size, its beta will approach the industry average of 1. The Bloomberg approach describes this behavior and can be represented using the following formula (Damodaran, 2012):

$$\text{Adjusted beta} = \text{raw beta}(0,67) + 1(0,33)$$

Equation 4: Adjusted beta

Market risk premium

The market risk premium is the additional return that investors expect when investing in a risky asset compared to a riskless one. This premium is a measure of compensation for market risk, and it indicates the excess return that investors expect to earn above and beyond the risk-free rate.

3.1.3 Free cash flow to firm

The Free Cash Flow to the Firm (FCFF) valuation method is used to determine the firm's overall value rather than just its equity. FCFF entails calculating the firm's after-tax cash flow and applying a rate of return that appropriately reflects the risk level. It is critical to modify the return rate based on the firm rather than just the equity (Damodaran, 2012).

The following formula is used to calculate the firm's free cash flow:

	Net income after taxes
+	Depreciation
-	Capital expenditure
+/-	Δ Working capital
=	Free cash flows to firm

Table 4: Free cash flow to firm

3.1.4 Terminal value

It is impractical to forecast cash flows for an unlimited number of years. As a result, a terminal value is used to calculate cash flows beyond the predicted period. Various approaches are used to compute terminal value, but the most frequently acknowledged model is the stable growth rate. The terminal value is calculated by multiplying the final estimated cash flow by the stable growth rate (Damodaran, 2012). The present value is

calculated by multiplying this value by a discount factor. The following formula is used to calculate the terminal value:

$$\text{Terminal value} = \frac{CF \times (1 + g)}{r - g}$$

CF = last estimated cash flow
g = stable growth rate
r = required return

Equation 5: Terminal value

In order to apply the stable growth rate model, certain critical assumptions about the firm's future growth trajectory must be established. The first assumption is that the firm will become, if it is not already, a stable growing firm. The second assumption is that the firm's specific features would remain consistent, such as the return on investment, cost of equity, and cost of capital (Damodaran, 2012). These assumptions are critical in assessing the firm's terminal value and must be carefully evaluated in any valuation research.

3.1.5 Required rate of return to firm

Cost of capital

Project financing is critical for any company's growth and expansion. Companies can fund their projects and operations through a variety of ways, including debt, equity, and hybrid securities. The average cost of each of these funding sources, taking into consideration their relative share within the firm's capital structure, is represented by the cost of capital. This financial indicator, commonly known as the Weighted Average Cost of Capital (WACC), provides a complete picture of the firm's financing costs. The WACC provides a valuable tool for evaluating the cost of raising capital and making investment decisions by weighting the cost of each financing component by its market value percentage (Damodaran, 2012).

$$WACC = \frac{E}{E + D} \times r_e + \frac{D}{E + D} \times r_d \times (1 - t)$$

E = market value of equity
D = market value of debt
E + D = market value of capital
r_e = cost of equity
r_d = cost of debt
t = tax rate

Equation 6: Weighted Average Cost of Capital (WACC)

To establish a firm's overall cost of capital, the market value of equity and debt, as well as the cost of equity and the tax rate, must be calculated. The market value of equity is calculated by multiplying the number of outstanding shares by the current stock price,

whereas the market value of debt is normally determined using the book value, due to the difficulties of determining the market value of debt. CAPM can be used to compute the cost of equity, which is the return rate that investors demand in order to invest in the company. Finally, the tax rate is taken into account when calculating the weighted average cost of capital.

Cost of debt

The cost of debt is an important metric that represents how much a firm must pay to borrow money to support its projects. Due to the default risk associated with borrowing, the cost of debt is often computed by adding a default spread to the riskless rate. It is an important factor in calculating WACC. The following formula is used to calculate the cost of debt:

$$\textit{Pretax cost of debt} = \textit{riskless rate} + \textit{default spread}$$

Equation 7: Cost of debt

If the previously indicated method proves to be particularly complicated, there are other approaches to determine the cost of debt. One such way is to calculate the cost of debt as the ratio of the firm's total interest expenses to its total debt:

$$\textit{Pretax cost of debt} = \frac{\textit{Interest expenses}}{\textit{Total debt}}$$

Equation 8: Interest expense to debt ratio

3.2 Relative valuation

Relative valuation is a way of estimating an asset's value by comparing it to similar assets currently traded in the market. Although relative valuation is a straightforward concept, it is easily misconstrued or misapplied. The relative valuing process has two major components. The first stage is to standardize asset prices by multiplying them by earnings, book value, or sales. The second stage is to find comparable companies. Finding similar firms, on the other hand, might be difficult because no two organizations, even within the same industry, are completely identical. Firms differ in terms of risk, potential growth, and cash flows. As a result, it is critical to account for these discrepancies in order to verify that the comparison is valid (Damodaran, 2012).

3.2.1 P/E

In relative valuation analysis, the price-earnings ratio (P/E) is a prominent multiplier. This ratio is calculated by dividing the company's current market price by its earnings over a defined time period, often the last 12 months. The P/E ratio is an easy method for comparing a company's stock price to its earnings potential. A high P/E ratio indicates that investors are willing to pay a premium for the company's shares in anticipation of rapid growth. A low P/E ratio, on the other hand, indicates that the company may be undervalued, signaling a potential purchasing opportunity for investors. It is crucial to note, however, that the P/E ratio should be used with caution and in conjunction with other valuation methods, as it can be influenced by a variety of factors such as industry trends, market conditions, and company-specific characteristics (Girardin, 2023).

$$P/E = \frac{\textit{Cost per share}}{\textit{Earning per share}}$$

Equation 9: Price-to-earnings ratio

3.2.2 P/S

The price-to-sales (P/S) ratio is a popular financial valuation tool. It is calculated by dividing the market value of a company's stock by its revenues (Damodaran, 2012). This ratio tells investors how much they are willing to spend for every dollar of revenue generated by the company. The P/S ratio is commonly used to evaluate high-growth companies that are not yet profitable, as it can provide insight into their ability to produce revenue. As a result, the P/S ratio is a crucial tool for investors trying to assess companies that are not yet profitable but are likely to grow fast in the future.

$$P/S = \frac{\textit{Market value per share}}{\textit{Sales per share}}$$

Equation 10: Price-to-sales ratio

3.2.3 P/B

The book-value of equity is a financial measurement that shows the difference between a company's assets and liabilities (Damodaran, 2012). The price-book value ratio is a measure for comparing the market price of a company's shares to its book value. Investors

who prefer a more clear method of estimating a company's worth, rather than depending on discounted cash flow predictions, sometimes favor the P/B ratio. This ratio is derived by dividing the share price by the book value per share:

$$P/B = \frac{\text{Price per share}}{\text{Book value of equity per share}}$$

Equation 11: Price-to-book-value ratio

3.3 Option pricing valuation

An option is a sort of financial instrument that pays out based on the performance of another asset known as the underlying asset, according to Damodaran (Damodaran, 2012). Call options provide the holder the right to buy the underlying asset at a defined price before the option expires, whereas put options give the holder the right to sell the underlying asset at a fixed price before the option expires. It is vital to recognize that options grant the right but not the obligation to buy or sell the underlying asset. The value of an option is determined by six factors: the underlying asset's current value, the volatility of its price, the expected dividends, the strike price, the option's duration, and the risk-free interest rate.

Fischer Black and Myron Scholes developed the Black-Scholes model, which is one of the most widely used option pricing models in financial analysis (Damodaran, 2012). This approach is most beneficial when the price process is continuous, which means that price movements grow less when time periods are reduced. The binomial model used to price options converges to the Black-Scholes model in such instances.

This model is based on the idea of building a portfolio with the underlying asset and a riskless rate asset with the identical cash flows as the option under consideration (Damodaran, 2012). The option's value can be stated as follows:

$$\text{Value of call} = S \times N(d_1) - K \times e^{-rt} \times N(d_2)$$

Equation 12: Black-Scholes Model

S = current value of the underlying asset

K = strike price of the option

t = life to expiration of the option

r = Riskless interest rate corresponding to the life of option

σ^2 = variance in the $\ln(\text{value})$ of the asset

$$d_1 = \frac{\ln\left(\frac{S}{K}\right) + \left(r + \frac{\sigma^2}{2}\right)t}{\sigma\sqrt{t}}$$

$$d_2 = d_1 - \sigma\sqrt{t}$$

While there are various additional models for valuing an option, I will not go deeper into this topic because the option pricing valuation approach will be entirely absent from Spotify's valuation.

3.4 Method of choice

The chosen methodology for valuing Spotify is the fundamental DCF model, which involves assessing the company's short-term and long-term valuations through a terminal value estimate. This model is based on historical data, which can be found in Spotify Technology S.A.'s quarterly and annual reports. In addition, as an alternative to the DCF approach, a relative valuation will be performed, which will compare the company's performance to that of comparable enterprises in its industry.

4 Strategic analysis

To accurately determine Spotify's value, it is critical to evaluate the company's strategic performance. This includes evaluating the market the environment, the company's industry position, and any resources that can create a competitive edge. The strategic analysis will conclude with a SWOT analysis, which will provide insight into the company's future cash flows and risk profile. This research can provide a more in-depth insight of the factors that influence Spotify's value than historical data alone. Finally, this knowledge can be utilized to better forecast the company's future cash flows.

4.1 PESTEL

PESTEL analysis is a useful strategic tool for assessing a company's success in its operating environment. PESTEL is an acronym that stands for political, economic, social, technological, environmental, and legal (Whittington, Regner, Angwin, Johnson, & Scholes, 2020). It gives a detailed assessment of the different elements that may have an impact on a business in the short and long term. We can have a better understanding of the company's possible dangers and prospects by studying these factors. This data can be used

afterwards to accurately estimate future cash flows and determine Spotify Technology S.A.'s required rate of return.

4.1.1 Political and legal factors

Boycott of Spotify

One of the most recent Spotify controversies concerns some notable artists who have decided to quit the platform. The debate arose when an episode of the renowned podcast The Joe Rogan Experience focused on the COVID-19 vaccination. Neil Young and other artists accused Joe Rogan of promoting false information about the pandemic and vaccine, and demanded that the episode be removed from the platform. They pulled their whole music libraries from Spotify after their demands were not granted. This spurred other musicians to follow suit, preventing their fans from streaming their songs on the streaming service (Biekert, 2022). As a result, many fans have turned to alternate streaming sites to keep up with their favorite performers. This has led to Spotify losing users to its competitors, who still have these artists in their music libraries.

Licensing and royalties

Spotify has amassed a massive and diversified library of music from all around the world and across all genres. To keep a consistent supply of content coming in, the firm has to form partnerships with individual artists or their record labels. The cash earned by these agreements is subsequently delivered to the artists as royalties, either directly or through their label or distributor (Spotify, n.d.c).

Laws and regulation

Spotify is a multinational corporation that began in Sweden and currently generates revenue from numerous countries worldwide. However, working in different countries has presented novel challenges. For example, each country has its own set of laws and regulations that must be followed, which can complicate the company's operations. One of the most major obstacles that Spotify encountered in its early phases was navigating different countries' licensing requirements. In addition, data gathering can prove to be difficult in countries with more stringent data gathering regulation.

Taxes

Spotify's strategy of expanding operations in numerous nations is critical, but it also means dealing with varied tax laws in each of the countries. Some of these nations may have higher tax rates, which may have an impact on Spotify's cash flow by reducing revenue. As a result, Spotify must pay more taxes than other corporations, resulting in reduced profits. Such tax restrictions can have a substantial impact on the company's financial performance and must thus be considered when estimating Spotify's value.

4.1.2 Economic factors

Effect of 2020 pandemic

Spotify Technology S.A. is vulnerable to worldwide economic fluctuations. The corporation performs better during periods of expansion and worse during moments of recession. The COVID-19 pandemic of 2020, on the other hand, provided a one-of-a-kind circumstance. While most businesses struggled during this period, Spotify saw a growth in revenue as well as overall users. People had more free time because they were obliged to stay indoors owing to quarantine restrictions. Music listening became a popular leisure activity that did not interfere with people's productivity levels. Spotify became the go-to platform for many consumers because to its features and brand name.

Competition from other streaming services

Spotify operates in a highly competitive business with little differentiation between streaming services, making it easy for customers to move to a competitor service. Furthermore, established digital behemoths such as Apple and Amazon have entered the music streaming field, heightening the competition. This situation has the potential to erode Spotify's market share and push the company to change its business tactics in order to maintain its competitive advantage. As a result, such competition may have an influence on the company's sales and profitability.

Partnerships

Spotify Technology S.A. has created strategic alliances with a variety of companies, including those in the technology and entertainment industries. TikTok, NOKIA, and TWITCH are just a few of their notable partners. Despite having its own music streaming service, Samsung has formed a collaboration with Spotify. Samsung and Spotify partnered in 2018 to compete with Apple Music. As part of the agreement, the Spotify app is now

pre-installed on all Samsung devices, and new users may sign up for a three-month free trial (<https://spotslover.com/spotify-and-samsung-relationship/>).

Spotify has expanded its partnership beyond the technology sector by announcing a partnership with Barcelona FC, one of the world's renowned football clubs. The collaboration is not just strategic, but also a bold declaration of Spotify's presence in the sports sector. Spotify's name and logo will appear on every club uniform, and the club stadium will be renamed Spotify Camp Nou, according to a lucrative \$300 million agreement reported by Fortune (Shaw, Gualtieri, & Bloomberg, 2022). This collaboration not only increases Spotify's visibility to the football club's fanatical fan base, but it also has the potential to convert even the most ardent followers of rival music streaming services to Spotify.

4.1.3 Sociocultural factors

Spotify prioritizes maintaining their music catalog up to date and personalized to each individual listener's taste in order to retain their success in the competitive music streaming market. Every Friday, Spotify publishes a curated playlist called "New Music Friday" that includes all of the most recent music, carefully chosen to match its users' preferences. Furthermore, Spotify frequently provides customized playlists based on a user's recent listening behavior, employing data to present the most relevant content. Furthermore, Spotify provides a vast selection of auditory content, such as podcasts, talk shows, audiobooks, and ambient noise, guaranteeing that their consumers have a varied listening experience. Spotify has a variety of subscription plans to meet consumers of various ages, situations, interests, and income.

4.1.4 Technological factors

Spotify on every device

The development of smart gadgets has aided Spotify's growth and reach. With the program available on practically any internet-enabled device, from smartphones and PCs to smart TVs, users may access the software at any time and from any location. As a result, regardless of the device they use, users may enjoy their favorite music or audio content with just one membership and one application. This accessibility and ease-of-use have surely contributed to Spotify's growing popularity and enhanced its market position.

Third party providers

Spotify makes use of the expertise of third-party sources to deliver a high-quality platform and a diverse selection of content offers. Outsourced cloud computing services are used by the organization, which allows for on-demand access to servers, applications, and data storage from remote data centers (IBM, n.d.). This strategy allows Spotify to concentrate its resources on other initiatives, enhancing operational efficiency (Google Cloud, n.d.). As a result, the company has teamed with Google Cloud to provide cloud computing services, which has increased the quality and reliability of its services even further.

Spotify's reliance on third-party services poses a significant danger. Server difficulties, such as overload or downtime, can cause blunders in the application and compromise the application's reputation. As a result, users may distrust Spotify's reliability and migrate to competitors, resulting in revenue and profit loss. Furthermore, the possibility of providers raising their rates is always present, which can harm Spotify's financial performance. Another potential risk for Spotify is a security breach, which might result in reputational and regulatory damage. Because Google Cloud holds and processes the data of Spotify customers, any data leakage might have serious ramifications. As a result, Spotify must take steps to limit these risks and protect customer data.

In recent years, Spotify has made substantial investments in the podcast industry. The company has acquired various podcasts, podcast distributors, and actively promoted podcast advertising.

4.1.5 Environmental factors

Companies must be cautious of their environmental footprint in today's economic world. Governments have enacted laws to compel environmentally sustainable behavior. Despite the fact that streaming services are primarily digital, they nevertheless necessitate physical infrastructure such as data centers and offices, as well as customer devices, which can have a substantial environmental impact. As a result, firms such as Spotify must examine the environmental effects of their operations and take steps to reduce their carbon footprint.

Spotify has demonstrated its dedication not only to its own sustainability, but also to raising awareness among its consumers. To accomplish this, the company uses a scientific technique to measure its greenhouse gas (GHG) emissions across its whole value chain. Spotify devotes its resources to the areas that demand immediate attention after conducting a thorough examination. The company has set a detailed plan to minimize its carbon

footprint, with the objective of achieving zero GHG emissions within the next 10 years (Spotify, n.d., d).

Spotify has undertaken a number of steps in order to reach their objective of being carbon neutral. The company is dedicated to raising environmental consciousness among its users by providing content that emphasizes the importance of environmental stewardship. Furthermore, in 2020, Spotify debuted two new podcasts focused on environmental issues and sustainability. Spotify hopes to motivate their users to take action toward a more sustainable future by utilizing their platform to increase awareness and education about climate change (Spotify, n.d., d).

4.1.6 Conclusion of PESTEL

A PESTEL analysis is a useful framework for gaining insight into the macroeconomic aspects that affect a company in a unique way, allowing for precise estimate of future cash flows and necessary return. While the current Spotify boycott may appear to be an isolated episode, it may pave the door for more musicians to exit the platform if they are displeased. Loss of artists would eventually lead to a loss of users, lowering income and cash flow. Furthermore, as a worldwide corporation, Spotify must manage regulatory changes in numerous countries in order to avoid wrongdoing and eventual consequences that would harm its brand and create additional revenue loss. Spotify also confronts tax issues as a result of revenue made in multiple jurisdictions with varied tax rates. Spotify, on the other hand, excels in key economic variables, including staying ahead of competitors and developing beneficial collaborations. Their technology developments have enabled them to adapt their music streaming service into a comprehensive auditory streaming platform, which can boost revenue growth.

4.2 Porter's Five Forces

Through five competitive forces, Porter's Five Forces framework gives a comprehensive review of an industry's competitive landscape. These include industry competition, the threat of new entrants, supplier and consumer bargaining power, and the threat of substitute products (Whittington, et. al., 2020). Examining these elements can provide insight into an industry's competitiveness. The severity of these factors might have a negative impact on the industry's profitability and appeal. Understanding the dynamics of these competing forces is therefore crucial for businesses to prosper in a highly competitive market.



Figure 4: Porter's five forces

4.2.1 Threat of new entrants

This element of the Porter's Five Forces model assesses the difficulty or ease of entry into the industry for new companies. The level of intensity affects existing enterprises in the sector, and higher entry barriers boost the industry's attraction. Spotify Technology S.A. competes in the music streaming industry with established competitors such as Apple Music and Amazon Music, which have already grabbed a large market share. The small market share available for new entrants makes it difficult for them to enter the market, as they would need significant cash to compete with industry titans. Furthermore, new businesses would need to create relationships with labels or artists in order to get the rights to their music, which would be a difficult undertaking. As a result, the threat of new entrants in the music streaming industry is low.

4.2.2 Threat of substitutes

There are several streaming services in the music industry, ranging from prominent players like Spotify and Apple Music to lesser-known ones like SoundCloud and Tidal. This provides an atmosphere in which consumers can select platforms that best suit their demands. Furthermore, traditional mediums such as radio and CD players continue to have a substantial presence among consumers. Furthermore, free video streaming networks like YouTube serve as a feasible option for Spotify. As a result, the threat of alternatives in the industry is strong, necessitating Spotify's differentiation from competitors. This has already been accomplished by giving distinct features and personalization. Spotify distinguishes itself from the competition with algorithm-driven playlists tailored to

individual customers' music interests. Furthermore, Spotify has expanded its offerings by including audiobooks and podcasts, thus increasing its attractiveness to consumers.

4.2.3 Bargaining power of buyers

The cheap cost of switching to a competitor in the highly competitive music streaming sector makes it difficult for companies like Spotify to raise pricing or reduce content without risking losing subscribers to competing platforms. Customers have a plethora of options, and any unfavorable adjustment may prompt them to explore alternatives. This dynamic provides customers with enormous bargaining power, resulting in a high degree of industry control.

4.2.4 Bargaining power of suppliers

Spotify must continue to develop its music catalog by cooperating with content creators such as artists, labels, and publishers in order to sustain its appeal. The company has been successful in developing solid partnerships with these entities. Nonetheless, the risk of losing them is constant, as evidenced by the latest Neil Young episode. If an artist or label's requests are not met, they may withdraw their content, compromising Spotify's availability. A mutually beneficial collaboration, on the other hand, is desired for both sides. Furthermore, Spotify is significantly reliant on third-party vendors, notably for technology services such as cloud computing. These suppliers have bargaining power over Spotify and may switch to competitors if offered a better price, meaning that suppliers have moderate to high bargaining power.

4.2.5 Competitive rivalry

The music streaming industry is characterized by intense competition among big companies such as Apple Music and Amazon Music, who are continually striving to increase their market share and pose a substantial threat to Spotify. Furthermore, the market entry of smaller competitors poses a continual challenge to Spotify's market position. Despite these obstacles, Spotify has managed to create a strong market position and a passionate fan base. This is due, in part, to the company's unique characteristics that set it apart from its competitors. Spotify's success, however, can also be ascribed to its tremendous brand awareness and consumer loyalty.

4.2.6 Conclusion of Porter's Five Forces

Spotify Technology S.A. works in the highly competitive music streaming sector, where differentiation and customer service are critical to preserving a competitive advantage.

While new competitors pose a threat, Spotify's established position, huge music catalog, and tailored features are likely to deter newcomers. Instead, Spotify should concentrate on the bargaining strength of buyers and suppliers, which can have an impact on their pricing strategy and alliances. Pricing tactics must be properly calibrated in this competitive industry to avoid user loss to competing services. Spotify's connection with artists and labels is critical, and disagreements like the Neil Young scenario must be managed amicably in order to avoid user loss and income drop.

4.3 SWOT

A SWOT analysis is a powerful tool for evaluating a company's strategic position. It entails assessing the company's strengths (S) and weaknesses (W), as well as the market's opportunities (O) and threats (T). It facilitates the development of effective plans for sustaining a competitive edge by examining the company's areas of excellence and areas for improvement (Whittington, et. al., 2020). This chapter's SWOT analysis expands on the insights gained from the PESTEL analysis and Porter's Five Forces framework, offering a complete assessment of the company's overall strategic position.



Figure 5: SWOT for Spotify

Spotify's key strength is its technological advancements. Their competition cannot compete with their algorithm-based playlists and personalized recommendations. Furthermore, Spotify is expanding its podcast library, which already has 5 million episodes and is updated daily. However, as the Neil Young issue demonstrates, Spotify's connection with companies and artists poses a potential threat. If disgruntled artists and labels remove their music from Spotify, it may result in a loss of users and revenue. Another possible shortcoming of Spotify is the lack of distinction between its free and premium editions.

While the ability to skip tracks and listen offline is a huge benefit, in the age of 4G, it is not necessarily a deal-breaker. Spotify should limit the features available to free users to encourage consumers to upgrade to the premium version in order to increase income. However, this could also be viewed as a weakness because there is little incentive for users to upgrade. Furthermore, Spotify's pricing model is a potential drawback, as any price increase may result in a loss of consumers.

5 Accounting analysis

We now have a greater grasp of Spotify's competitive position in the music streaming business, as well as how they compare to their competitors, via a strategic analysis. This research has discovered significant characteristics that can help with a more accurate valuation of the company. While the strategic analysis provides a forward-looking view, an accounting study is required to assess the company's financial health and past performance. To assess Spotify's financial position, we will examine both their income statement and balance sheet before digging into key financial parameters. Spotify's quarterly and annual reports will be our source of information for this analysis. For technology firms like Spotify, strategic analysis is usually given more importance than accounting analysis due to their tendency to operate at a loss, which limits the availability of historical financial data.

Spotify's financial statements are in accordance with the International Financial Reporting Standards (IFRS) set by the International Accounting Standards Boards (IASB), which ensures accurate and reliable reporting. However, the corporation has admitted that some of its important financial data may have been rounded, which may have resulted in inconsistencies. When examining Spotify's financial performance, it is critical to keep certain rounding procedures in mind.

To establish the company's financial status relative to its peers, we will normally construct important financial ratios and compare them to those of comparable organizations in the same industry. However, comparable firms like Spotify are difficult to identify because Apple Music and Amazon Music are subsidiaries of larger companies, whereas

SoundCloud and Tidal are private companies. As a result, we will be unable to make meaningful comparisons in this area. Furthermore, because Spotify has been losing money, the majority of its key metrics will be negative or below average, rendering any comparisons futile. We gathered all of the data from Spotify's yearly reports from 2018 through 2022.

Income statement

A firm's income statement is a crucial financial record that shows the company's revenues and expenses over a specific time period, revealing whether the company is profitable or not. An income statement summarizes a company's financial performance and can be used to assess the company's financial stability and growth potential (Ross, Westerfield, & Jaffe, 2013). In this thesis, we will do a five-year historical study of Spotify's income statement, from 2018 to 2022, to acquire a full understanding of the company's financial success throughout time.

In € millions	2018	2019	2020	2021	2022
Revenue	5 259	6 764	7 880	9 668	11 727
Cost of revenue	3 906	5 024	5 865	7 077	8 801
Gross profit	1 353	1 722	2 015	2 591	2 926
Research and development	493	615	837	912	1 387
Sales and marketing	620	826	1 029	1 135	1 572
General and administrative	283	354	442	450	626
	1 396	1 795	2 308	2 497	3 585
Operating income/(loss)	-43	-73	-293	94	-659
Finance income	455	275	94	246	421
Finance costs	-584	-333	-510	-91	-132
Share in (losses)/earnings of associate	-1				
Finance income/(costs) - net	-130	-58	-416	155	289
Income/(loss) before tax	-173	-131	-709	249	-370
Income tax expense/(benefit)	-95	55	-128	283	60
Net income/(loss)	-78	-186	-581	-34	-430

Table 5: Spotify's balance sheet (2018-2022)

Balance sheet

A balance sheet is a financial statement that shows a company's assets, liabilities, and equity at a certain point in time (Ross, et.al., 2013). It reveals what the company owns and owes, as well as how much money shareholders have invested in the company. In this research, we will examine Spotify's balance sheet for the five-year period of 2018-2022 in order to acquire a better understanding of the company's financial position.

In € millions	2022	2021	2020	2019	2018
Assets					
Non-current assets					
Lease right-of-use assets	417	437	444	489	0
Property and equipment	348	372	313	291	197
Goodwill	1 168	894	736	478	146
Intangible assets	127	89	97	58	28
Long term investments	1 138	916	2 277	1 497	1 646
Restricted cash and other non-cash assets	78	77	78	69	65
Deferred tax assets	8	13	15	9	8
	3 284	2 798	3 960	2 891	2 090
Current assets					
Trade and other receivables	690	621	464	402	400
Income tax receivable	5	5	4	4	2
Short term investments	867	756	596	692	915
Cash and cash equivalents	2 483	2 744	1 151	1 065	891
Other current assets	307	246	151	68	38
	4 352	4 372	2 366	2 231	2 246
Total assets	7 636	7 170	6 326	5 122	4 336

Table 6: Spotify's assets (2018-2022)

Equity and liability

In € millions	2022	2021	2020	2019	2018
Equity and liabilities					
Equity					
Share capital					
Other paid in capital	4 789	4 746	4 583	4 192	3 801
Treasury shares	-262	-260	-175	-370	-77
Other reserves	1 521	853	1 687	924	875
Accumulated deficit	-3 647	-3 220	3 290	2 709	2 505
Equity attributable to owners	2 401	2 119	2 805	2 037	2 094
Non-current liabilities					
Exchangable notes	1 128	1 202			
Lease liabilities	555	579	577	622	
Accrued expenses and other liabilities	28	37	42	20	85
Provisions	3	7	2	2	6
Deferred tax liabilities	5			2	2
	1 719	1 825	621	646	93
Current liabilities					
Trade and other payables	845	793	638	549	427
Income tax payable	11	23	9	9	7
Deferred revenue	520	458	380	319	258
Accrued expenses and other liabilities	2 093	1 841	1 748	1 438	1 076
Provisions	26	22	20	13	42
Derivative liabilities	21	89	105	111	339
	3 516	3 226	2 900	2 439	2 149
Total liabilities	5 235	5 051	3 521	3 085	2 242
Total equity and liabilities	7 636	7 170	6 326	5 122	4 336

Table 7: Spotify's equity and liabilities (2018-2022)

5.1 Profitability

Profitability is an important feature of a company's financial health since it represents the company's capacity to produce revenue and cover expenses. A company's profitability can be measured using a variety of measures, including return on assets (ROA), return on equity (ROE), and profit margin. These ratios assist stakeholders and shareholders in evaluating the company's performance and determining the company's potential to create earnings from its assets and equity.

5.1.1 Return on asset

Return on asset (ROA) is a financial indicator that measures how efficiently a company earns money based on total assets (Hoff & Pedersen, 2019). ROA considers the amount of debt that a firm holds, making it a good indicator of the company's overall financial health. An ROA of 5% or higher is generally desirable, however it is critical to compare this figure to those of other enterprises in the same industry (Hargrave, 2023). The following formula is used to compute ROA:

$$R_{ROA} = \frac{EBIT + interest\ costs}{average\ total\ assets}$$

Equation 13: Return on asset (ROA)

In € millions	2018	2019	2020	2021	2022
EBIT + interest costs	412	202	-199	340	-238
Average total assets	3721,5	4729	5742	6766	7403
ROA	11,1 %	4,3 %	-3,5 %	5,0 %	-3,2 %

Table 8: Spotify's ROA (2018-2022)

The table above represents Spotify's return on assets (ROA) in recent years, which shows significant fluctuation. Negative ROA was noted in particular in 2020 and 2022. The pandemic year of 2020 has been considered as a possible explanation for this phenomenon, as many businesses encountered difficulties as a result of Covid-19 limitations, resulting in office closures, production halts, and personnel placed on paid leave. The Russian invasion of Ukraine, on the other hand, can be responsible for the negative ROA in 2022. Given the

new laws restricting free speech, Spotify withdrew from Russia to protect the well-being of its staff and listeners (Kifleswing, 2022).

5.1.2 Return on equity

Return on equity (ROE) is a financial term that measures how well a company earns money from the equity invested by its shareholders (Hoff & Pedersen, 2019). It calculates the rate of return on the money invested by shareholders in the company. To determine ROE, divide the company's net income by its average equity. The following formula is used to calculate the companies' return on equity:

$$R_{ROE} = \frac{\text{Net income}}{\text{Average equity}}$$

Equation 14: Return on equity (ROE)

in € millions	2018	2019	2020	2021	2022
EBIT	-370	249	-709	-131	-173
Average equity	1166	2065,5	2421	2462	2260
ROE	-31,7 %	12,1 %	-29,3 %	-5,3 %	-7,7 %

Table 9: Spotify's ROE (2018-2022)

5.1.3 Operating margin

Operating margin is an important indicator for determining a company's operating profitability. It calculates the percentage of revenue that remains after deducting all operating expenses but before deducting non-operating expenses such as taxes and interest (Hoff & Pedersen, 2019). This indicator depicts the company's capacity to manage its operating costs and create profits from its main business operations. A higher operational margin suggests that a corporation is effectively managing its operating costs and earnings from its activities. The following formula is used to determine the operating margin:

$$\text{Operating margin} = \frac{\text{Operating income}}{\text{Revenue}} \times 100\%$$

Equation 15: Operating margin

In € millions	2018	2019	2020	2021	2022
Operating income	-43	-73	-293	94	-659
Total revenue	5 259	6 764	7 880	9 668	11 727
Operating margin	-0,8 %	-1,1 %	-3,7 %	1,0 %	-5,6 %

Table 10: Spotify's operating margin (2018-2022)

5.2 Liquidity

Liquidity is an important indicator of a company's financial health in the world of finance. It assesses a company's capacity to transform its assets into cash while retaining their market value and not jeopardizing its short-term obligations (Ross, et.al., 2013). In layman's terms, a corporation with adequate liquidity is better able to manage its short-term debts and payments. Given the possibility of payment issues leading to insolvency, liquidity ratios are regarded as an important statistic alongside profitability. As a result, shareholders and prospective investors place a high value on them.

5.2.1 Current ratio

The current ratio is a common liquidity measure that is defined as current assets divided by current liabilities. While there are other liquidity ratios, we will focus on the current ratio because it is the most relevant for assessing Spotify's liquidity status. A company's current ratio should ideally be 2 or greater, suggesting its capacity to satisfy its short-term obligations. A current ratio below 1 indicates that a company may be facing liquidity risk, with more liabilities to be paid in the near future than assets that can be turned into cash. This is not a hard and fast rule, as the appropriate current ratio varies by industry and firm size (Damodaran, 2012).

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Equation 16: Current ratio

In € millions	2018	2019	2020	2021	2022
Current assets	2 246	2 231	2 366	4 372	4 352
Current liabilities	2 149	2 439	2 900	3 226	3 516
Current ratio	1,05	0,91	0,82	1,36	1,24

Table 11: Spotify's current ratio (2018-2022)

5.3 Solvency

Solvency refers to a company's financial stability and capacity to satisfy long-term financial obligations when they come due in finance. It essentially gauges the proportion of a company's assets financed by equity vs debt, demonstrating its ability to sustain financial loss over time (Hoff & Pedersen, 2019). This is an important component in assessing a company's viability and long-term success.

$$\text{Solvency} = \frac{\text{Equity}}{\text{Total assets}} \times 100\%$$

Equation 17: Solvency ratio

This solvency ratio is a major financial statistic that displays equity as a percentage of total assets. It is an important metric that helps to determine how much of the company's assets can be lost without negatively impacting its creditors and lenders (Hoff & Pedersen, 2019). As such, it serves as an indicator of the firm's financial stability and ability to resist potential financial shocks.

In € millions	2018	2019	2020	2021	2022
Equity	2 094	2 037	2 805	2 119	2 401
Total assets	4 336	5 122	6 326	7 170	7 636
Solvency ratio	48,3 %	39,8 %	44,3 %	29,6 %	31,4 %

Table 12: Spotify's solvency ratio (2018-2022)

Solvency ratio is dependent on the industry to define what is acceptable and what is not. A general rule is to not have a solvency ratio lower than 30%. A higher solvency ratio indicates that it is more expensive to finance through equity than debt. So, it is paramount to have a balance between equity and debt.

5.4 Summary of accounting analysis

Spotify's accounting indicates that there is room for improvement, as most important financial metrics are underperforming, and several are even negative. Nonetheless, the company's solvency ratio is functioning well, which is significant because it shows that the

corporation can continue to incur losses. Spotify's profitability has been largely negative, although operational margins have been slowly rising in recent years, which is a good sign. Spotify's liquidity performance is neither good nor poor. A chronically low current ratio, on the other hand, may cause the company to have payment issues. Accounting analysis is a method that can provide insight into how a firm will operate in the future. However, strategic analysis is more critical for organizations like Spotify, who are predominantly running at a loss. Future profitability is forecast in valuation, and accounting analysis provides limited information about the future. However, it is still necessary to examine a company's financial status. These crucial figures are typically compared to similar companies in the same industry. There are no obvious parallels to Spotify, however, because most alternatives are simply subsidiary businesses, while others are not publicly traded. Instead, in the relative valuation chapter, we will look at a few companies that are similar to Spotify.

6 Projecting future cash flows

This chapter seeks to forecast Spotify's future cash flows using both strategic and accounting research. The cash flows will be forecasted for a five-year period, from 2023 to 2027. Given that Spotify is still in a growth phase, extrapolating beyond this time span would be difficult and imprecise. Valuations based on numbers for more than five to seven years are often deemed unreliable and untrustworthy. As a result, this chapter will concentrate on a five-year cash flow prediction for Spotify.

In the valuation process of Spotify, the future cash flows will be discounted to their present value to determine the total value of the firm's equity. This will be accomplished by deducting the firm's non-current debt from its total worth. Furthermore, the final figure will be divided by the number of outstanding shares to calculate Spotify's price per share. I will use the company's quarterly and annual reports, as well as strategic research, in estimating future cash flows. The cost structure will be divided into several categories, including revenue cost, research and development, sales and marketing, general and administrative costs, and taxes. This method will provide a thorough insight of the company's financial performance, allowing for more accurate estimates of future cash flows.

6.1 Revenue

During the 2022 earnings call, Spotify announced that it had made significant investments in the company's future, which has already yielded favorable outcomes. Because of these efforts, the platform has witnessed tremendous user growth and advancements. Spotify now has over 100 million tracks, 5 million podcasts, and 300,000 audiobooks, a vast array of content that is expected to boost revenue in the short and long term (Ek, 2023).

According to my beliefs, the Neil Young case is an isolated incidence, and Spotify is unlikely to be engaged in disputes that would harm its profitability. Because changing pricing structures may alienate customers, resulting in user attrition, the freemium and premium models will most likely remain intact. Nonetheless, providing extra benefits to premium customers may increase their numbers. However, I believe Spotify will not pursue this method because the number of premium subscribers has been gradually increasing. In fact, both monthly active users (MAUs) and premium users outperformed the company's expectations. The guidance for MAUs was 479 million and 202 million for premium users, but the actual numbers were 489 million and 205 million, respectively. Furthermore, Spotify's quarterly financials have outperformed forecasts, indicating that the company is on the right track.

6.1.1 Projecting future revenue

According to Spotify's statement, the firm anticipates revenue growth in 2023, driven by a faster rate of subscription growth. Based on a detailed examination of their prior history, I determined that their average revenue increase from 2020 to 2022 was 20.2%. While this rate of growth is impressive, it may be unrealistic to expect such a high rate in the future year. As a result, I believe that a revenue rise of 16% in 2023 is a more reasonable prediction, given their strategic expenditures and the predicted increase in both monthly active users (MAUs) and premium subscribers. Spotify's recent emphasis on the podcast side of their business, particularly their contract with the most-listened-to podcast, Joe Rogan Experience, is certain to continue gaining new customers. Additionally, Spotify's enormous library and excellent recommendation technology will aid in the retention of existing subscribers. Furthermore, their relationships with phone companies, which pre-install the Spotify app on devices, as well as their three-month free trial, should help incentivize users to keep their premium subscriptions. I anticipate that this rate of growth will continue in 2024. Thereafter, the growth will be at a lesser pace due to the natural constraints of growth as a company expands. Thus, I forecast a 12% growth rate in 2025,

followed by a further slowdown in 2026 and 2027, with growth rates of 7% and 5%, respectively.

In € millions	2018	2019	2020	2021	2022	Average
Revenue	5 259,0	6 764,0	7 880,0	9 668,0	11 727,0	
Growth in %	28,6 %	28,6 %	16,5 %	22,7 %	21,3 %	23,5 %

Table 13: Spotify's revenue (2018-2022)

In € millions	2023E	2024E	2025E	2026E	2027E
Revenue	13 603,3	15 779,9	17 673,4	18 910,6	19 856,1
Growth in %	16,00 %	16,0 %	12 %	7 %	5 %

Table 14: Estimated revenue growth

6.2 Cost of revenue

Spotify has implemented cost-cutting initiatives such as staff reductions and increased efficiency. Spotify CEO Daniel Ek concedes that the company may have overinvested in recent years, but pledges that the company's focus will change to leaner expenditure in the future (Ek, 2023). As a result, the corporation is unlikely to make any additional large-scale expenditures. As a result, expense growth at Spotify will be less pronounced than in prior years.

In € million	2018	2019	2020	2021	2022	Average
Cost of revenue	3 906	5 024	5 856	7 077	8 801	
Revenue	5 259	6 764	7 880	9 668	11 727	
% of revenue	74,3 %	74,3 %	74,3 %	73,2 %	75,0 %	74,2 %

Table 15: Spotify's cost of revenue (2018-2022)

Upon an analysis of Spotify's financial data from 2018 to 2022, the cost of revenue has consistently been around 74-75% of the income, with an average of 74.2%. Spotify, on the other hand, has taken steps to become more cost-effective by decreasing staff and due to outsourcing cloud processing to Google Cloud. As a result, it is predicted that revenue cost growth will diminish in the following years. A acceptable estimate of the revenue expense is 70% of the revenue for the period 2023-2025. Spotify's objective to cut costs and become more efficient in order to maximize earnings supports this.

In € million	2023E	2024E	2025E	2026E	2027E
Revenue	13 604,3	15 779,9	17 673,4	18 910,6	19 856,1
Cost of revenue	9 523,0	11 045,9	12 371,4	13 048,3	13 502,1
% of revenue	70 %	70 %	70 %	69 %	68 %

Table 16: Estimated cost of revenue

As previously stated, Spotify cannot afford to raise its service prices due to the market's severe competition. As a result, the only way to increase sales and profit margins is to minimize costs. I expect that Spotify will continue to reduce expenses and enhance efficiency, resulting in a lower cost of revenue growth rate after 2026. Nonetheless, Spotify must continue to reward artists and labels for their content on the platform, which cannot be considerably lowered without affecting service quality. I estimate cost of revenue to be 69% and 68% of revenue in year 2026 and 2027, respectively.

6.3 Research and development

Spotify must maintain a consistent level of R&D in order to increase the quality of their platform, better their algorithms, and add new features. The Spotify Wrapped campaign, which was launched in 2016, is one significant feature that has been successful in driving user engagement. This campaign gives customers a detailed picture of their listening statistics over the course of the year, including their favorite artists and songs. Its success is astounding, as proven by a 30% increase in user interaction in 2022, with the campaign trending across all social media platforms (Ek, 2023). This has increased Spotify's brand awareness, which may attract new customers and improve their propensity to upgrade to the premium service. I expect Spotify will continue to prioritize R&D, since it has become an essential component of the company's growth and development.

In € million	2018	2019	2020	2021	2022	Average
Research and development	493	615	837	912	1 387	
Revenue	5 259	6 764	7 880	9 668	11 727	
% of revenue	9,4 %	9,1 %	10,6 %	9,4 %	11,8 %	10,1 %

Table 17: Spotify's research and development costs (2018-2022)

R&D spending have been a critical aspect in Spotify's performance and competitive edge in the music streaming business, with expenditures ranging from 9.1% to 11.8% of revenue from 2018 to 2022, averaging at 10.1%. Given the importance of innovation and improvement in the ever-changing music streaming industry, it is realistic to anticipate

Spotify to continue to devote a significant amount of its revenue to R&D. As a result, the cost post is expected to remain at 10% of future revenues, as shown in the table below:

In € million	2023E	2024E	2025E	2026E	2027E
Revenue	13 604,3	15 779,9	17 673,4	18 910,6	19 856,1
Research and development	1 360,4	1 578,0	1 767,3	1 891,1	1 985,6
% of revenue	10 %	10 %	10 %	10 %	10 %

Table 18: Estimated research and development costs

6.4 Sales and marketing

Sales and marketing expenses have increased significantly in comparison to previous year, owing mostly to the adoption of successful marketing campaigns. The positive impact of these campaigns on Spotify's growth is reflected in an increase in monthly active users (MAUs) in regions such as Europe and the rest of the world, according to their Q4 2022 Shareholder Deck (Spotify, 2023). Building a strong brand and encouraging new and existing consumers to use Spotify's services are essential to the company's success. It is also important to inform users about the platform's evolution into a more varied auditory experience beyond music streaming.

In € million	2018	2019	2020	2021	2022	Average
Sales and marketing	620	826	1 029	1 135	1 572	
Revenue	5 259	6 764	7 880	9 668	11 727	
% of revenue	11,8 %	12,2 %	13,1 %	11,7 %	13,4 %	12,4 %

Table 19: Spotify's sales and marketing costs (2018-2022)

Between 2018 and 2022, sales and marketing expenses ranged from 11.7% to 13.4% of revenue, with an average of 12.4%. Looking ahead, it is reasonable to expect sales and marketing costs to be roughly 12% of revenue. However, as Spotify consolidates its position as the leading competitor in the music streaming sector, I expect sales and marketing spending to drop after 2026. This is because the company will have created a strong brand identity and reputation, resulting in lower sales and marketing cost.

In € million	2023E	2024E	2025E	2026E	2027E
Revenue	13 604,3	15 779,9	17 673,4	18 910,6	19 856,1
Sales and marketing	1 632,5	1 893,6	2 120,8	2 080,2	1 985,6
% of revenue	12 %	12 %	12 %	11 %	10 %

Table 20: Estimated sales and marketing costs

6.5 General and administrative

The costs connected with the overall operation of a firm, such as office rent, utilities, insurance, and other expenses that are not directly tied to the production of goods or services, are referred to as general and administrative expenses. These expenses, according to Investopedia, might be incurred by any department or function inside the organization and are not related to any single revenue-generating activity (Tuovila, 2023).

In € million	2018	2019	2020	2021	2022	Average
General and administration	283	354	442	450	626	
Revenue	5 259	6 764	7 880	9 668	11 727	
% of revenue	5,4 %	5,2 %	5,6 %	4,7 %	5,3 %	5,2 %

Table 21: Spotify's general and administrative costs (2018-2022)

A review of Spotify's financial documents reveals that the company's general and administrative expenses have hovered just over 5% of sales from 2018 through 2022, with 2021 being an outlier. During this time period, these expenses account for 5.2% of income on average. Based on this historical data, we can reasonably expect Spotify's general and administrative expenses to be at 5% of revenue.

In € million	2023E	2024E	2025E	2026E	2027E
Revenue	13 604,3	15 779,9	17 673,4	18 910,6	19 856,1
General and administrative	680,2	789,0	883,7	945,5	992,8
% of revenue	5,0 %	5,0 %	5,0 %	5,0 %	5,0 %

Table 22: Estimated general and administrative costs

6.6 Working capital

The difference between a company's current assets and current liabilities is referred to as working capital. Because investments frequently tie up cash, it is important to account the change in working capital over that period when calculating free cash flow to the organization. As a result, an increase in working capital causes more cash to be held and result in cash flow to be negative. In contrast, a decrease in working capital will result in positive cash flows. Working capital is best calculated as a percentage of revenue for that period because it fluctuates dramatically from year to year. Working capital management is critical (Damodaran, 2012), because it influences a firm's liquidity, profitability, and risk profile.

In € million	2018	2019	2020	2021	2022	Average
Current assets	2 246	2 231	2 366	4 372	4 352	
Current liabilities	2 149	2 439	2 900	3 226	3 516	
Working capital	97	-208	-534	1 146	836	
Revenue	5 259	6 764	7 880	9 668	11 727	
WC as % of revenue	1,8 %	-3,1 %	-6,8 %	11,9 %	7,1 %	2,2 %

Table 23: Spotify's working capital (2018-2022)

As shown in the table above, Spotify's working capital has fluctuated significantly over the last five years, ranging from -6.8% to 11.9%, with 2,2% on average. Given this amount of volatility, estimating future working capital as a proportion of revenue based on this average is appropriate.

In € million	2022	2023E	2024E	2025E	2026E	2027E
Revenue	11 727	13 604,32	15 779,85	17 673,43	18 910,57	19 856,10
Working capital	836	299,30	347,16	388,82	416,03	436,83
Change in WC		-536,70	47,86	41,66	27,22	20,80
WC as % of revenue		2,2 %	2,2 %	2,2 %	2,2 %	2,2 %

Table 24: Estimated change in working capital

Spotify's working capital has been exceptionally high in the last two years, which could be ascribed to large investments made by the firm to strengthen its podcast platform.

However, as suggested by the company's recent comments, future investment is likely to be reduced. As a result, forecasting future working capital based on historical averages is a realistic assumption.

6.7 Investment and depreciation

In order to calculate the free cash flow for firm (FCFF) of Spotify, it is necessary to determine the amount the company has invested and the depreciation of assets in the given period. Spotify, as a technological company, does not require major investments in machinery or other non-current assets, therefore depreciation is modest. As a result, while computing Spotify's FCFF, investment and depreciation are assumed to be zero.

6.8 Tax

Estimating a tax rate for Spotify can be difficult because it is a multinational firm that works in multiple jurisdictions. However, calculating the WACC necessitates determining a tax rate. According to Spotify's 2023 annual report, the United States of America and the United Kingdom earn the greatest revenue, accounting for approximately fifty percent of

overall revenue. The other half of the revenue is generated by "other countries". The average global company tax rate is 23.37%, according to the Tax Foundation. To make the calculation easier, I'll round down the tax rate to 23% and use that figure for valuation going forward.

6.9 Stable growth rate

The stable growth rate in financial analysis defines the point at which a company's growth will eventually level out as it develops. According to Damodaran, a company's growth rate will eventually fall to a level equal to or lower than the general economy's growth rate (Damodaran, 2012). From 1961 to 2021, the average worldwide GDP growth rate was 3.475% (Macrotrends, n.d.), which is too high for Spotify's consistent growth rate. Alternatively, we can estimate the stable growth rate using the inflation objective. The Federal Reserve has established a 2% inflation objective, which is often used as a benchmark for inflation rates. As a result, I estimate Spotify's stable growth rate to be roughly 2.7%, the average of the GDP growth rate and the inflation objective.

6.10 Projected FCFF

In € million	2023E	2024E	2025E	2026E	2027E
Revenue	13 604,3	15 779,9	17 673,4	18 910,6	19 856,1
Cost of revenue	9 523,0	11 045,9	12 371,4	13 048,3	13 502,1
Gross profit	4 081,3	4 734,0	5 302,0	5 862,3	6 354,0
Research and development	1 360,4	1 578,0	1 767,3	1 891,1	1 985,6
Sales and marketing	1 632,5	1 893,6	2 120,8	2 080,2	1 985,6
General and administrative	680,2	789,0	883,7	945,5	992,8
Operating income	408,1	473,4	530,2	945,5	1 389,9
After tax (23%)	314,3	364,5	408,3	728,1	1 070,2
Capital expenditure	0,0	0,0	0,0	0,0	0,0
Depreciation	0,0	0,0	0,0	0,0	0,0
Δ Working capital	-536,7	47,9	41,7	27,2	20,8
FCFF	-222,4	316,7	366,6	700,8	1 049,4

Table 25: Projected cash flow for firm

7 Required rate of return to total capital (WACC)

In this chapter, required rate return to total capital will be calculated. WACC will be used to perform the calculation.

$$WACC = \frac{E}{E + D} \times r_e + \frac{D}{E + D} \times r_d \times (1 - t)$$

Spotify reports in EUR, but almost halve of their revenue is generated in the U.S. Therefore, in this chapter many of the rates and figures will be based on the U.S., and the currency used will be USD. The final share price will be estimated in USD as well.

7.1 Market value of equity

Spotify's stock price on Yahoo Finance as of April 28th, 2023 was 133.6 USD (Yahoo Finance, 2023). Based on the 2022 annual report, there are around 193 million basic shares outstanding, thus we can determine the market value of equity by multiplying the stock price by the number of outstanding shares, resulting in an equity value of approximately 25.7 billion USD. Further details on this calculation can be found in the accompanying table:

In USD	
Shares outstanding	192 934 862,0
Share price €	133,6
Market value of equity	25 776 097 563,2

Table 26: Spotify's market value of equity

7.2 Market value of debt

Spotify's non-current liabilities totaled 1.7 billion euros, according to the company's annual report for 2022. Using the conversion rate of 1.1 euros to 1 US dollar, we calculate that the market value of Spotify's debt is about 1.9 billion US dollars.

7.3 Ratio of debt and equity to total capital

After collecting the debt and equity values for Spotify, we can add them together to determine the company's total capital. The sum of these two variables yields a total capital of around 27 billion euros. To compute the debt-equity-to-total-capital ratio, divide each variable by total capital. The resulting percentages for the debt and equity ratios are 6.8% and 93.2%, respectively.

In USD	
Market value of equity	25 776 097 563,2
Market value of debt	1 890 900 000,0
Total capital	27 666 997 563,2
Equity to total capital ratio	93,2 %
Debt to total capital ratio	6,8 %

Table 27: Spotify's equity and debt ratio to total capital

7.4 Cost of equity

The Capital Asset Pricing Model (CAPM), a widely used method to calculate the expected return on investment, can be used to assess the cost of equity. The CAPM calculation requires the risk-free rate to be added to beta multiplied by the risk premium. To calculate Spotify's equity cost, we must first identify the relevant parameters. This chapter's measurements and currencies are in US dollars.

7.4.1 Risk free rate

The risk-free rate utilized in Spotify's valuation is a 10-year US Treasury bond, which is considered as near to a risk-free investment as possible. This decision was made because Spotify produces the majority of its revenue in the United States. According to Bloomberg data, the current yield on a 10-year US Treasury bond is 3.6% as of April 19th (Bloomberg, n.d.). As a result, this will be the risk-free rate used in this valuation.

7.4.2 Risk premium

The risk premium is the additional return that investors seek in exchange for taking on the risk of a security. The risk premium for this assessment will be based on the US market for consistency. Kroll, a prominent financial advice group, has advocated a 6% risk premium in the US market as of October 2022 (Kroll, 2022). This risk premium will be used to calculate Spotify's WACC. Because WACC indicates a company's cost of financing, integrating the right risk premium is critical in estimating the required rate of return for investors.

7.4.3 Beta

Spotify's historical data, as a publicly traded corporation, can be used to estimate its beta. Microsoft Excel was used to run a regression analysis for the last three and five years. The Nasdaq Composite Index, which includes non-financial corporations such as Apple and

Google, was utilized as a comparison point for Spotify. Given Spotify's emphasis on technology and its position as a digital music provider, the Nasdaq Composite Index was deemed an acceptable comparison.

The beta values obtained were 1.4 and 1.16 (see Attachments 1 and 2). After careful examination, I believe the beta from the 3-year historical data is better representative of Spotify's current situation. This is because, following the epidemic, the corporation began investing extensively in the podcast side of their software during this time period. I compared the betas to those of the Financial Times and Yahoo Finance, both of which calculated Spotify's beta. Based on 5-year historical data, their research generated betas of 1.764 and 1.77 as of 28th April (Financial Times, 2023) (Yahoo Finance, 2023).

As a company grows, its portfolio becomes more diverse, and its beta value approaches one. When a company has a beta value of one, it means that it follows the same business cycle as the industry or the wider economy. This method, known as the Bloomberg method, is calculated using the following formula:

$$\text{Adjusted beta} = \text{raw beta} \times 0,67 + 1 \times 0,33$$

The adjusted beta for Spotify is 1.28 and 1.1, respectively, based on 3- and 5-year historical data. The Financial Times and Yahoo Finance, on the other hand, have calculated a larger beta for the corporation. After analyzing the various beta estimates, it is possible to conclude that a beta based on three years of historical data is suitable for Spotify. This beta will be adjusted to 1,4, which is fair to assume.

7.4.4 Required return for equity

Now that all the variables have been estimated, it is time to calculate the CAPM which gives the required return rate.

$$r_e = r_f + \beta(r_m - r_f)$$

$$r_e = 3,6\% + 1,4(6\% - 3,6\%)$$

$$r_e = 6,9\%$$

Cost of equity for Spotify is 6,9%.

7.5 Cost of debt

Calculating the cost of debt can be a challenging task. Damodaran recommends many approaches for calculating it, such as studying the company's recent borrowing history or

acting as a rating agency and providing a synthetic rating to the corporation. The default spread is then added to the risk-free rate based on the assigned rating to calculate the cost of debt (Damodaran, 2012).

Unfortunately, in the instance of Spotify, neither of the standard methods for determining debt cost can be applied. Because Spotify does not reveal such information in their annual report, the first option, looking at recent borrowing history, is inapplicable. The second technique, issuing a synthetic rating, is similarly impractical because Spotify is losing money. As a result, the final estimate is likely to be overly high and hence erroneous.

To calculate the cost of debt for Spotify, a more basic technique is to divide the total interest expenses by the total debt indicated in the company's annual report. Spotify's overall interest expenses in 2022 were 132 million EUR, while its total debt was around 5.2 billion EUR. With an exchange rate of 1.1 USD per EUR (Bloomberg, n.d.), this corresponds to 145 million USD in interest expenses and 5.7 billion USD in total debt. As a result, Spotify's pretax cost of debt is determined to be 2.5%.

$$\text{Pretax cost of debt} = \frac{145}{5\,759} = 2,5\%$$

Spotify's computed debt cost appears to be excessively low, as it should not be lower than the risk-free rate, which is currently at 3.6%. As a result, an adjustment is required.

Damodaran estimates that the average cost of debt for the software industry (entertainment) in the United States is 5.9% (Damodaran, 2023). As a result, this value will be used for Spotify. We arrive at a cost of debt of 4.2% by taking the average of the calculated cost of debt and the industry average. This value will be used in further valuations.

7.6 Tax

The tax rate that will be used is the same as in chapter 6.6, which is 23%.

7.7 Conclusion of WACC

Now that all the variables are calculated, it is time to calculate required return for Spotify using WACC. Plugging in the variables and we get:

$$WACC = 93,2 \times 6,9\% + 6,8\% \times 4,2\% \times (1 - 23\%)$$

$$WACC = 6,7\%$$

Based on my calculations, the required rate of return to capital for Spotify is 6,7%.

8 Value calculation

It is now time to compute the share price using the estimates from chapters 6 and 7. In addition, the terminal value, which is an important factor in determining the share price, will be established. To that aim, Spotify's cash flows and terminal value will be discounted over a six-year period, with the company's valuation determined on January 1st, 2023.

8.1 Terminal value

This valuation uses the most recent estimate, especially the predicted cash flow for 2027. To discount this cash flow, we will apply the WACC, which was previously calculated and determined to be 6.7% in chapter 7.7. Furthermore, we will utilize the 2.7% stable growth rate computed in Chapter 6.9 as the long-term growth rate (g). Because the projected cash flow is in EUR, a conversion rate of 1.1 will be used to convert it to USD.

$$\text{Terminal value} = \frac{1\,154,3 \times (1 + 2,7\%)}{6,7\% - 2,7\%} = 29\,636,7$$

$$\text{PV of terminal value} = \frac{29\,636,7}{(1 + 6,7\%)^6} = 20\,084,7$$

Equation 18: Present value of terminal value

8.2 Calculating share price

Having estimated the terminal value, the next step is to discount the cash flows to their present value using the WACC. It is important to note that the following cash flows are converted to USD.

In USD million	2023E	2024E	2025E	2026E	2027E
Year	1	2	3	4	5
FCFF	-244,6	348,4	403,3	770,9	1154,3
PV FCFF	-229,3	306,0	332,0	594,7	834,7

Table 28: Estimated present value of cash flows

The present value of free cash flows (PV FCFF) was calculated and found to be 1 838 million USD. Furthermore, in the preceding part, the present value of terminal value was

calculated and projected to be 20 084.7 million USD. When the two valuations are added together, the total present value is 21 922.4 million USD. The equity value of 20 032.3 million USD is obtained by subtracting the market value of debt in USD, which is 1 890.1 million USD. The share price is computed by dividing the equity value by the number of outstanding shares, which is 103,8 USD. The table below provides a summary of these calculations:

In USD million (except share price)	
PV cash flow	1838,1
PV terminal value	20084,3
Total value	21922,4
Debt	1890,1
Value of equity	20032,3
Shares outstanding	192,9
Share price	103,8

Table 29: Value estimation for Spotify

9 Sensitive analysis

Valuation entails making assumptions about the company's future and is thus subject to errors and inaccuracy. As a result, a sensitivity analysis is required to establish the amount to which changes in certain factors affect the outcome. We will do a sensitivity analysis on factors such as WACC, stable growth rate, tax rate, and cost of revenue in this chapter. This will allow us to calculate how much the valuation result changes when these factors are changed.

9.1 WACC & stable growth rate

The table below depicts the sensitivity of the share price to percentile changes in the WACC and stable growth rate. The WACC is shown on the X-axis, while the stable growth rate is shown on the Y-axis. The estimated share price is located in the center of

the table, with the figures surrounding it representing changes in the variables. This approach allows us to assess the impact of these variables on the valuation, allowing us to see the range of possible outcomes.

		WACC						
Stable growth	Share price in USD	5,5 %	6,0 %	6,5 %	6,7 %	7,0 %	7,5 %	8,0 %
	1,5 %	110,30	95,20	83,10	78,90	73,20	65,00	58,10
	2,0 %	126,7	107,6	92,8	87,7	81	71,3	63,4
	2,5 %	148,5	123,5	104,9	98,7	90,4	78,9	69,5
	2,7 %	148,8	123,8	105,1	103,8	90,6	79,1	69,7
	3,0 %	179	144,8	120,5	112,6	102,3	88,2	76,9
	3,5 %	224,8	174,7	141,3	130,9	117,5	99,8	86
	4,0 %	301,1	219,4	170,4	155,9	137,8	114,6	97,3

Table 30: Sensitive analysis, WACC and stable growth rate

By keeping the WACC constant at 6.7% and lowering the stable growth rate to 2.5%, the share price falls to 98.7, signifying a 5% drop from the projected share price. Similarly, increasing the stable growth rate to 3% raises the share price to 112.6, showing an 8% gain above the projected share price. The share price is 105.1 and 90.6 when the stable growth rate is held constant and the WACC is increased to 6.5% and 7%, respectively. The former results in a 13% increase in the share price, whereas the latter results in a 13% reduction from the predicted share price. Based on this table, we can conclude that both the WACC and the stable growth rate have a considerable impact on the share price, with the WACC having a greater impact than the stable growth rate.

9.2 Tax rate

It is critical to investigate the influence of the tax rate on Spotify's share price. Because Spotify works in numerous countries around the world, each area that generates money has its own tax rate. Previously, the tax rate for after-tax income was represented by an average tax rate for the whole world. However, in order to assess the effects of tax rates on share prices, the tax rates employed in various parts of the world will be taken into account. In addition to the set tax rate, the tax rates for the United States and the United Kingdom will be included, as these regions generate the largest revenue for Spotify. According to PwC's tax summaries (PwC, 2023), the tax rates in the United States and the United Kingdom are 21% and 25%, respectively. Furthermore, according to the Tax Foundation (Enache, 2022), a tax rate of 28% will be utilized for Latin America and 19% for Asia. It is crucial to note that these tax rates will solely be adjusted for after-tax operating income and will not affect the tax rate employed in WACC.

In USD	Tax rate				
	19 %	21 %	23 %	25 %	28 %
Share price	110,0	106,9	103,8	100,8	96,1

Table 31: Sensitive analysis, tax rate

Adjusting the tax rate to 21%, the US tax rate, resulting in a share price of 106.9, a 3% increase above the predicted share price. Similarly, increasing the tax rate to 25% in the United Kingdom results in a share price of 100.8, a 3% fall from the predicted share price. This is a natural outcome because changes in tax rates have a direct impact on operating income after tax, which is used to compute the FCFF. The greater the tax rate, the smaller the operational income, causing the share price to fall. When Asian and Latin American tax rates are used, the share prices are 110 and 96.1, respectively.

9.3 Cost of revenue

The cost of revenue, which is the cost of producing goods or services, is an important aspect in assessing a company's profitability. Spotify's revenue cost has been predicted in this thesis to be 70% of revenue for the years 2023E-2025E, 69% for 2026E, and 68% for 2027E. A range of values between 68% and 72% will be evaluated to investigate the sensitivity of the share price to changes in the cost of revenue, with the same value applied for all predicted years. We may acquire insight into Spotify's financial performance and overall valuation by evaluating how the share price responds to changes in the cost of revenue.

In USD	Cost of revenue				
	68 %	69 %	Original	71 %	72 %
Share price	108,1	89,9	103,8	53,4	35,1

Table 32: Sensitive analysis, cost of revenue

Adjusting the cost of revenue has a large impact on the share price since it immediately affects operating income, which is a critical component in the FCFF calculation. Lowering the revenue cost to 69% for all year's results in a 13.5% fall in share price from the expected value, resulting in a share price of 89.9. Increasing the cost of revenue to 71%, on the other hand, generates a significant decline in the share price, dropping it by over half of the expected value to 53.4. As a result, it is critical to keep the cost of revenue at an ideal level in order to ensure the company's profitability and investor confidence.

10 Relative valuation

The discounted cash flow (DCF) method produced a share price of 103,8 USD, however a relative valuation approach will also be used to provide a comprehensive valuation. To estimate the share price based on relative valuation, this chapter will use multiples such as P/E, P/S, and P/B. Finding similar companies to Spotify, on the other hand, has proven difficult, as most music streaming services are either private or subsidiaries, limiting access to their financial data. Nonetheless, for comparison, we chose Meta Platforms (formerly known as Facebook), Netflix, and Sirius XM Holdings. Facebook is a multimedia platform that, with the exception of videos, images, and status updates, share similarities to Spotify. Netflix, on the other hand, has a similar subscription system, but without a freemium option, and, like Spotify, is one of the largest corporations in its industry. Finally, Sirius XM Holdings is a radio-based media music platform.

10.1 P/E

The table below gives a comparison of Spotify's share price and earnings per share (EPS) with those of its comparable competitors. Because Spotify is currently operating at a loss, its EPS is negative, resulting in a negative P/E ratio. The average P/E ratio for all comparable companies is -3.04. When the P/E ratio of Spotify, which is an anomaly, is removed, the average P/E ratio becomes 19.32.

	Spotify	Netflix	Meta	Sirius XM	Average
Share price	134,6	322,55	207,55	3,65	
EPS	-1,92	10,1	14,57	0,31	
P/E	-70,10	31,94	14,25	11,77	-3,04
					19,32

Table 33: P/E ratio for Spotify and comparable firms

$$\text{Share price} = 19,32 x - 70,1 = -1\ 354,332$$

Moving forward, I shall omit the P/E ratio from my assessment because it is unimportant in our current environment. Given Spotify's present negative margins, the P/E ratio will be of limited utility in forecasting the company's share price unless margins improve in the future.

10.2 P/S

P/S ratio is a good multiple because it can be used on firms that are operating in loss, such as Spotify. From table below we can see the P/S ratios of the companies.

	Spotify	Netflix	Meta	Sirius XM	Average
Share price	134,6	322,55	207,55	3,65	
Sales per share	60,78	71,09	43,64	2,29	
P/S	2,21	4,54	4,76	1,59	3,28

Table 34: P/S ratio for Spotify and comparable firms

$$\text{Share price} = 3,28 \times 60,78 = 199,36$$

Based on P/S ratio, we get a share price of 199,36 for Spotify.

10.3 P/B

Table below represents P/B of Spotify and the other companies. The average total outs as 4,49. Removing P/B of Sirius XM, which is an outlier, gives an average of 7,4.

	Spotify	Netflix	Meta	Sirius XM	Average
Share price	134,6	322,55	207,55	3,65	
BVPS	12,44	46,72	46,22	-0,86	
P/B	10,82	6,90	4,49	-4,24	4,49
					7,40

Table 35: P/B ratio for Spotify and comparable firms

$$\text{Share price} = 7,4 \times 10,82 = 80,07$$

The share price based on this multiple comes out as 80,07.

10.4 Conclusion of relative valuation

Examining the findings of the relative valuation method in the previous chapters, it is clear that the estimated share prices vary significantly. One possible explanation for this gap is because, while these companies can be compared to Spotify, they are in distinct businesses that operate differently than the music streaming service. Despite these changes, the average share price produced from the relative valuation methodology is 139.7, representing a 35% increase above the share price estimated by the DFC method.

Ratio	Share price
P/S	199,36
P/B	80,07
Average	139,715

Table 36: Share price for Spotify based on relative valuation

11 Value estimation

After calculating Spotify's share price using both the DCF and relative valuation approaches, this chapter attempts to calculate the final estimated share price using a weighted average of the two. In this regard, I have decided to give the DCF approach 80% of the weight and the relative valuation method 20%. The resulting share price will provide a full valuation of Spotify for the spring of 2020, bringing this thesis to a fitting conclusion.

The DCF approach was preferred over the relative valuation method due to its superior capacity to produce persuasive and comprehensive results. The DCF approach was emphasized in this thesis' study of Spotify's valuation. Although both methodologies are trustworthy in stock valuation, the relative valuation method is less consistent for loss-making companies like Spotify. The reason for this is because most ratios result in a negative share price, as demonstrated with the P/E ratio. Such firms' valuation is a forward-thinking procedure that seeks to forecast a stronger future for the company. In contrast, the relative valuation approach compares the company's current situation to that of its peers, yielding a share price projection. The weighted average of the share price, based on the DCF method and the relative valuation method, is 110.9 USD. This figure concludes the estimation of Spotify's share price for the spring of 2020.

In USD	DCF	Relative valuation
Share price	103,8	139,7
Weight	80 %	20 %
Final share price	110,9	

Table 37: Final share price, based on chapter 8 and 10

12 Conclusion

The purpose of this essay has been to estimate a share price for Spotify Technology S.A. The thesis statement was: “What is the value of Spotify Technology S.A. as of spring 2023?”.

The fundamental valuation method was utilized in this thesis, and it resulted in a share price of 103.9 USD for Spotify. The relative valuation method was used to enhance this valuation, resulting in an estimated share price of 139.7 USD. Both of these strategies are widely appreciated and trusted by investors. While it would be ideal to give them equal weight, a weighting of 80-20 was adopted in this circumstance, with the fundamental method receiving the greater weight. The weighted average of these values came to 110.9 USD. Spotify's current share price was 133.6 USD on April 28th, 2023, representing a -17% decline. Based on these findings, a hold recommendation is warranted for Spotify Technology S.A.

13 Critic to thesis

A comprehensive analysis of Spotify was undertaken to get a deep grasp of the firm's operations and performance in order to propose an accurate thesis. Although the data shown here provide useful information on the company's financial situation, it is crucial to note that the estimation could have been biased in either direction. Furthermore, the majority of the information was obtained from Spotify's official websites and reports, which may have been selectively given in order to depict the firm favorably. Furthermore, I am a long-time Spotify subscriber and may have accidentally had a biased perspective of the company. These aspects should be considered while analyzing the thesis's findings and conclusions.

This valuation required a lot of estimates that can be inherently uncertain. Variables such as the stable growth rate, revenue growth, and the WACC can all be assessed differently, resulting in dramatically varied share price projections. Sensitivity analysis demonstrated that even minor adjustments to these factors could have a major impact on the final result. However, based on the facts provided, I feel the estimations utilized in this assessment are reasonable. However, it should be noted that another analyst performing a Spotify

valuation may arrive at a different value due to differences in methodology and assumptions applied.

In conclusion, this valuation could have been more robust if more authoritative sources were utilized. While the articles and sources employed in this thesis are reliable, incorporating additional literature may enhance the credibility of this research. By utilizing a variety of reputable sources, it would provide a stronger foundation to the valuation, thereby increasing the level of confidence in the estimation of Spotify's share price.

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SiriusXM Holdings' annual report from 2022:

[10-K - 02/02/2023 - Sirius XM Holdings Inc.](#)

Attachments

Attachment 1 – regression beta for 5 years

SAMMENDRAG (UTDATA)								
<i>Regresjonsstatistikk</i>								
Multippel R	0,592579667							
R-kvadrat	0,351150661							
Justert R-kva	0,35063365							
Standardfeil	0,025403702							
Observasjon	1257							
Variansanalyse								
	<i>fg</i>	<i>SK</i>	<i>GK</i>	<i>F</i>	<i>Signifikans-F</i>			
Regresjon	1	0,438316038	0,438316038	679,1932331	5,0052E-120			
Residualer	1255	0,80991182	0,000645348					
Totalt	1256	1,248227857						
	<i>Koeffisienter</i>	<i>Standardfeil</i>	<i>t-Stat</i>	<i>P-verdi</i>	<i>Nederste 95%</i>	<i>Øverste 95%</i>	<i>Nedre 95,0%</i>	<i>Øverste 95,0%</i>
Skjæringspur	-0,000280217	0,000716943	-0,390849083	0,69597513	-0,001686756	0,001126323	-0,001686756	0,001126323
X-variabel 1	1,15703861	0,04439675	26,06133598	5,0052E-120	1,069938579	1,244138642	1,069938579	1,244138642

Attachment 2 – regression beta for 3 years

SAMMENDRAG (UTDATA)								
<i>Regresjonsstatistikk</i>								
Multippel R	0,637371094							
R-kvadrat	0,406241912							
Justert R-kvadrat	0,405454434							
Standardfeil	0,026939197							
Observasjoner	756							
Variansanalyse								
	<i>fg</i>	<i>SK</i>	<i>GK</i>	<i>F</i>	<i>Signifikans-F</i>			
Regresjon	1	0,374382736	0,374382736	515,8774379	2,03553E-87			
Residualer	754	0,547193116	0,00072572					
Totalt	755	0,921575851						
	<i>Koeffisienter</i>	<i>Standardfeil</i>	<i>t-Stat</i>	<i>P-verdi</i>	<i>Nederste 95%</i>	<i>Øverste 95%</i>	<i>Nedre 95,0%</i>	<i>Øverste 95,0%</i>
Skjæringspunkt	-0,000282785	0,000980423	-0,28843108	0,773096051	-0,002207468	0,001641899	-0,002207468	0,001641899
X-variabel 1	1,41736618	0,062403478	22,71293548	2,03553E-87	1,294860963	1,539871398	1,294860963	1,539871398