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Equity Valuation - Spotify Technology S.A.

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Master (MSc) in Finance

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Iscte Business School

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Acknowledgments

This project represents a turning point in my academic career and marks all the hard work and countless hours invested in culminating the start of a life filled with opportunities, challenges, and a world to discover.

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Resumo

O presente projeto tem como principal objetivo a avaliação da Spotify Technology S.A. A plataforma começou em 2006 como uma pequena *start-up* sediada em Estocolmo, com o intuito de resolver um dos principais problemas da indústria: a pirataria musical. Em 2018, a Spotify estreou-se como uma empresa cotada na Bolsa de Nova Iorque. Atualmente, é o maior serviço de *streaming* musical a nível global. Este promove novas tecnologias no mercado de modo a entender os hábitos de consumo dos utilizadores.

A finalidade deste projeto é estimar o justo valor das ações da Spotify, facilitando assim decisões de investimento informadas a potenciais investidores. Em seguida, os investidores são aconselhados a adquirir, manter ou vender as ações tendo em consideração se as ações se encontram sobrevalorizadas ou subvalorizadas no mercado.

Será apresentada a revisão da literatura sobre os métodos de avaliação desenvolvidos ao longo da história financeira, o estudo da Spotify e da indústria que a mesma se insere e conduzida uma análise à sua rentabilidade e solvência. Posteriormente, são escolhidas duas abordagens distintas para avaliar a empresa, o modelo do Fluxo de Caixa Descontado e o modelo da Avaliação Relativa. Ao aplicar a primeira metodologia, foi obtido um preço-alvo de $162.50 por ação a 31 de dezembro de 2022. A recomendação de investimento é a compra das ações da Spotify, dado que as mesmas apresentam um potencial de crescimento de 105.83%. No entanto, a avaliação relativa mostrou que a Spotify está subvalorizada em comparação com os seus pares.

Classificação JEL: G32 – Value of Firms; L82 – Entertainment & Media

Palavras-chave: Spotify; Avaliação de Empresas; Streaming Musical; Mídia da Internet; Análise do Fluxo de Caixa Descontado; Múltiplos

Abstract

The present project addresses the valuation of Spotify Technology S.A. The platform began as a small start-up based in Stockholm in 2006 by two friends to solve one of the music industry's main problems at the time: music piracy. By 2018, Spotify achieved a listing on the New York Stock Exchange as a publicly traded company. Currently, it is the most famous music streaming service. It brings new technologies, such as machine learning and artificial intelligence, to fully understand customers and improve their musical experience.

This master's project aims to ascertain the equitable valuation of Spotify's shares, facilitating informed investment decisions for potential shareholders. Then, we advise investors to acquire, hold, or sell the stock, considering whether the stock is overvalued or undervalued within the market.

To accomplish this, we first review the literature in place on business valuation methods developed in the finance field, followed by a study of Spotify and an analysis of its profitability and solvency. Then, we chose two distinct approaches to evaluate Spotify to understand if its shares trade at a premium or a discount towards the market: the Discounted Cash Flow model and the Relative Valuation model.

Using the Discounted Cash Flow methodology, we obtained a target price of $162.50 per share on December 31, 2022. The investment recommendation is to buy the stock since it presents an upside potential of 105.83%. However, the relative valuation showed that Spotify is undervalued compared to its peers.

JEL Classification: G32 – Value of Firms; L82 – Entertainment & Media

Keywords: Spotify; Equity Research; Music Streaming; Internet Media; Discounted Cash Flow Analysis; Multiples

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List of Abbreviations

ACP – Average Collection Period

AI – Artificial Intelligence

AMEA - Asia**,** Middle East**,** and Africa

APP – Average Payable Period

APV – Adjusted Present Value

ARPU – Average Revenue Per User

ARPPU – Average Revenue per Paying User

CAGR – Compound Annual Growth Rate

CAPEX – Capital Expenditure

CAPM – Capital Asset Pricing Model

CEO – Chief Executive Officer

CFO – Chief Financial Officer

CLV – Customer Lifetime Value

CPI – Consumer Price Index

DCF – Discounted Cash Flow

DDM – Dividend Discount Model

EBT – Earnings Before Taxes

EBITA – Earnings Before Interest, Taxes, and Amortization

EBITDA – Earnings Before Interest, Taxes, Depreciation, and Amortization

EPS – Earnings Per Share

EV – Enterprise Value

EVA – Economic Value-Added

FCF – Free Cash Flow

FCFF – Free Cash Flow to the Firm

FCFE – Free Cash Flow to Equity

GCC – Gulf Cooperation Council

GDP – Gross Domestic Product

G&A – General and Administrative

IFPI – International Federation of the Phonographic Industry

IMF – International Monetary Fund

IPO – Initial Public Offering

LTV – Lifetime Value

MAU – Monthly Active User

M&A – Mergers and Acquisitions

NYSE – New York Stock Exchange

P/BV – Price-to-Book Value

P/E – Price-to-Earnings

R&D – Research and Development

ROA – Return on Assets

ROE – Return on Equity

ROIC – Return on Invested Capital

SBC – Subscription-Based Company

SPAN – Spotify Audience Network

TME – Tencent Music Entertainment

TV – Television

US – United States

WACC – Weighted Average Cost of Capital

WC – Working Capital

YoY – Year-on-Year

Introduction

The current master's thesis satisfies a partial requirement for awarding a master's degree in Finance. As a result, the opportunity presented is to either carry out a project or a dissertation to accomplish this purpose.

The development of the Spotify Technology S.A. Equity Valuation project is the chosen topic. One of the primary objectives is to give insight into proper valuation methods and inspire trust in investors by thoroughly analyzing a company's actual value.

This research aims to determine Spotify's equity value to forecast the target price for Spotify shares as of the close of 2022. Thereby, potential investors can make well-informed decisions about buying, holding, or selling the shares in question. The advice will be to buy if the target price exceeds the market valuation; otherwise, the suggestion is to sell.

In the early 21st century, as songs progressed from being distributed on tangible items such as CDs to being sold as a sound file that anyone could download illegally, record labels worldwide decreased their revenues to less than half. Hence, music was the first media industry to experience severe repercussions from the digital revolution and the internet. Here is where the streaming pioneer enters the equation- Spotify, launched in 2008 by Daniel Ek and Martin Lorentzon with the vision to build a legal ad-supported music platform accessible to listeners while producing revenues for copyright holders. After a decade, the company entered the New York Stock Exchange with a direct public offering under the SPOT ticker.

In line with the IFPI Global Music Report 2022, revenues from streaming formats contributed to 67% of global recorded music revenue. As a result, streaming recovered the music business, with global market leader Spotify driving the challenge toward growth and steadiness known nowadays by developing an innovative business model that managed to return value and revenues to the industry- the freemium.

With 489 million monthly active users (MAUs), 205 million premium subscribers, over 100 million music titles, and 5 million podcasts across 184 markets, the Swedish company generated around €3.2 billion in revenues as of December 31, 2022. Premium subscriptions accounted for 87% of total revenue, while advertisement from free accounts is responsible for the remaining 13%. Nevertheless, by the end of the fiscal year, Spotify's annual net loss had risen to €430 million. In fact, since its foundation, the company has never turned an annual net profit, which is mainly

attributable to the substantial licensing payments that the streaming platform needs to pay to artists and license holders, along with the industry's high competitiveness.

Per the preceding, the Chief Executive Officer (CEO) explained that the strategy over the next few years is on corporate growth and that the prioritization of profit will only happen once the company reaches a point of maturity.

Consequently, the challenge of evaluating a firm that continues to have negative results while gradually seeing its value rise was a factor that influenced the selection of this company.

Concerning the master thesis structure, the first milestone is to conduct an overview of the existing key literature among the authors exploring the major corporate valuation models. Later, the implemented models in the methodology will be the ones that best accommodate the unique characteristics of Spotify.

This review is followed by a historical outline of its strategy, core business, future goals, and the industry it operates – Internet Content & Information - to provide a solid foundation for our valuation and forecasts. From that, we will conduct a macroeconomic study to understand further the context in which Spotify thrives and how the COVID-19 outbreak affected listening habits and, as a result, its business.

Once we gather the appropriate data and set the assumptions that enable forecasting the company's results, we will apply them according to the methodology chosen - the Discounted Cash Flow (DCF) model and the Relative Valuation. The target price for each share will then be determined using such approaches.

Finally, this achieved target price will be compared to the market value of December 31, 2022, followed by a final recommendation and some advantages and disadvantages of investing in Spotify. The readers should be knowledgeable about its business and performance upon reading this research and drawing their judgments.

1. Literature Review

1.1. Valuation Importance

As stated by Damodaran (2006, p. 3), "Valuation can be considered the heart of finance" and its relevance is reflected in many financial fields, including corporate financial strategies, asset management, and business combinations.

Fernández (2007) also underlined that company valuation entails more than evaluating mergers and acquisitions (M&A); it also involves recognizing value drivers, quantifying the value generation credited to the executives, making strategic decisions about the sustained presence or longevity of a company, and developing the strategic plan.

A valuation can identify investment or divestment opportunities for the investor across the whole sphere of publicly traded companies once he becomes aware of the fair price per share. Furthermore, Fernández (2007) points out that value and price should be kept distinct, as price represents the mutually agreed-upon sum exchanged between a seller and a buyer during a sale. Therefore, this dissertation takes an investment decision for Spotify stock through valuation.

According to Luehrman (1997), three fundamental variables establish the worth of any asset: cash, timing, and risk.

Nevertheless, valuation variables and the final value obtained from all these models imply inherent subjectivity since they are subject to each analyst's assumptions and biases. Because valuation processes are susceptible to significant fluctuations due to minor shifts in future beliefs, Koller *et al.* (2015) believe this can significantly influence an outcome. As Damodaran (2012, p. 3) argued, "Since valuation models are quantitative, valuation is objective" is one of the most widespread misconceptions. Furthermore, the author suggests two strategies for minimizing bias in this process: avoid holding solid public positions on a business's worth and limit our stake in whether the firm is under or overvalued before the appraisal.

The accuracy and reliability of information are critical for a fair and consistent valuation. A faulty valuation can have considerable consequences, such as false or unrealistic expectations during an acquisition process or the acceptance or not of an investment, which can directly impact the company's stock value (Endler, 2004).

Although there are different ways to evaluate an organization, there are four widely accepted approaches to valuation, where the model's classification is formed into broad categories by sharing some common characteristics. Following Damodaran (2006), the principal valuation methodologies are DCF, liquidation and accounting, relative, and contingent claim.

The first methodology, called DCF valuation, indicates that an ongoing business's fair market value relies on how much its expected future cash flows are worth today (Gilbert, 2013).

The following approach, liquidation and accounting valuation, entails determining the worth of the assets a company currently possesses, where assessing accounting-derived valuations, or book value, is the first step (Damodaran, 2006).

The third is the relative valuation approach, which involves understanding the valuation of similar assets close to a standard ratio to arrive at firm value estimates. As a result, to arrive at this value estimate, the latter requires using a market multiple derived from accounting, for instance, price to cash earnings, price to sales, or price to book value, from similar businesses to the company's accounting figure (Bhojraj & Lee, 2002).

The final method, contingent claim valuation, assesses the assets worth whose option properties are similar using option valuation models (Damodaran, 2006). The logic behind this approach is that if there is a portfolio of tradable instruments where prospective cash flows exactly mirror the business and its projects under consideration, the portfolio and the business must have the same price. Nevertheless, Koller *et al.* (2015) defend that recreating portfolios for companies is a difficult task.

Given the general Spotify attributes and its financials, the DCF and the relative valuation are the valuation methodologies chosen for Spotify. In the latter approach, the most appropriate multiples for the company will be detailed based on its performance, specifically negative margins.

The Dividend Discount Model (DDM) is not used to compute the cost of equity since, according to Spotify's 2022 Annual Report, the company has never declared or paid dividends to its shareholders on its common stock and does not intend to do so in the coming years.

Lastly, we will study a more appropriate evaluation model to assess the health of a firm in which customers pay a monthly subscription to access a product or service. These models comprise the so-called Subscription Based Company (SBC) valuation. We will study the idea of customer equity and examine how it can effectively serve as a good approximation for a company's value.

1.2. Discounted Cash Flow Models

Fernandez's (2013) and Gilbert's (2013) perspectives show that the DCF method enjoys widespread adoption due to its recognition as the approach exhibiting the highest degree of conceptual accuracy.

Furthermore, the time value of money is the concept that a cash flow in the present carries more value compared to a similar cash flow promised in the future. As Damodaran (2011) argues, there are three reasons for this:

- People prefer to consume today rather than in the future;
- Cash's purchasing power is depreciated over time due to inflation;
- A future cash flow may not be realized as promised.

Fernandez (2007) defines the standard formula associated with DCF Models as:

$$Value\ of\ a\ Firm = \sum_{t=1}^{t=n} \frac{CF_i}{(1+k)^t} + \frac{Terminal\ Value_n}{(1+k)^n} \quad (1)$$

Where:

CF_i is the company's cash flow produced in period i, $Terminal\ Value_n$ is the company's terminal value in the year n, and k is the adequate discount rate considering the cash flow's risk.

Lee (2013) divides the value of a corporation into two distinct parts: future cash flows' present value within a particular forecast period and future cash flows' present value over that period, acknowledged as terminal value. Damodaran (2006) suggests that we consider the firm's size, current growth rate, surplus returns, and the extent and stability of competitive advantages to determine the length of the forecast period.

Damodaran (2011) defines the discount rate as a combination of the foreseen real return, anticipated inflation, and compensation for cash flow uncertainty.

Furthermore, two different approaches to DCF valuation can address this matter, as detailed in the following sections. As Damodaran (2012) claims, the first values the entire company, whereas the second evaluates only the equity side.

1.2.1. Firm Valuation Models

1.2.1.1. Free Cash Flow to the Firm (FCFF)

Fernandez (2013) defines Free Cash Flow (FCF) as the after-tax operational cash flow without considering interest and principal debt payments.

In a nutshell, it is the cash flow to stockholders if the company has no financial obligations and consequently no financial expenditures. According to Fernandez (2013), it is possible to compute FCFF by the following formula:

$$FCFF = After - tax\ operating\ income - (Net\ Capital\ expenditures + Change\ in\ non - cash\ working\ capital) \quad (2)$$

1.2.1.2.Terminal Value

Due to the rising uncertainty of the forecasted variables over time, we only perform a projection of specific cash flows within a particular period. Consequently, estimating a value in perpetuity is required because the promise of the company's continued growth further than the discounted period is of particular interest to every investor.

As for the terminal value, Gilbert (2013) claims that its estimation is the most critical element of the DCF methodology since it often accounts for more than half of the firm's worth. According to Bilych (2013), the two most widely applied models for its calculation are the residual value, used when the firm or its assets are liquidated, and the steady growth approach. The latter suggests the company will sustain growth trends following the explicit forecasting window.

This perpetual growth rate cannot surpass the mean of the industry's long-term expected growth rates, based on the premise that no firm can grow permanently faster than the economy where it works (Damodaran, 2006). If the cash flow stream's growth rate remains constant over time and is smaller than the discount rate, then:

$$Terminal\ Value_t = \frac{FCF_{t+1}}{r - g_{Stable}} = \frac{FCF\ \times (1+g)}{r - g_{Stable}} \quad (3)$$

Where:

r is the discount rate, and g is the perpetual growth rate.

1.2.1.3.Weighted Average Cost of Capital

Brealey *et al.* (2011, p. 216) define the company cost of capital as "the expected return on a portfolio of all the company's existing securities."

The author describes an approach for measuring the company's value by discounting its FCF with the Weighted Average Cost of Capital (WACC). Accordingly, determining the WACC can be achievable by weighing the contribution debt and equity costs in terms of how they finance the firm:

$$WACC = r_e \frac{E}{D+E} + r_d \frac{D}{D+E}(1-t) \quad (4)$$

Where:

r_e is the required return to equity, r_d is the cost of debt before tax equal to the required return to debt, E is the market value of the equity, D is the market value of the debt, and t is the corporate income tax rate.

Parrino (2013) contends that the fundamental assumption, once applying the WACC, lies in how the entity's assets will be financed over the foreseeable future. Moreover, the author defends this methodology for big, listed companies with a steady capital structure, given that WACC assumptions stabilize the project's business risks and debt-to-value ratio until the project's end of life.

1.2.1.4. Cost of debt

Regarding debt costs, the company's credit quality and present market conditions dictate the spread beyond the risk-free rate the firm incurs for its borrowing. Brealey *et al.* (2011, p. 216) describe the cost of debt as "the opportunity cost of capital for the investors who hold the firm's debt."

Allman (2010) affirms that firms favor debt over equity because the latter is less expensive. The first reason is a tax benefit; the effective debt rate is lower because the taxable income does not comprise debt interest. This effect is known as the debt tax shield. Furthermore, debt is safer and has a higher liquidation priority, so it cannot demand as much compensation for risk as stock investors. Consequently, the cost of debt is smaller relative to the firm's cost of capital.

According to the author,

$$Cost\ of\ Debt = Pre - Tax\ Debt\ Interest\ Rate * (1 - Tax\ Rate) \quad (5)$$

1.2.1.5. Cost of equity

Because equity holders receive only rights to the residual cash flows, equity is riskier than assets, ultimately leading to a cost of equity that exceeds the cost of capital. (Brealey, Myers, & Allen, 2011).

1.2.1.5.1. Capital Asset Pricing Model (CAPM)

Among the most feasible methodologies for measuring the cost of equity is the CAPM by applying the equation below:

$$r_e = r_F + \beta(r_M - r_F) \tag{6}$$

Where:

r_F is the risk-free rate, β is the share's beta, r_M is the expected market return, and $(r_M - r_F)$ is the market risk premium.

As Womack *et al.* (2003) described, the CAPM measures the correlation of an asset's beta with its projected return. This model asserts that an asset expects to yield a risk-free rate strengthened with a risk premium as compensation for undertaking risk exposure. The market risk premium measures the additional return investors need to invest in a moderate-risk investment rather than opting for a risk-free alternative.

Covariance can quantify the risk that an asset introduces to a market portfolio. According to Damodaran (2006), it is vital to standardize this risk through the equation below, yielding the beta:

$$Beta\ of\ an\ asset\ i = \frac{Covariance\ of\ asset\ i\ with\ market\ portfolio}{Variance\ of\ the\ market\ portfolio} = \frac{Cov_{im}}{{\sigma^2}_m} \tag{7}$$

The beta is a numerical figure reflecting the concept that highly covariant assets with the market are more responsive to market signals, thus capturing all market risk.

This model considers that investors are only concerned with expected returns and volatility. Consequently, a single common risk factor is assumed—specifically, systematic market risk, leading to volatility resistant to diversification efforts. According to numerous practitioners, additional risk factors considerably impact expected returns.

As a result, researchers Eugene Fama and Ken French observed that beyond market risk, the factors of size and value had a key role in reflecting the realized gains of exchange-listed equities. These factors quantify the additional gains that investors receive compared to their CAPM

estimated returns for investing in stocks of companies with smaller market capitalizations and higher book-to-market values. These characteristics are captured by the SMB and HML factors, respectively (Fama & French, 1992). However, as Bartholdy and Peare (2002) argue, practitioners do not widely use this model because, while it has more substantial explanatory power, the extra gain does not warrant the workload necessary to integrate two additional factors.

1.2.1.6. Adjusted Present Value

Presented by Myers (1974), this approach replaces the WACC in the DCF methodology as it unbundles value components and analyzes each one individually instead of including all the outcomes associated with financing decisions within the computation of the discount rate.

So, this method is more effective when inferring that the company has a specific capital structure is not feasible. One of the most significant advantages of the Adjusted Present Value (APV), as per Damodaran (2006), is the possibility to split the debt implications and hence apply different discount rates for each element.

According to Parrino (2013), achieving the firm's unlevered value is feasible by applying the unlevered cost of capital, that is, the cost of equity if the firm has zero debt, to discount its FCF. In addition, the author provides a way to compute the unlevered WACC by adding the risk-free rate to the asset beta multiplied by the market risk premium.

Finally, summing the firm's unlevered value to the current worth of the gains and expenditures that arise from debt is needed to determine the APV of the firm.

Damodaran (2006) argues that tax advantages can be calculated under this formula if a constant tax rate is assumed and that tax savings are seen in perpetuity:

$$Value\ of\ tax\ benefits = \frac{(Tax\ rate)(Cost\ of\ debt)(Debt)}{Cost\ of\ debt} = Tax\ rate * Debt \qquad (8)$$

On the other hand, determining borrowing costs involves multiplying the likelihood of bankruptcy by the discounted value of the associated bankruptcy expenses.

However, according to Bilych (2013), evaluating the firm's bankruptcy expenses and the likelihood of bankruptcy becomes a challenging exercise in practice. Furthermore, it implies that the corporate income tax rate will remain unchanged and that growth will be steady for the forecasted period and beyond, which is unlikely.

1.2.2. Equity Valuation Models

1.2.2.1.Free Cash Flow to Equity (FCFE)

Fernandez (2013) states that the Equity Cash Flow (ECF) can be derived by deducting the principal and interest payments after tax from the FCF and incorporating the new debt.

Therefore, the FCFE quantifies the cash flow available to common stockholders after taxes, reinvestment requirements, and satisfied debt cash flows, as reflected in the following formula:

$$ECF = FCF - [interest\ payments \times (1 - t)] - principal\ repayments + new\ debt \quad (9)$$

According to the author, the worth of the company's equity can be evaluated by applying the cost of equity (r_e) as the discount factor to the ECF, which represents the expected yield demanded by the firm's shareholders for the funds they pledged to the company.

Damodaran (2011) argues that the significant distinction is that the FCFE occurs after debt cash flows, whereas the FCFF occurs before.

So, in a practical scenario where the company's debt ratio remains continuous across time, the FCFE produces an equivalent outcome as applying a discount to cash flows using the WACC and eliminating debt (Brealey, Myers, & Allen, 2011).

1.2.2.2. Dividend Discount Model

When acquiring a company's stock, the investor expects to receive dividends during the investment period and a given amount once he decides to sell. Considering the prior is also determined by future dividend payments, the stock's worth can be inferred to be the present value of the estimated dividends in perpetuity (Damodaran, 2006):

$$Value\ per\ share\ of\ stock = \sum_{t=1}^{t=\infty} \frac{E(DPS_t)}{(1 + k_e)^t} \quad (10)$$

Where: DPS_t is the anticipated dividend per share for the given period t; and k_e is the cost attributed to the equity.

Because dividends cannot be forecasted indefinitely, analysts have developed alternatives based on different premises over time.

The most straightforward methodology is the Gordon growth model, which links the firm's value to the projected dividends for the forthcoming year, the firm's cost of equity, and the anticipated steady dividend rate of growth (Damodaran, 2006):

$$Value\ of\ stock = \frac{DPS_1}{k_e - g} \tag{11}$$

Where:

DPS_1= Projected dividends for the upcoming year; k_e = Required rate of return expected by equity holders; g = Perpetual dividend growth rate.

When a firm, on the other hand, has high growth prospects, it is feasible to apply a non-steady growth rate and afterward shift to a constant long-term growth rate. This is achievable with the Two-Stage DDM:

$$P_0 = \sum_{t=1}^{t=n} \frac{DPS_t}{(1 + k_{e,hg})^t} + \frac{P_n}{(1 + k_{e,hg})^n} \tag{12}$$

Where:

DPS_t= Antecipated dividends per share for a given year t; k_e = Cost of equity (hg: high-growth period; st: stable-growth perid); P_n= Price (terminal value) at the end of year $n = \frac{DPS_{n+1}}{k_{e,st} - g_n}$; g_n= Perpetual constant growth rate forever after year n.

1.3. Economic Value-Added Model

Stern Stewart & Company pioneered the principal and widely used excess return model, termed the Economic Value Added (EVA) Model.

The EVA quantifies the additional value derived from an investment based on its excess return. In this way, it is measured as the deviation between the Return on Invested Capital (ROIC) and the cost of capital:

$$\begin{gathered} EVA = (Return\ on\ invested\ capital - Cost\ of\ capital) \times Capital\ invested\ = \\ After - tax\ operating\ income - (Cost\ of\ capital)(Capital\ invested) \end{gathered} \tag{13}$$

1.4. Relative Valuation

According to Koller *et al.* (2015, p. 351), "The basic idea behind using multiples for valuation is that similar assets should sell for similar prices."

The projected performance of the comparable firms is the basis for relative valuation. Therefore, when selecting a multiple, the target company's value is deduced by the market multiples attributed to its peer firms (Lee, 2013).

Koller *et al.* (2015) claim that multiple analyses can identify performance gaps in a company's performance relative to its competitors, verify the accuracy of cash flow projections, and establish the best approach for maximizing value.

Additionally, Frykman *et al.* (2003) highlight the simplicity and quickness and how it complements other valuation techniques that standalone has a lot of potential for error.

For Lee (2013), understanding each multiple's drivers is the first stage. Furthermore, thoughtfully find suitable firms based on those key factors and choose them as the peer group. Following that, we must accommodate for company differences, determine the ratio of peer firms, and then employ this ratio to our company variable to estimate the company value (Frykman & Tolleryd, 2003).

However, Damodaran (2012) cautions about certain drawbacks of the application of multiples. Specifically, evaluating distinct firms without clear peer firms, no revenues, and negative earnings is challenging. The author also mentioned that this kind of valuation is affected by market errors when evaluating comparable firms, such as over or undervaluation. Yet, it reduces the risk of misvaluing the company compared to peers as it reflects the current market environment.

To address these limitations, Fernandez (2019) recommends the implementation of multiples only as a second valuation approach after having the valuation results using a different model.

1.4.1. Comparable Multiples

Furthermore, Fernandez (2019) divides the most frequently used multiples under three main categories, which can be seen on Appendix A- Three main categories of Multiples according to Fernandez (2019).

Damodaran considers that revenue multiples get an advantage against earnings or book value multiples as these allow for easier comparison of businesses from various markets with different accounting systems and standards in place.

1.4.1.1. Multiples based on the company's value

As Koller *et al*. (2015) argue, Enterprise value-to-sales (EV/sales) multiples are particularly helpful in evaluating companies with unpredictable or negative earnings. In this case, the choice of comparable firms relies on criteria that generate disparities across entities in the EV/Sales ratio, such as anticipated profitability, expansion potential, and the cost of capital (Bhojraj & Lee, 2002).

According to Fernandez, one of the most common multiples that analysts use is EV to Earnings before interest, taxes, depreciation, and amortization (EBITDA). This ratio yields better results when comparing entities with differing levels of financial leverage (Vishwanath, 2009).

Nonetheless, EBITDA has significant shortcomings as it doesn't consider shifts in working capital needs or capital investments (Fernández, 2002).

Conversely, Koller *et al*. (2015) argue that the optimum multiple to compare organizations for most practitioners is the EV/EBITA multiple, computed as follows:

$$\frac{EV}{EBITA} = \frac{(1-T) \times (1 - \frac{g}{ROIC})}{WACC - g} \tag{14}$$

Where:

EBITA represents the Earnings before interest, taxes, and amortization, T is the company's operating tax rate, and g represents the growth.

The equation presented above illustrates that the EV/EBITA multiple is influenced by four key inputs: the firm's operating tax rate, ROIC, growth, and WACC. The last two will be comparable among peers if the choice is limited to domestic companies in the same industry.

As a result, Koller *et al*. (2015) defend that we should limit our selection to peers whose fundamental principles, such as production method, distribution channels, and Research and Development (R&D), result in similar long-term growth expectations and ROIC.

1.4.1.2. Multiples based on the company's capitalization

As accounting income is a more robust indicator for cash flows than sales, Vishwanath (2009), Cheng (2000), and Frykman (2003) claim that the P/E multiple is the preferred ratio among investors since it accounts for the stock's growth and risk.

$$\frac{P}{E} = \frac{Market\ Price\ of\ Share}{Earnings\ per\ share} \tag{15}$$

This multiple mirrors the market's perspective of a firm's growth potential. However, the benchmark chosen can skew the analysis since the earnings multiples are more likely to capture market moods and opinions concerning entire industries (Frykman & Tolleryd, 2003).

Given the Gordon DDM formula (Formula 11) and the understanding that the dividends per share for the upcoming year can be given by the current dividends inflated at a growth rate g, the DPS_1 can be construed as: $DPS_1 = (Current\ earnings * Payout\ Ratio) * (1 + g)$.

The intrinsic multiple is a function of the following:

$$P = \frac{(Current\ earnings * Payout\ Ratio) * (1 + g)}{(k_e - g)}\ (=)\ \frac{P}{E} = \frac{Payout\ Ratio * (1 + g)}{(k_e - g)} \quad (16)$$

As a function, as the g increases, the spread between the k_e and the g narrows, leading to a larger P/E multiple. The P/E multiple also increases when the expected return falls. Additionally, a company fully financed by equity will display a greater P/E than one financed with debt since this ratio is inherently linked to the capital structure (Koller, Goedhart, & Wessels, 2015).

The book value multiple represents the equity's market capitalization in proportion to the adjusted book value of assets subtracted from the adjusted book value of liabilities (Frykman & Tolleryd, 2003). Hence, we can use the following expression to calculate P/BV:

$$\frac{P}{BV} = \frac{market\ capitalization}{adjusted\ book\ value\ of\ total\ assets - adjusted\ book\ value\ of\ liabilities} \quad (17)$$

The author points out the stability of the outcome through time, its suitability for historical analysis, and its applicability even when businesses are experiencing losses or generating negative cash flows. Notwithstanding, accounting systems heavily influence book values and may not correctly represent the asset's real economic value.

1.5. Subscription-Based Companies Valuation

The valuation methods mentioned above have been developed over several decades and are easily applicable to various business models. However, many writers contend that it's also essential to look at other indicators to determine the health of an SBC.

As with every other financial asset, enterprises must evaluate, monitor, and maximize customers (Blattberg, Getz, & Thomas, 2001).

Damodaran (2018, p. 9) claims, "The value of a user-based company is the sum of the value of its existing users plus the value of any new users it will acquire over time."

As per Gupta *et al*., "It is increasingly apparent that the financial value of a firm depends on off-balance-sheet intangible assets" (2004, p. 7). The authors believe a company's most crucial intangible asset is its customers. Jain & Singh (2002) agree with Gupta *et al*. (2004) and also argue that the digital age has greatly increased the popularity of these models. The potential of these companies can be accurately valued by only considering the value of their intangible assets since most of them lack significant physical assets of value.

According to Bonacchi *et. al* (2010), client acquisition and exit are easily noticeable in this business. This is a very appealing feature since companies can analyze their customer base's composition and profit potential.

Four variables primarily influence these companies' businesses: Average Revenue per User (ARPU), cost of acquiring each client, cost of service, and customer turnover rate (Bonacchi, Kolev, & Lev, 2010). Knowing and comprehending the idea of Customer Lifetime Value (CLV) is critical when working with this kind of valuation. According to Pfeifer *et al*. (2005), this concept is a prospective measure that sums up the current valuation of a customer's forthcoming profitability to the company across the entire customer life cycle.

Kumar *et al*. (2007) define CLV as the total DCFs at a customer's WACC throughout their relationship with the firm.

In Gupta *et al*. (2004) research, it is shown that it is possible to value a company through customer evaluation, even for prosperous companies with negative income.

In a nutshell, the value of a company's client base determines its stock market capitalization. We obtain this by adding the lifetime benefits of its existing and potential customers (Gupta, Lehmann, & Stuart, 2004), utilizing the following formulas:

$$LV_k = \frac{n_k}{(1+i)^k} \sum_{t=k}^{\infty} m_{t-k} \frac{r^{t-k}}{(1+i)^{t-k}} - \sum_{k=0}^{\infty} \frac{n_k c_k}{(1+i)^k} \tag{18}$$

$$Value_0 = \sum_{k=0}^{\infty} [LV_k] = \sum_{k=0}^{\infty} \frac{n_k}{(1+i)^k} \sum_{t=k}^{\infty} m_{t-k} \frac{r^{t-k}}{(1+i)^{t-k}} - \sum_{k=0}^{\infty} \frac{n_k c_k}{(1+i)^k} \tag{19}$$

Where:

LV_k= The kth cohort's lifetime value at time 0; m_t= margin produced by a customer at time t; i= Period discount rate; r= Period retention rate; n_k= Number of customers acquired at time k; c= acquisition cost per new customer; t= Time Period.

It is clear that one can determine the firm's value by computing the current value for every customer's revenue stream- that is, the produced margin- for an infinite period. For this, it is vital to separate them into cohorts, given that the company builds its clientele over time.

According to its study, customer equity is a reliable stand-in for a company's market cap.

Gu (2017) defends that the best way to evolve customer franchises and retain current consumers lies in franchise development initiatives such as customer acquisition, content creation, design and engineering, brand development, and R&D. The author's work simplifies the process of obtaining market valuation. The customer value is determined using the following equation:

$$Customer\ Value = Average\ Customer\ Duration \times Gross\ Margin\ per\ user \times New\ Customers \quad (20)$$

The gross margin per user is achievable by subtracting the ARPU from the average operating expenses per user, net of expensed investments in strategic assets per user. ARPU is a non-GAAP indicator designed to evaluate a company's ability to produce revenue per client over a specific period. This indicator is generated by dividing total revenue by the quantity of MAUs.

The average customer duration is calculated as 1/Churn Rate. Churned customers are those who discontinue using a company's services. The percentage of consumers that cease doing business with a company in a specific time frame is known as the churn rate[1].

In the author's work, we can achieve the EV at the end of the forecasting period by multiplying these three variables. To obtain the price target, it is required to bring the EV to the present value, applying the discounting factor selected up to the year of the valuation and dividing it by the number of shares outstanding.

Despite several CLV models have been developed, there is no widely considered preferable method (Jain & Singh, 2002). The authors assert that to accurately estimate CLV, further research and empirical validation are necessary, as all these models have limitations. These limitations are based on variables such as the volume of cash inflows generated by a customer, the temporal distribution of cash flows, or the model's suitability to specific business contexts.

Damodaran (2018) adds that since these models presume that all users are of identical value, which is not the reality, one of the primary issues with this evaluation is the lack of user diversity and the companies' lack of information disclosure about their users.

[1] Obtained by dividing the count of churned customers during a designated timeframe by the initial total customer count.

2. Company Overview

A subscriber-based company requires customers to pay a subscription for access to goods or services. Spotify is currently the largest SBC in the audio-streaming and podcasting sector. This chapter aims to outline its background and business model.

2.1. Company History

Spotify nowadays provides digital copyright-restricted soundtracks and podcasts. As a small start-up with its headquarters in Stockholm and the motto "Music for Everyone," it was formed in 2006 by two young entrepreneurs, Daniel Ek and Martin Lorentzon.

This business idea was primarily motivated by the need to address the escalating piracy problem that the music industry was encountering. The music industry was in transition at the time due to the emergence of file-sharing websites like Napster and Limewire, which made it simple for users to download and distribute music for free. This resulted in a decrease in physical CDs and other conventional formats purchases.

The platform debuted as a desktop application in October 2008 and offered a free monthly subscription that included advertisement campaigns. The campaign aimed to encourage music listeners to upgrade to a $10 monthly subscription without advertisements.

By 2009, in reaction to the proliferation of smartphones, the company took the initiative to rebuild itself by releasing a mobile application. Following its meteoric rise to fame, Spotify surpassed one million paying subscribers in 2011. It was released in the United States (US) market, a critical market previously proving difficult for international music streaming companies to penetrate.

These factors led to negotiating deals with major record companies and the start of competition with well-known music streaming services like iTunes, Amazon Music, and Pandora. Following market consolidation, partnerships with the most prominent social networks, like Facebook and Instagram, strengthened the company's connection to its customer base.

To provide artists and their teams access to audience data and tools to boost their music, it launched "Spotify for musicians" in 2013, aiding them in broadening their exposure.

The family plan was released by Spotify in 2014, allowing two or more premium customers to manage their own Spotify accounts on a single subscription.

The company expanded podcasting to all users in the same year in response to the market's increasing popularity of the format. In addition, by incorporating adverts within podcasts, the company aims to boost revenue since it retains listeners for longer.

Spotify has 10,151 full-time employees worldwide, as stated in its 2022 Q4 Report. According to the same report, Spotify has 489 million MAUs, of which 205 million are premium subscribers, operating in 184 countries and regions.

2.2. Business Model Strategy and Innovation

The company uses a freemium business model and is accessible online and offline. Thanks to this concept, the platform has attracted millions of new music fans, making the streaming music services accessible to nearly everyone with a desktop or mobile device. Given this, its primary sources of revenue are from two sources: sales of advertising time for the non-premium service and premium subscriptions.

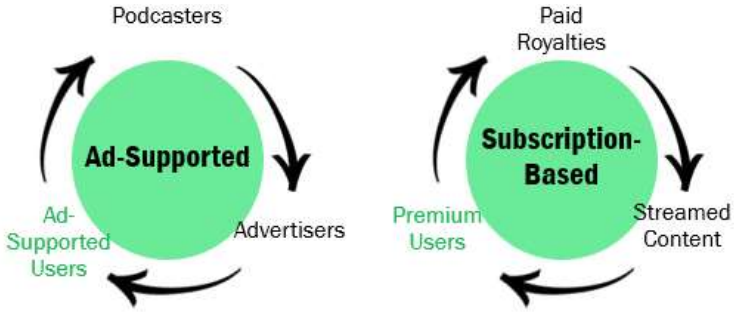

Figure 2.1- Spotify's business models

Source: Own Elaboration

The business acquires the licenses from the creators, publishers, or other right holders and afterward applies a sophisticated algorithm to calculate the per-stream royalties paid to the artists.

As per Porter's Generic Strategies model, Spotify practices the generic differentiation strategy since it sets itself apart from its peers by offering users tailored playlists and music recommendations. Furthermore, it sells to a broad market segment, allowing it to expand its global network.

To that purpose, the company invests substantially in R&D to improve the playlist experience by gathering an individual comprehension of the phases in users' lives, thereby gaining a competitive advantage.

The path Spotify took to become public stands out as innovative. The company pioneered direct listing, which let it list its securities without issuing additional shares, raising additional funds, or using intermediaries in the finance system. Current shareholders are instead given the option, but not the obligation, to freely sell their shares on the stock market transparently.

Spotify also distinguishes itself through digital and data-driven innovations. Spotify incorporates artificial intelligence and machine learning for its highly developed features and supplementary products. For instance, the business uses Artificial Intelligence (AI) based tools to build personalized playlists and persuasive recommendations for each user to improve user experience.

2.3. Shareholder and Ownership Structure

Around 193 million Spotify shares were outstanding as of December 31, 2022, possessing a market capitalization of approximately $15 billion.

As indicated by the 2022 Q4 Report, five principal shareholders jointly own about 59% of the corporation and have 82% of the voting power.

The CEO, co-founder, and chairman Daniel Ek comes out among them with 31.9 million ordinary shares, followed by co-founder and director Martin Lorentzon with 21.5 million shares and investment management company Baillie Gifford & Co. with 27.9 million shares. Spotify's significant stakeholders can be seen in Appendix B- Major Stakeholders.

2.4. Stock Performance

The company debuted on the New York Stock Exchange (NYSE) on April 3, 2018, under the ticker SPOT through a direct listing of its shares at an opening trading value of $165.90 per share, which was 25.7% more valuable than the NYSE reference price announced to the market beforehand. However, the share price closed at $149.00, dropping more than 10% from the day's opening price.

Throughout 2020, the price of Spotify shares nearly doubled, with a 108% rise. The publication of new podcast deals, partnerships, new platform features, and analyst-pleasant coverage ratings contributed to this rise.

Its all-time closing high was $364.59 on February 19, 2021. However, the share price fell by 25% throughout 2021. Lower-than-anticipated gross profit margins, slower MAU growth due to

higher subscription costs, and more media controversy surrounding Spotify's #1 podcast, The Joe Rogan Experience, were the major causes of this drop.

During 2022, the price of stocks fell roughly 66% year to date, which the company attributed to a large publishing deal outside the US and a decrease in ad spending, given rising inflation and higher interest rates.

Given the negative nature of its income, diluted Earnings Per Share (EPS)[2] have been negative since its Initial Public Offering (IPO).

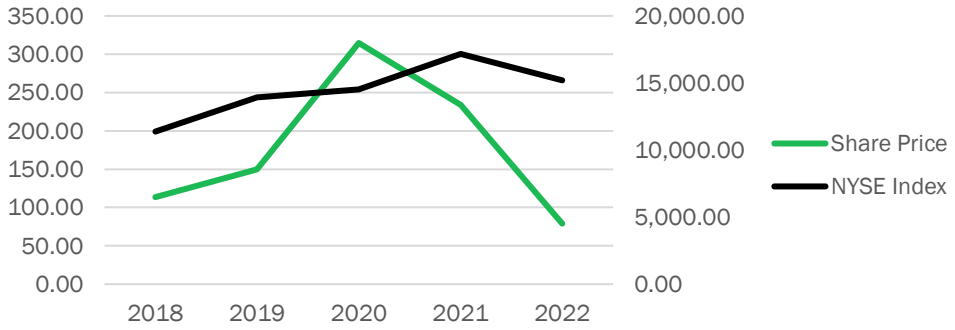

Figure 2.2- Spotify's Share Price versus NYSE stock performance (in US$)

Source: Yahoo Finance

2.5. Exchange Rate Exposure

The company is vulnerable to this risk since Spotify pays its employees, rent, and other operational costs in local currencies. The company primarily generates revenues in local currencies, using US dollars and euros as the royalty payment currencies. Since exchange rate movements severely influence currency conversions, this causes a considerable impact on margin and operating results. The company uses hedging techniques, namely forward and option contracts for foreign exchange, to mitigate exchange rate risk exposure.

The rise in the Euro's value compared to other currencies in 2022 had a positive net effect on its revenues. According to its Annual Report, if the foreign exchange rate had remained equal between 2021 and 2022, Spotify would have lost almost €682 million in revenue. However, if rates remained the same, it was projected that the cost of revenue would decrease by €523 million.

[2] Metric used to assess how well a company's EPS would perform if all convertible instruments had been exercised.

3. Macroeconomic Outlook

The debut of Spotify collided with the US's long-lasting, great recession, which decreased global financial markets' liquidity significantly and lasted until 2009. Since then, the global economy has recovered in developed and developing markets. However, in 2019, the slowdown in domestic investment and trade conflicts among the major trading partners contributed to the worst economic growth in a decade.

In 2020, the virus lowered global economic growth to -3.2%, with global trade dropping 5.3%, killing the businesses of many small and medium-sized businesses, entrepreneurs, and young artists. As a result, investors started liquidating their stock holdings in favor of safe-haven assets, namely treasury securities, whose yields dropped to historic levels. The S&P500 index lost 26.11% of its value in the year's first three months.

In a move reminiscent of the economic downturn during 2008–2009, central banks employed many monetary policies to inject liquidity into their economies. According to the World Bank, the epidemic forced an unprecedented 97 million people into poverty in 2020, destroying three to four years of progress toward reducing extreme poverty. The US suffered a record-high unemployment rate in April 2020 of 14.8%.

Gross domestic product (GDP) growth rates exceed pre-pandemic levels in 2021, with a 6.3% return, thanks to vaccine manufacture and delivery advances and a significant recovery in exports. In addition, global consumer confidence hit an all-time high of 115 in the fourth quarter of 2021, spurred by rising confidence in Asia, some regions of Latin America, and the Gulf Cooperation Council (GCC) countries.

However, the economies that continued to suffer with high levels of COVID-19, delaying a full recovery to economic activity and intensifying inflationary pressure, outweighed this figure.

The global economy has slowed since the 2021 recovery. The most significant army buildup in Europe since World War II occurred when Russia invaded Ukraine on February 24, 2022. Due to the war's disturbances in international supply chains, severe food and labor crises escalated commodity prices and prompted central banks to constrict monetary policy.

The cost-of-living crisis in multiple countries got worse by the year 2022's tighter financial conditions, increased trade tensions, and ongoing inflation. Global growth dropped by 2.9 percentage points, ending at 3.4% growth in 2022. Growth of 2.8% is forecast for 2023, remaining

below trend. Aside from the worldwide financial crisis and the severe period following the COVID-19 epidemic, this is the most detrimental growth trend since 2001.

In line with global trends, the euro area growth in 2022 was 3.5%, while US growth was 2.1%. The Consumer Price Index (CPI) in advanced economies outside the US was 137.7 in December 2022, while 262.7 in emerging economies, representing 6.8% and 7% growth rates, respectively. The global inflation rate for the same year was 8.75%.

With opportunities arising from a recovery in international trade, a rising population, and an emphasis on innovation, emerging markets saw higher growth after the global recession brought on by COVID-19. In 2022, emerging-market GDP expanded by 4% over the previous year, outpacing developed markets. In addition, rising commodity prices have benefited commodity-exporting economies' trade arrangements.

The GDP of China grew by 3% in 2022 and is anticipated to grow by 5.2% in 2023, recovering rapidly after reopening its economy. Industrial production, exports of manufactured goods, and low-wage labor are the foundation for this expansion.

The World Bank states a 29.2% GDP decline for Ukraine and a 2.1% decline for Russia in 2022. Netflix, Deezer, Hearst Communications, and many others were among the 311 companies that shut down their Russia operations.

In the case of Spotify, the firm closed its headquarters and suspended services but still authorized Russian musicians to use the platform. On the other hand, Apple stopped selling its goods and services in Russia after its debut in the summer of 2020. Spotify acknowledged losing 1.5 million subscribers in 2022 upon abandoning Russia in its earnings disclosure and forecasted a loss of 2 million.

In post-war forecasts compared to pre-war projections from February 2022, the world inflation rate for 2022 grew by 2.9%, while the global inflation rate for 2023 climbed by 1.9%, according to Statista. Given the uncertainty of the war's future, it might still enhance geopolitical risk and exacerbate its financial implications. The International Monetary Fund (IMF) reveals an 8.7% worldwide inflation rate for 2022, with record-breaking increases in food and energy costs brought on by the pandemic and pushed worse by the Russian invasion.

Appendix C - Real GDP Growth (Annual Percentage Change) and Inflation rate, average consumer prices (Annual Percentage Change) present the IMF's projections for these metrics through 2026.

4. Industry Overview

4.1. Music Streaming Industry

Digital music is the supply of audio material to the listener over the internet, changing how people consume music by favoring availability and convenience over ownership.

According to the Global Music Report 2022[3], the worldwide recorded music market climbed 9% in 2022, with revenues reaching $26.2 billion primarily due to growth in subscription streaming.

Music streaming sales hit an all-time high of $17.5 billion worldwide in 2022, accounting for 67% of recorded music earnings and reflecting an 11.5% increase from the previous year. Of these, 48.3% of this milestone is generated from paid subscriptions, while 18.7% arrives from advertising-supported streaming.

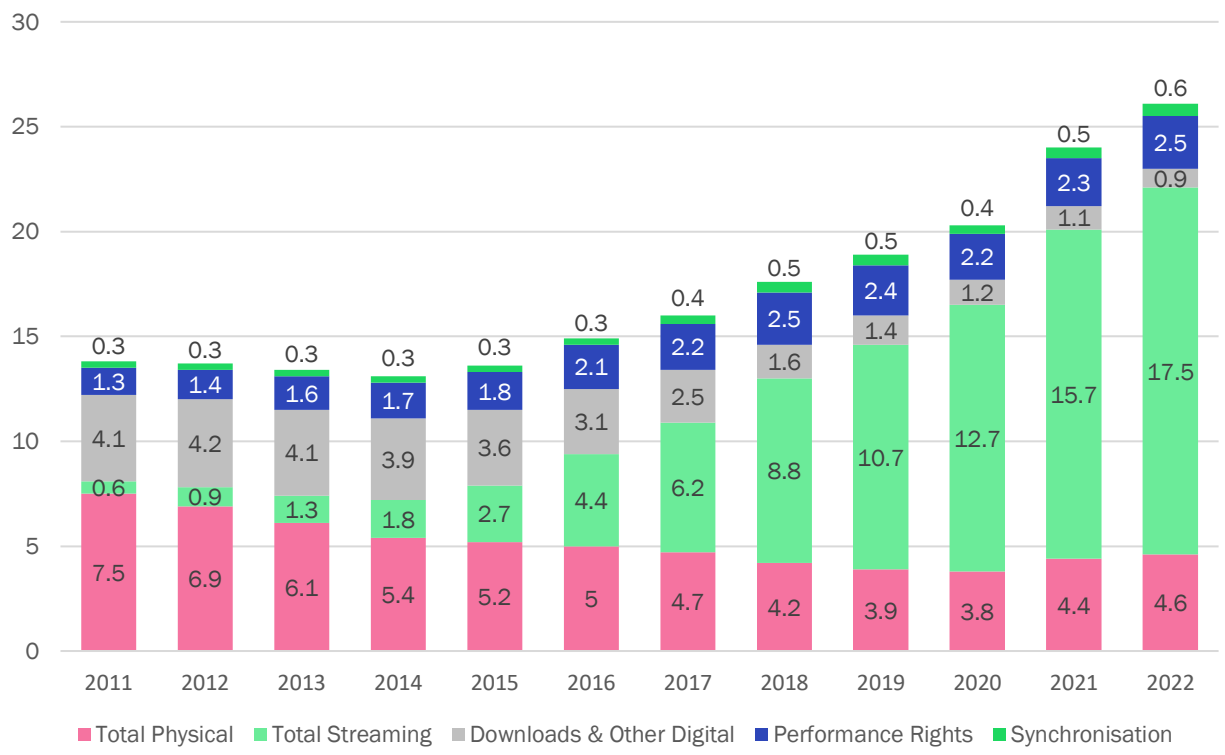

Figure 4.1- Global recorded music industry revenues 2011-2022 in US$ Billions

Source: IFPI Global Music Report 2023

[3] Annual report released by International Federation of the Phonographic Industry (IFPI) that offers an overview of the global recorded music business.

The graph above shows that these revenues have increased more than 19 times over the past ten years. It is also possible to observe that the start of the streaming boom era aligns with that of Spotify, precisely in 2011.

Streaming music took over as the industry's primary revenue generator in 2017 and has continued to gain popularity.

Due to customers' shifting consumption patterns, downloads and other digital formats were the only channels to see a decline in revenue, which was -11.7% lower than the prior year. This percentage illustrates how technology changes and the internet's influence on music consumption patterns led to a shift in revenue sources from physical to digital formats.

Despite music companies' efforts to fight music streaming piracy, it still represents a significant threat to the music industry. The number of people who listen to music illegally or without a license has decreased, but 30% of people still do so, according to the IFPI Engaging with Music Report 2022, which indicates that many music fans can become music streamers.

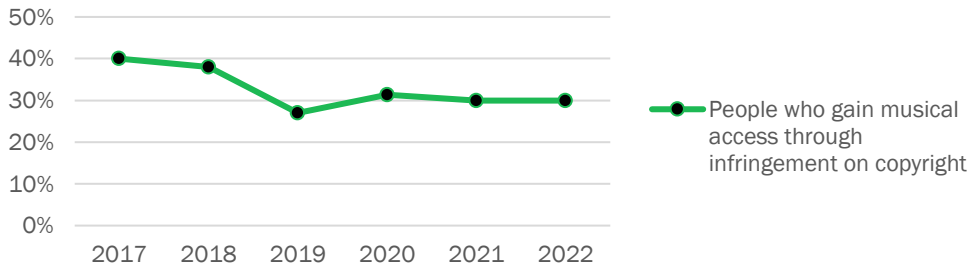

Figure 4.2- The proportion of music consumers that obtain or listen to music through copyright violations
Source: IFPI Engaging with Music Report 2017-2022

Despite music sales having risen globally, the Sub-Saharan Africa region saw the sharpest increase in 2022, with a 34.7% growth supported by a 31.4% increase in sales in South Africa, the largest market in the region. Latin America had the second-highest growth rate at 25.9%, with growth in Brazil and Mexico as major contributors. In the US, streaming income amounted to 84% of all recorded music revenues in 2022, with paid subscriptions accounting for 77% of those income. Furthermore, with 92 million paid music subscription accounts, the US is globally recognized as the largest nation for recorded music.

In 2022, the total number of paid subscription accounts surpassed 500 million for the second year. The IFPI reported 589 million users, 66 million higher than in 2021.

MIDiA projections state that by 2030, total recorded music revenues will ascend by 72% versus 2021 figures, with streaming responsible for 82% of that income. Furthermore, it is foreseen that between 2021 and 2030, user growth in Europe and the US will only account for 23% of the combined growth. From 2022 to 2030, music streaming in the US is predicted to rise at a 14.7% Compound Annual Growth Rate (CAGR).

Considering the $12.6 billion paid streaming income in 2022, the average revenue per paid user (ARPPU)[4] reached roughly $21.42 per year, or $1.78 per month.

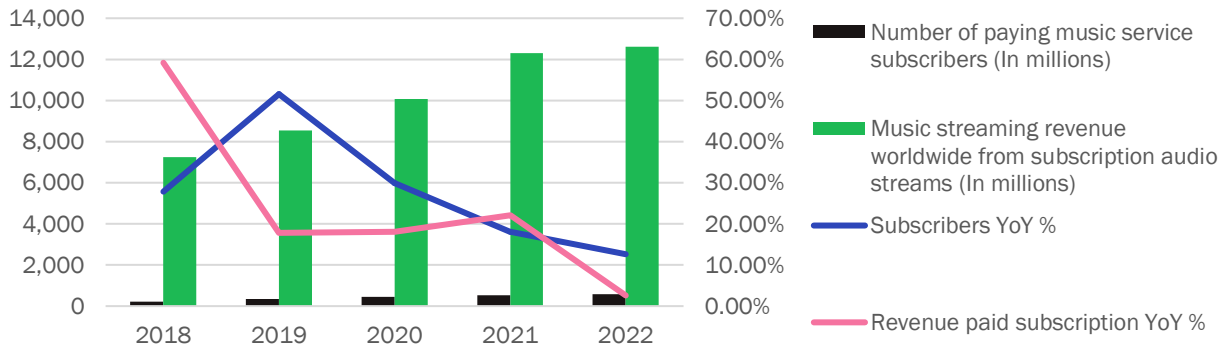

Figure 4.3- Number of paying music service subscribers versus music streaming revenue worldwide from subscription audio streams (In million US$)) and their YoY %

Source: IFPI Global Music Report, Statista, and Own estimates

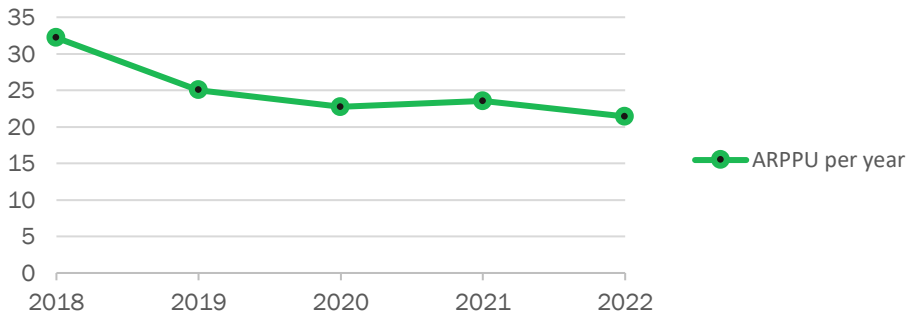

Figure 4.4- ARPPU worldwide annually in the paid subscription music streaming market

Source: Own Estimates

The two graphs above demonstrate that over the past five years, the ARPPU has remained consistent, evolving in the years in which paid streaming revenues expanded more quickly than

[4] The only users that are included in this metric are those who have made a financial contribution to the business, unlike the ARPU metric, which includes all customers.

paying online music service subscribers, particularly in 2021, and falling in 2018, 2019, 2020 and 2022, in which the growth in subscribers outpaced the growth in revenues.

Until 2025, according to Statista, this figure will not continue to increase. This happens due to the increased use of multi-user subscriptions, promotional efforts such as student and family plans, and the exponential increase in users in emerging regions, resulting in subscriber growth outpacing revenue increases.

4.2. Competitors

Porter's Five Forces model is one of the most popular methods for examining a business's operating environment and competitive landscape. Porter (1979) asserts that five fundamental components make up an industry's competitive dynamics and that these components work together to dictate the ultimate profit prospects within that industry. The design of this analysis method for Spotify is presented in Appendix D- Porter's Five Forces Analysis.

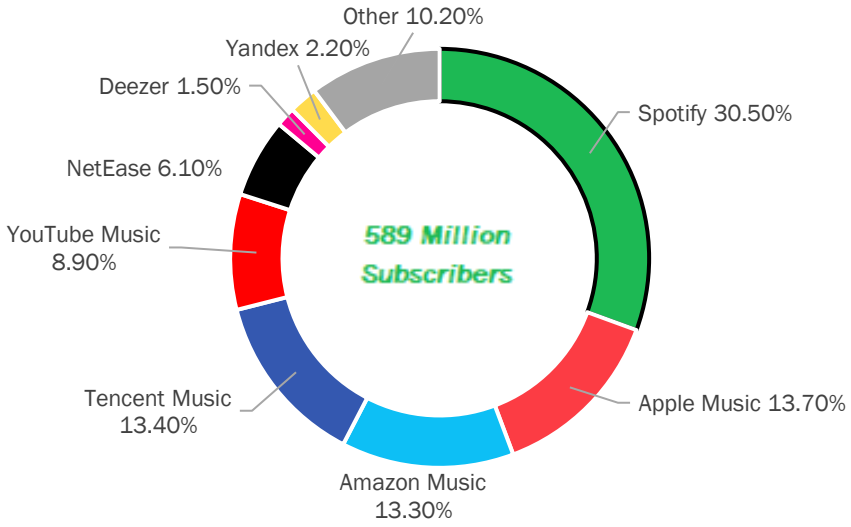

Figure 4.5- Global Streaming Music Subscription Market Share 2022

Source: MIDiA Research Music Subscriber Market Share Model 2022

Spotify maintains its market leadership with a 30.5% market share, more than twice as much as its closest competitor, Apple Music. Apple Music, launched in 2015, is a streaming service incorporated within Apple's ecosystem of devices and services.

Despite a reduction from 2021 (31%) and 2020 (33%), Spotify remains stable without presenting a risk of losing its dominant position in the foreseeable future. Due to the high concentration of competitors—the top 4 providers account for 71% of all subscribers—and the high number of competitors, Spotify operates in a highly competitive market. The expansion of the Chinese market, the second-largest subscriber market and where Spotify does not engage, significantly impacts Spotify's diminishing market share.

The highest subscriber increase was observed in developing markets, specifically Tencent Music Entertainment (TME) and NetEase Cloud Music, which increased their combined subscriber base by 21.7 million in 2022. TME, founded in 2013, is China's largest online music entertainment platform, with a market share of over 60%. This group made significant music industry acquisitions, including a minority position in Spotify through a 'stock swap' in 2017. Tencent Holdings Ltd held 8.6% of Spotify's total shares outstanding at the end of 2022, while Spotify owned 8.2% of TME's Total ordinary shares.

Amazon Prime Music achieved 74 million subscribers in 2022, ranking third in Western popularity for music streaming services. However, TME and NetEase surpassed Amazon Music, which, despite only being offered in China, combined accounted for 19.50% of the global market. In Russia, player Yandex doubled its subscriber base, gaining a 2.2% market share.

There are two types of competitors in this industry: independent services, such as Spotify and Deezer, and those vertically integrated into the top tech businesses, like Apple Music and Amazon Music, that have access to other income sources that streaming companies don't.

Spotify doesn't only compete with online music streaming services but also with other forms of music consumption. Examples include public performances on television (TV), online or offline distributors of on-demand music, such as MP3s or CDs, terrestrial and satellite radio distributors, live talks content, and providers of audiobooks.

As innovation now extends beyond the provision of music and with the advent of artificial intelligence, 5G connection, machine learning, and virtual reality in the future, the online music streaming market will expand due to improved accessibility and quality.

Unlike in most businesses, the outbreak of the COVID-19 epidemic has acted as a remarkable driving element in the worldwide online music streaming market since they adopt digital-based revenue structures that are not subject to supply chain frictions.

Regarding supply, streaming is the largest source of income for major record labels. According to a MIDiA Research, music streaming revenues increased at a CAGR of 25.77% during the past five years, accounting for $12.8 billion of the $19.6 billion in revenue generated by major record labels.

Spotify "Loud & Clear," a website that provides information on how Spotify calculates and pays streams, states that generally, Spotify pays around 2/3 of total income to right holders, of which 75% to 80% are paid to record labels and between 20% and 25% are given to music publishers. As an outcome, record labels receive 50–52% of their revenue.

Apple Music has stated that it pays 52% of its profits to all record labels. Most streaming services pay more than the two market leaders, such as Pandora, which pays record labels 57% of its revenue.

4.3. Podcasting Industry

The podcasting business has grown significantly over the last decade, with a rising number of people listening to podcasts daily, owing to increased accessibility and the number of high-quality, professionally produced programs.

During the pandemic, the podcast industry boomed since all outdoor activities turned into activities done at home. With the teleworking guidelines, this industry is expected to grow between 2022 and 2030 at 31.5% CAGR, with a market size of $20.14 billion in 2022, offering both new and existing businesses a significant chance for expansion.

According to a Statista analysis, there may be 504.9 million podcast listeners globally in 2024 as opposed to the 424.2 million recorded in 2022.

Spotify seized the chance to increase its market position in 2019 by purchasing two of the most popular podcasting platforms: Anchor and Gimlet Media. To enhance and broaden its podcast revenue, Spotify purchased Podsights and Chartable in February 2022 for a combined €83 million. As of the end of 2022, Spotify had more than 5 million podcast titles on the platform, making it a key player in the podcasting market.

5. Financial Statement Analysis

5.1. Business and Geographic Segments

The company operates in two segments: Premium and Ad-Supported.

Over 60% of Premium subscribers begin as Ad-Supported users, according to Spotify Shareholder letters. This number makes investing in all customers highly beneficial for the Spotify ecosystem. Moreover, they added that over 70% of users who discontinue their subscription to Spotify come back within 45 days via either the Premium or Ad-Supported experience.

Spotify's monthly churn rate reduced from 5.5% in 2017 to 3.9% in 2021. The emerging countries, where the firm has been operating for a shorter period, have a greater churn rate than mature markets. After three years, the churn rates of the developing markets reach the same position on the churn curve as the developed markets.

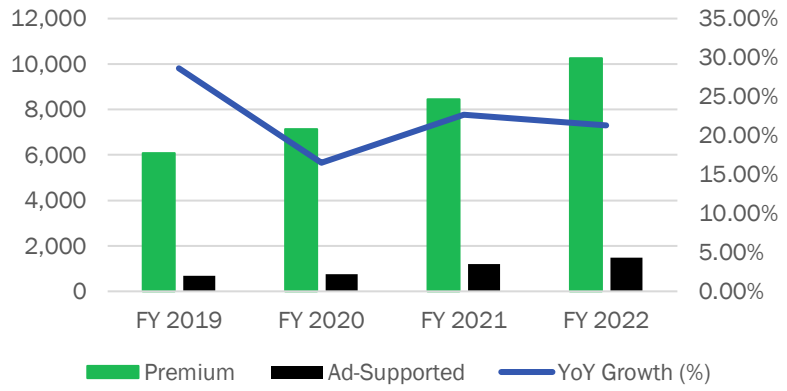

Figure 5.1- Spotify's evolution of revenues per segment in Million Euros (2019-2022)

Source: Spotify's Annual Report 2022

In the most recent fiscal year, Spotify's premium revenue made up about €10.3 billion (87% of total revenue). Ad-supported revenue represents the greatest percentage of total revenue ever at 13%. The category's 98% growth from 2020 to 2022 is primarily due to the increase in musical impressions sold and CPM[5], along with the COVID-19 detrimental effects on this segment in 2020.

[5] CPM is defined as the expenditure incurred by an advertiser for every one thousand ad impressions displayed on a web page.

According to Spotify, the Spotify Audience Network (SPAN)[6], introduced in April 2021, increased advertisers by four times and contributed to this increase through podcast advertising sales.

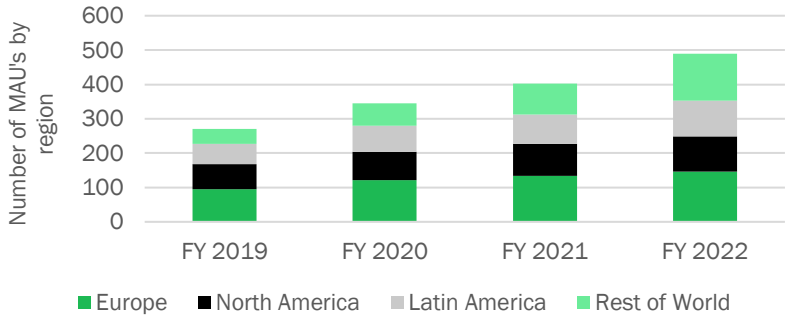

Figure 5.2- Spotify's progression of MAUs across different geographic segments (2019-2022)

Source: Spotify Shareholder letters

From the very inception of Spotify, Europe has led in the number of premium members, with a 40% share in the last four years.

Looking back at this evolution's history, in 2019, Spotify reached 100 million premium users. Even with the start of the pandemic and the lockdown periods, new and reactivated MAUs rose significantly in the key markets in 2020 as the company entered South Korea, Russia, and 12 other European regions, significantly increasing subscribers.

In 2021, the company strengthened significant marketing alliances, enabling multi-month trials that enhanced Spotify's visibility in a fiercely competitive sector.

Despite having the fewest paying subscribers, the "Rest of the World" region, understood by Asia, Middle East, and Africa (AMEA), has had the highest growth in MAUs, exceeding growth in more established regions - moving from representing 16% of the company's total MAUs in 2019 to representing 28% in 2022.

From 406 million MAUs globally in 2021 to 489 million in 2022, the rise of MAUs benefited from the outperformance in Latin America and the Rest of the World due to successful advertising initiatives. For instance, in an extended-term collaboration with FC Barcelona, the company will serve as the club's Primary Sponsor and Official Music Streaming Partner for the 2022–2023 season. Also, significant product feature releases like The Spotify Lyrics experience and content initiatives drove particularly important MAU growth in the Gen Z audience.

[6] SPAN is a marketplace for audio advertising that enables marketers to reach audiences through audience-based targeting techniques while also letting content creators monetize their work.

5.2. Profitability

Return on Sales	FY 2019	FY 2020	FY 2021	FY 2022
Gross Profit	1,722	2,015	2,591	2,926
Gross Margin (%)	25.5%	25.6%	26.8%	25.0%
Operating Income/ Operating Loss	-73	-293	94	-659
Operating Margin (%)	-1.1%	-3.7%	1.0%	-5.6%
Net Income/Net Loss	-186	-581	-34	-430
Net Profit Margin (%)	-2.7%	-7.4%	-0.4%	-3.7%

Table 5.1- Spotify's Return on Sales (2019-2022)

Source: Spotify's Annual Report and Own Estimates

Spotify has not been profitable consistently since its inception in 2006. Over the last four years, the company's profitability increased as revenues rose at a CAGR (2019-2022) of 20.13% and gross profit expanded at a CAGR (2019-2022) of 19.33%.

The COVID-19 pandemic caused the 2020 revenue rise to fall short of estimates. On the other hand, it emphasizes the benefits of investing in podcasts. They benefit the platform by boosting usage, engagement, and retention across Ad-Supported and Premium. On a YoY basis, the podcast and ad studio channels increased by more than 100%.

Price hikes, the debut of a new ad market, the SPAN, and positive swings in the USD/EUR exchange rate played a central role in growth in 2021, the first year to ever end with an operational profit. However, in 2022, operating income dropped by €753 million, resulting in a loss of €659 million, mainly owing to an increase in operating costs of 44% YoY. Despite revenue growth, non-music costs are increasing at a quicker rate.

Most of Spotify's expenditures come from royalties paid to musicians and license holders. The company's expensive royalty payments to record labels, authors, and further copyright holders are only one of several issues contributing to Spotify's profitability struggles.

Spotify is one of the most significant sources of revenue for artists and labels in the music industry, having paid over €34 billion in royalties since its inception. Over 70% of the income is returned as royalties to the right owners, who subsequently pay the musicians and composers.

Under the industry average of 40.44% for the entertainment sector, the gross margin of 25% was boosted by a favorable revenue mix shift in favor of podcasts but countered by higher spending on non-music content and investments to enhance music products.

5.3. Solvency

To fund general company activities, Spotify US issued $1.5 Million in par value of Exchangeable Senior Notes on March 2, 2021. Most of the company's acquisitions in recent years have involved investments in podcast companies and podcast content. The value of this zero-interest debt security, which matures in March 2026, was €1,223M in 2021. The conditions for noteholders to redeem their Exchangeable Notes were not fulfilled for 2022. However, as of December 31, 2022, the fair value falls to €1,128M.

	FY 2019	FY 2020	FY 2021	FY 2022
Debt-to-Assets	12.3%	9.6%	25.5%	22.8%
Debt-to-Capital	23.6%	17.8%	46.3%	42.0%
Debt-to-Equity	30.9%	21.7%	86.1%	72.5%

Table 5.2- Spotify's Solvency Ratios (2019-2022)

Source: Spotify's Annual Report and Own Estimates

Spotify owes €3.52 billion in obligations due in the next 12 months and €1.72 billion in obligations owing beyond 12 months. It has €3.35 billion in cash on hand and €695 million in accounts receivable that are due within the next 12 months to cover these liabilities. As a result, the liabilities surpass its cash and short-term receivables by €1.19 billion. Nonetheless, these amounts do not reflect a significant debt load, given its net cash.

Future debt may also make it more difficult for the firm to buy back the exchangeable notes or pay cash upon an exchange because it could not have the funds on hand or secure financing when it's time to buy back the senior notes, which would constitute indenture default.

The ratios shown in the preceding table can be employed to confirm that there is no threat of insolvency for the company. While debt accounts for 72.5% of shareholder equity, it finances 22.8% of the company's assets. Furthermore, debt, rather than capital, funds 42% of the business activities. This shows that the business has a solid balance sheet and can effectively manage its debt.

6. Forecast Analysis

Before forecasting specific line items, the first step is to understand the period within which we will conduct the explicit operating cash flow forecast and the year we will employ the perpetuity formula.

Even though Spotify entered the market 15 years ago, its maturity and profitability have yet to be attained. Recent investments in podcasts and audiobooks have not yet paid off, and it will likely be another two years before they begin to profit. Spotify is no longer a start-up but is still in a growth stage as its user base, revenue, and global footprint continue to rise significantly.

Furthermore, given the industry in which it operates is growing, with increased market penetration, ongoing innovation, and emerging technologies, it is foreseen to stabilize only in 2030. As a result, we decided to construct a valuation period of eight years, from 2023 to 2030, after which we will consider the Perpetual Period.

6.1. Revenue

Revenue predictions are made for each of Spotify's business segments separately: Premium and Ad-Supported Segment (See Appendix E– Revenues Forecasting Model).

Premium Segment

The key metric for this segment is paying subscribers, as they are the primary engine of Spotify's revenue. The second key driver is the ARPU that Spotify earns for each of these subscribers. Multiplying these two indicators yields premium revenues. We use the following formula to estimate the number of paying subscribers:

$$\begin{aligned} No.of\ premium\ subscribers \\ &= Ad\ Supported\ MAUs_{(t-1)} \times Conversion\ to\ premium\ rate \\ &+\ No.\ of\ premium\ subscribers_{(t-1)} \times (1 - Premium\ Churn\ Rate) \end{aligned} \quad (21)$$

This means that the total of subscribers over the forecasting period is set by the ad-supported MAUs who have subscribed to the premium service as well as by the existing subscribers who have not canceled their subscriptions, meaning they continue to pay the subscription.

Ad-Supported MAUs

At its investor day, Spotify declared its primary goal is to hit 1 billion MAUs by the second half of 2030.

We will base our forecast on the company's expectations since the company is intensely focused on attaining this milestone through the expansion into emerging markets. According to Alex Norström (Chief Business Officer), Spotify claims 32% of the entire addressable market in advanced countries but just 8% of potential customers in emerging markets, with 2.7 billion smartphones in use as of June 2022.

Given that there has been an average 1% increase in the weight of Ad-Supported MAUs relative to Premium MAUs, we will consider this trend until 2024. After 2024, the same ratios will be assumed until 2030 (39% of Premium MAUs and 61% of Ad-supported MAUs). Consumers cutting costs due to the economic downturn and Spotify's expansion into regions with lesser disposable income contribute to this growth.

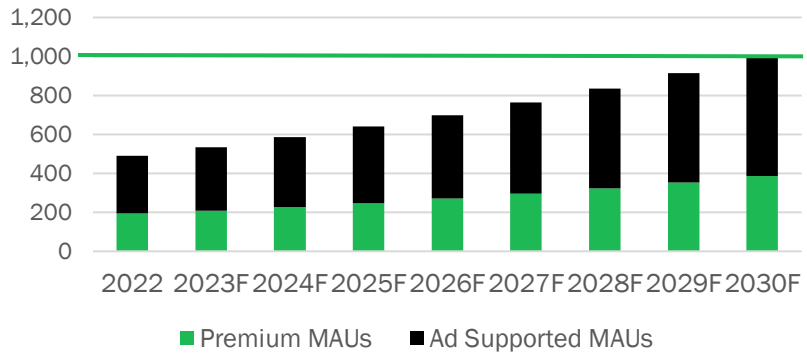

Figure 6.1- Spotify's MAUs evolution (2023-2030)

Source: Spotify Data and Author estimation

Conversion to Premium rate

This measure is critical in determining how many users will switch to a paid service, which negatively impacts ad-supported MAUs and is favorable for premium subscribers.

Spotify's conversion to premium rate in 2022 was 42%; this figure exhibits a decline since 2018 and shows that Spotify's ability to attract paying customers is becoming less successful. As Spotify's user base expands, more free users may be satisfied with its basic functions and lose interest in paying for their subscriptions. Spotify also lessens the need for customers to upgrade to the premium tier by continually enhancing the no-cost tier's offerings. Following the same trend, it is predicted that this rate will decline by 4% year over year until 2030.

Monthly Premium Churn rate

In 2022, Spotify's average monthly premium churn rate was approximately 3.4%. This means that 3.4% of Spotify subscribers will choose to give up their subscriptions. This indicator has been falling since 2018. Over the years, Spotify has clarified its strategy to reduce churn rate through

customer-driven innovation, referring to this metric as "the primary driver of lifetime value" (Former Spotify CFO Barry McCarthy).

Spotify urges users to subscribe to products like the family or student plans, which are less expensive but offer a greater lifetime value. Podcasts are also gaining popularity; they exhibit highly engaged and devoted audiences with a lower churn rate. We predicted the churn rate using the same reasoning but with a long-term goal of 3% in the terminal period.

ARPU

The annual revenue divided by the average number of users is the annual ARPU. The annual premium ARPU was €54 in 2022, while the annual ad-supported ARPU was €6.

Using a vertical platform approach, Spotify intends to achieve an annual ARPU of €100 by 2030. This journey includes initiatives such as "a la carte purchases[7]", the podcasting boom, live event sales and promotions, audiobooks, and news. Using audiobooks as an example, the worldwide book market was approximately $140.98 billion in 2022, with just 3.82% coming from the audiobook sector. From 2023 to 2030, the audiobook market is predicted to expand at a 26.3% CAGR, accounting for 21.3% of global book publishing revenue.

However, we will carry out the forecast more conservatively. As Spotify spreads its services to new markets, it also widens its footprint in low-income countries where users cannot afford to pay 100 euros per year for a smartphone application. The proliferation of family and duo plans, plus rising competition, further harm this statistic.

Thus, we will project a 1.5% growth rate in premium ARPU until the terminal period while assuming a 15% growth rate of ad-supported ARPU based on Spotify's future initiatives, increased worldwide inflation, and advertising inventory expansion. With these growth rates, we anticipate the annual premium ARPU to reach €61 and the annual supported ARPU to reach €17, totaling below the company's target (See Appendix F – Spotify's ARPU evolution (2023-2030)).

Ad-supported Segment

Revenues from this segment arise from the number of hours of interaction between ad-supported users and podcast listeners. As a result, the combined revenue from music ads and podcast ads will comprehend the total revenues.

[7] It is defined as the option to buy one-off items or to subscribe to particular creators.

Music Ad-Supported Revenues

We obtain this revenue by multiplying the total of Ad-Supported MAUs by the total number of hours each user listens to Spotify in a year and the revenue per MAU in a single hour.

According to the most recent Spotify report, total MAUs streamed 132 billion hours of content in 2022, which amounts to nearly 270 hours of listening every year. Thus, it is possible to infer from the ad-supported revenue that Spotify earns 0.02 EUR each hour per MAU. This metric will grow at a constant 7.57% CAGR through 2030, mirroring the predicted CAGR of Ad spending in the Digital Advertising industry. Since Spotify has been growing faster than the industry, we are being conservative by utilizing the anticipated industry revenue growth rate. Considering all these variables, revenues are projected to reach €5.5 billion by 2030.

Podcast Ad-Supported Revenues

We will calculate podcast ad-supported revenue by multiplying podcast advertising market revenue by the market share that Spotify acquires from that market.

The podcasting advertising market, worth 2.5 billion in 2022, is estimated to rise at a CAGR of 10.32% between 2023 and 2027, according to Statista. After 2027, the same growth rate for music ad income will be presumptive. We estimate Spotify's market share to be 5% based on the firm's forecasted 2022 revenue of 123 million in podcast advertising sales. Due to the company's focus on this industry and its recent acquisitions, we anticipate a 30% market share by 2030. We calculated the growth rate for each year by dividing the gap between the long-term market share and the market share in 2022 by eight years.

Revenues are projected to be €2.2 billion in 2030.

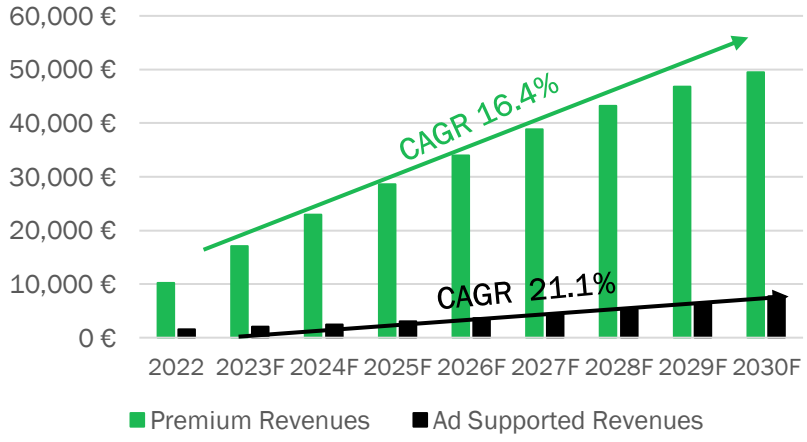

Figure 6.2- Revenue Forecast by segment (2023-2030)

Source: Spotify Data and Author estimation

Following these assumptions, revenue in 2030 is estimated to be €49.5 billion in the premium segment and €7.7 billion in the ad-supported segment. These fall short of the company's 2030 revenue goals of €90 billion and €10 billion, respectively. However, they represent an increase of 4.8 times compared to 2022 revenues.

Given that the music streaming market is anticipated to increase at a 14.7% CAGR between 2022 and 2030, it is possible to see from the graphs above that the company is outpacing the industry in terms of growth.

6.2. Cost of revenue

Spotify's cost of revenue is mostly comprised of royalties and distribution expenses resulting from content streaming. Spotify does not provide the distribution of these costs, but it also covers the amortization of podcast content assets and cloud computing, streaming, infrastructure, and hardware expenditures.

In 2022, the premium cost of revenue increased by €1,369 million over 2021, accounting for 72% of sales, of which €1,152 million were attributable to increasing royalty fees. Given that independent artists are increasingly self-releasing their music on streaming services and that major labels' market share on Spotify has been declining (from 87% in 2017 to 75% in 2022), we believe these numbers could go down in the future since this results in increased negotiating power and lower fees owing to the cut of players in the supply chain.

On its investor day, management highlighted that its outlook is for a gross margin of 35% by 2030 and about 30% in the intermediate term when it has been around 25% during the previous four years. The basis for this forecast is that, in contrast to 2022, when podcasts led lower gross margins, it is anticipated that within one to two years, podcasts will have a higher margin than the music industry, with a gross margin of 30% over the near future and 40% to 50% in the long-term. Additionally, specific verticals, like audiobooks, can achieve a gross margin of 40% to 80%.

We forecast more conservatively, assuming a gross margin of 30% in 2030. We considered a continuous growth rate until the company reached its target in 2030.

6.3. Operating Expenses

Our projection of operational costs relies on a proportion of revenues. As announced at Spotify Investors' Day 2022, the long-term expected ratio for R&D expenses to revenues is 10 to 13%, which will stay at current levels to match the company's aim to make continuous investment in podcasting and investment in improving the listener's Lifetime Value (LTV). R&D costs as a proportion of revenues were 12% in 2022, up 3% from the previous year due to increased personnel to support Spotify's growth.

Sales and marketing expenditures are forecast to decline to a 6-7% target ratio to revenues, down from 12-13% in the previous four years. This decrease results from intentions to scale back on the aggressive marketing strategy used in recent years.

Lastly, Spotify anticipates that general and administrative expenses (G&A) decline to 3% of total revenue in the long term. Based on these projections, an operating margin of roughly 12% is anticipated in 2030.

6.4. Income tax expense

We used a statutory tax rate of 24.94% from the operating country Luxembourg to Earnings Before Taxes (EBT) to foresee the income tax expense/ (benefit), as it is a fully taxable Luxembourg company. This rate combines the 17% effective tax rate with the 7% solidarity surtax and the 6.75% municipal business tax.

After forecasting the Income Statement (See Appendix G – Consolidated Income Statement (2022-2030) and Forecasting Assumptions) we ended at a net income of €3.1 million in 2030.

6.5. Balance Sheet Forecast

A more extensive forecast for the main significant balance sheet items can be seen in Appendix H- CAPEX and Depreciation & Amortization Forecast and in Appendix I- Net Working Capital Forecast.

Appendix J- Consolidated Balance Sheet and Forecasting Assumptions detail the assumptions for all the remaining balance sheet lines and their projections until 2030. The balance sheet and income statement forecasts were employed to generate the cash flow statement (see Appendix K - Projected Cash Flow Statement (2023-2030)).

7. Valuation Methodologies

7.1. Discounted Cash Flow Valuation

7.1.1. Free Cash Flow to the Firm

We apply the forecasts discussed in the forecast analysis topic to build the FCFF. To illustrate the firm's unleveraged profits without considering the impact of tax debt, we calculated NOPLAT, or net operating profit less adjusted taxes, at the beginning.

We added the impact of non-cash expenditures, specifically depreciation and amortization, to obtain the operating cash flow. It is expected that this figure will experience a CAGR of 67%[8].

Then, to arrive at FCFF, we eliminate the impact of CAPEX investments and non-cash WC changes. Since changes in non-cash WC partially offset the rise in operating cash flow, FCFF is growing slower—17% CAGR—than it would otherwise. (See Appendix L – Projected FCFF (2023-2030)).

7.1.2. Discount Factor

7.1.2.1. Cost of Equity

We estimated the cost of equity by employing CAPM, which was thoroughly examined in the literature review.

We gathered 10-year government bond yields from all Eurozone countries for the risk-free rate. The German was chosen as our risk-free rate since it has the lowest yield (2.53% as of December 31, 2022) and a AAA credit rating. We used the eurozone because, even though Spotify trades its shares in US dollars, we conducted our valuation in euros since the firm has its headquarters in Europe and releases its financial statements in euros.

As firm-specific betas can fluctuate too much as time progresses to be utilized accurately, the starting point for calculating Spotify's leveraged beta was the 5-year leveraged beta of the various Spotify peers, retrieved from Yahoo finance. We then remove the debt effect of each levered beta

[8] This figure eliminates the period from 2023 to 2025 when operating cash flow was negative.

to obtain the unlevered beta. Then, assuming cash has a zero beta, we adjust the unlevered beta for cash. We use the following formulas are used in this method:

$$\beta_{unlevered} = \frac{\beta_{levered}}{\left[1 + (1 - Tax\ Rate) * \frac{Debt}{Equity}\right]} \quad \beta_{Adjusted\ unlevered} = \frac{\beta_{unlevered}}{\left(1 - \frac{Cash}{Firm\ Value}\right)} \qquad (22)$$

where Firm Value = Market Capitalization + Market Value of Debt

Using the adjusted unlevered beta for cash for all peers, we calculated their median (1.20) and applied it to Spotify. This figure matches the estimates made by Damodaran for the entertainment industry (1.25). Finally, we relevered the adjusted unlevered beta to the firm's cash and capital structure to reach the leveraged beta of 1.57. We conclude by its beta that Spotify has more volatility than the market, which makes sense given that Spotify is very sensitive to market news that might change the stock price. Appendix M – Levered Beta Computations presents a table that includes peer input and further calculations.

We employ Damodaran forecasts for assessing the market risk premium, specifically the predicted 5.94% equity risk premium for the year 2022.

Cost of Equity (r_e)	11.85%
Risk-Free Rate	2.53%
Levered Beta	1.57
Market Risk Premium	5.94%

Table 7.1– Spotify's Cost of Equity

Source: Yahoo Finance, Damodaran's Website, and Author estimation

To account for any potential dilution that could arise from the exercise of convertible securities, we estimated market capitalization using the number of diluted outstanding shares rather than the number of basic shares outstanding.

Concerning Spotify, we added the 2.9 million ordinary shares regarding exchangeable notes to the 193 million basic shares outstanding, multiplied by the share price on 12/30/2022, resulting in a market value of equity of €14.530 million (See Appendix N- Computation of Spotify's Market Capitalization).

7.1.2.2. Cost of Debt

We use the credit spread approach to determine the cost of debt as follows:

$$r_d = r_f + Default\ Spread_{Country} + Default\ Spread_{Company}$$

We take the country's default spread from the website of Damodaran, where Sweden, the country of incorporation, exhibits a default spread of 0%.

We use the synthetic rating approach to determine the company's default spread. This method entails assigning an "artificial" rating and a default risk premium over the risk-free rate associated with that rating in accordance with the firm's interest coverage ratio. Appendix O, Relationship between Interest Coverage Ratio, Ratings, and Default Spread, contains the conversion table that Damodaran created through the study of all US-rated corporations.

Owing to Spotify's incapacity to generate sufficient earnings in the fiscal year 2022 to cover its interest expenses, we used the company's interest coverage ratio from 2021 fixed at 1.84. This corresponds to a current synthetic grade of B1/B+ and, as a result, a default spread of 4.55%.

We computed a cost of debt amounting to 7.08% alongside an after-tax cost of debt of 5.31%, employing the provided inputs.

Risk-Free Rate	2.53%
Country Default Spread	0%
Current Synthetic Rating	B1/B+
Company Default Spread	4.55%
Cost of Debt (r_d)	**7.08%**
Marginal Tax Rate	24.94%
After-Tax Cost of debt	**5.31%**

Table 7.2 – Spotify's After-Tax Cost of Debt

Source: Damodaran's Website, Author estimation, and Spotify's Annual Report

The aggregate market value of the debt, totaling €1.74 million, encompasses both the fair value of the Exchangeable Notes and the combined value of current and non-current lease liabilities.

7.1.2.3. Weighted Average Cost of Capital

Considering the company's financial structure and the computed equity cost and after-tax debt cost, we derive a WACC equaling 11.15%.

As per Damodaran's calculations employing data from January 2023, the forecasted cost of capital for the entertainment sector is 10.47%. This value is slightly higher for Spotify, as the sector's mean cost of debt registers at 5.88%, and Spotify's cost of debt is 7.08%, attributed to its higher default spread relative to the industry norm.

WACC (%)	11.15%
Cost of Equity (re)	11.85%
After-Tax Cost of debt (rd)	5.31%
Market Capitalization	14,529.94
(E/[D+E])	0.89
Market Value of Debt	1,741.00
(D/[D+E])	0.11

Table 7.3 – Spotify's estimated WACC

Source: Author estimation and Spotify's Annual Report

7.1.3. Continuing Value

We applied the perpetual growth method, as specified by formula 3 in the literature review, to determine Spotify's terminal value. This model assumes that Spotify's cash flows will continue to rise unchanged throughout perpetuity. In this situation, determining the perpetual growth rate becomes critical.

Historically, this rate has shown variations spanning from the predicted inflation rate to the anticipated GDP growth rate. We collect the appropriate rates for the geographical regions comprising the company's operations from Statista to achieve this. Given Spotify's global presence, we assessed its revenue split by country as reported in its Annual Report, which included the US, United Kingdom, Luxembourg, and "other countries." We considered the projected global GDP growth rate and the projected global inflation rate for the latter segment. Spotify's operational scope spans 184 countries, resulting in significant sales dispersion requiring a broader global perspective.

Furthermore, we chose to use long-term projected rates covering 2023 to 2028, as these rates closely match the start of our perpetuity timeframe.

Country	% Revenues (2022)	Expected GDP Growth Rate	Expected Inflation Rate	Weighted GDP Growth Rate	Weighted Inflation Rate
United States	40.18%	2.12%	2.10%	0.85%	0.84%
United Kingdom	9.49%	1.53%	1.60%	0.15%	0.15%
Luxembourg	0.06%	2.29%	1.98%	0.00%	0.00%
Other Countries	50.27%	3.05%	3.47%	1.53%	1.74%
Total	**100.00%**			**2.53%**	**2.74%**
Average GDP Growth Rate and Inflation Rate					**2.64%**
Impact technological advances					**1.00%**
Perpetuity Growth Rate (g)					**3.64%**

Table 7.4 – Spotify's Perpetuity Growth Rate Projection

Source: Statista and Spotify's Annual Report

The table above shows that we obtained an average growth rate of 2.64% using the method described above. With this figure and an estimated inflation rate of 2.74%, we assume the company will grow slower than the inflation rate after 2030, implying a negative real growth rate.

Considering Spotify's dominant role as a leader in the music streaming industry due to its innovative technology and rapid development into emerging economies and unique business verticals, we believe it will continue to grow at a faster pace in perpetuity. As a result, and according to Bradford Cornell (2010) study, we will increase growth projections by 1%, reflecting the substantial impact of technological developments on economic expansion.

Applying these assumptions, we derived an estimated Terminal Value of €55,211 million.

7.1.4. Enterprise Value

Based on the FCFF, WACC, and Perpetuity Growth rate, we achieved an enterprise valuation of €28.297 million. When we combine the present values of FCFF and Terminal Value, the enterprise value shows the aggregate current value of all predicted forthcoming cash flows produced by the company. The table below clearly shows the high importance placed on terminal value in enterprise valuation, accounting for 84% of total value.

Discounted Cash Flow	2022A	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	Perpetuity
WACC (%)	11.15%									
Perpetuity Growth Rate (g)										3.64%
Terminal Value										55,212
Years From Date of Valuation		1	2	3	4	5	6	7	8	
Discount Factor		0.90	0.81	0.73	0.66	0.59	0.53	0.48	0.43	
PV of FCFF and TV (m)		**719**	**252**	**242**	**328**	**476**	**664**	**862**	**1,053**	**23,701**
Enterprise Value (m)	**28,297**									

Table 7.5 – Spotify's Enterprise Value Projection

Source: Author estimation

7.1.5. Equity Value

It is necessary to subtract the gross debt from the enterprise value and add the cash and marketable securities formed by cash and cash equivalents and short-term investments to obtain the equity value.

A critical step in ascertaining Spotify's shares involves the division of the equity valuation by the count of diluted outstanding shares. This calculation resulted in a price per share amounting to €152.42. This figure was adjusted using the EUR/USD exchange rate as of December 30,

2022, fixed at 1.0661. We need to convert this number since Spotify's shares trade currency is US dollars. As a result, the final target price is $162.50.

During 2022, Spotify's share price ranged from $71.05 to $244.16, with the stock closing the year at $78.95. Our target price has an upside potential of 105.83% compared to market prices, indicating that Spotify shares were undervalued during the analysis period. According to the recommendation mechanism in Appendix P, the ultimate advice to prospective investors is to recommend purchasing Spotify's shares strongly.

Target Price (m)	
Enterprise Value	**28,297**
Minus: Debt and debt equivalents	-1,741
Minus: Minority Interest	0
Plus: Cash and Marketable Securities	3,350
Plus: Non-operating assets	0
Implied Equity Value	**29,906**
Million of Diluted Shares Outstanding	196.20
Target Price in EUR	**€ 152.42**
EUR/USD Exchange rate (30/12/2022)	1.0661
Target Price in USD	**$ 162.50**

Target Price 2022	
Share Price as of 30/12/2022	$ 78.95
Target price	$ 162.50
Upside potential	**105.83%**

Table 7.6 and Table 7.7–Spotify's implied intrinsic target price as of 31-12-2022

Source: Author estimation and Spotify's Annual Report

7.1.5. Sensitivity Analysis

We made many assumptions in the previous chapters, which significantly impacted how we determined our target price. In this sense, we decided to conduct a sensitivity analysis on two of the key components that have the greatest effect on the model and are associated with substantial uncertainty to visualize the impact of their variations and test the strength of our model.

Appendix Q- Spotify's WACC and Perpetuity Growth Rate Sensitivity Analysis contains the sensitivity analysis and accompanying discussion. We found that, regardless of the scenarios, the recommendation to potential investors remains the same: considering the acquisition of Spotify shares.

7.1.6. Scenario Analysis

We created two alternate scenarios to see how more positive or unfavorable events could impact our final price target. For that purpose, we decided to create two cases: one favorable and one unfavorable.

We incorporated some of the company's forecasts for 2030 from their investor day in our projection of revenues and income statement lines. However, we were conservative in our estimates regarding the company's future aspirations. Let's imagine that Spotify's prospects materialize in our "upside case" scenario. According to Founder and CEO Daniel Ek, on investor day in June 2022, the company expects to make $100 billion in revenue annually by 2030, with a gross margin of 35% and an operating margin of 20%. So, with everything else constant, we modified our base case on these three parameters and arrived at a final value per share of $659.14. We only assign a 10% likelihood to this scenario because we believe it is highly unlikely.

Regarding the "downside case" scenario, given that the evolution of premium subscribers is one of the most critical variables in our projection and is closely followed by investors, we considered a 10% decrease in the number of premium subscribers for all projection years, as well as a 10% decline in ARPU. Furthermore, the gross margin for 2030 was adjusted, moving it from 30% to 27.5%. We made this change to account for the scenario where Spotify will fail to attain the same elevated margins and will instead line more closely with the margin trends observed in recent years.

In conclusion, our analysis revealed that the investor recommendation would differ solely on the downside, resulting in a neutral view of holding Spotify shares. As a result of combining the values from the base, positive, and negative scenarios and their probabilities, the estimated expected share price is $193.56.

Scenarios	Share Price	Probability	Upside Potential	Recommendation
Base Case	$ 162.50	65%	106%	Strong Buy
Downside Case	$ 88.08	25%	12%	Hold
Upside Case	$ 659.14	10%	735%	Strong Buy
	$ 193.56		146%	Strong Buy

Table 7.8 –Spotify's scenario analysis result

Source: Author estimation

7.2. Market Multiples Approach

7.2.1. Peers

The market multiples approach's first step is defining the peer group that will be the subject of our analysis. To this end, we choose companies listed on a stock market, have comparable characteristics and business models, and operate in identical sectors - communication services and technology. This description yielded a group of 13 companies.

There is, however, no authentic comparable to Spotify on the market. Some streaming companies, like Pandora and Deezer, exhibit considerably smaller dimensions than Spotify. In contrast, others, like industry giants Apple, Amazon, and Google, include music streaming as a secondary business of their broader scope and aim to serve various end markets. When evaluating these organizations as potential peers, the wide variety inherent in their activities brings an element of unreliability.

We assessed the subsequent threshold to establish Spotify's ultimate set of peers:

- Companies with market capitalizations ranging from 0.33x to 15x that of Spotify, as these are similar in terms of size and stage of development.

In addition, the companies need to verify at least two of the following criteria. We use this criterion to exclude outliers and choose the most harmonious enterprises in terms of growth rate, profitability, and capital structure:

- A four-year CAGR of revenue equal to or above median within the group, which is in line with Spotify;
- Gross Margin equal to or below the median level, more aligned with Spotify's position below the first quartile;
- Debt-to-Equity (D/E) ratio equal to or higher than the median, reflecting Spotify's position above the third quartile.

Appendix R- Spotify Peer Group selection (in millions of US$) outlines the entities selected for our ultimate peer group, highlighted in green. This group includes notable industry players like The Walt Disney Company and Warner Bros. Discovery, renowned as leading creators and suppliers of entertainment and informational content. Additionally, among the selected

companies, TME and NetEase, as direct competitors, and Netflix, one of the most popular video subscription-based streaming services.

7.2.2. Relative Valuation

Given Spotify's history of reporting negative EBIT, EBITDA, and Net Income not only in 2022 but also in previous years, using multiples based on these metrics—such as the commonly used EV/EBITDA and P/E ratios—results in negative results. These conclusions, while logical, do not correspond to Spotify's genuine valuation and do not adequately reflect its current value.

As previously noted in the literature review, the Enterprise Value to Sales (EV/Sales) multiple is considered the most appropriate in evaluating companies with unpredictable or negative earnings. We also used Enterprise value to gross profit (EV/Gross Profit) multiple to add a profitability metric to our estimates. In addition to the two company's value-based multiples, we will assess the company's value using a capitalization-based multiple: the Price to Sales (P/S) ratio.

Company	Share price as of 12/31/2022	Market Cap $M	EV $M	Revenue $M	Gross Profit $M	EV / Sales	EV / Gross Profit	Price-to-Sales
Spotify	$ 78.95	15,490	14,699	12,502	3,119	1.18x	4.71x	1.24x
The Walt Disney Company	$ 86.88	183,229	223,222	84,415	28,195	2.64x	7.92x	2.17x
Warner Bros. Discovery	$ 9.48	37,762	48,616	33,817	13,375	1.44x	3.63x	1.12x
Netflix	$ 294.88	141,242	149,537	31,616	12,447	4.73x	12.01x	4.47x
TME	$ 8.28	12,036	8,446	28,339	8,773	0.30x	0.96x	0.42x
NetEase	$ 72.03	65,622	68,264	96,496	52,766	0.71x	1.29x	0.68x
Median excluding outliers						1.07x	2.46x	0.90x
Average excluding outliers						**1.27x**	**3.45x**	**1.10x**
Average + SD						3.75x	9.89x	3.42x
Average - SD						0.18x	0.44x	0.12x

Table 7.9– Multiples of Peer Group in US$ Millions, values dated December 31,2022

Source: Author estimation and Yahoo Finance

To eliminate outliers from our sample, we limited our multiple selection to those Falling within one standard deviation below and above the mean. This process led to eliminating Netflix as a peer for all three multiples. The presented table includes the multiples related to each peer and their final average values, which we use to estimate the target share price of Spotify.

Comparable Multiples	EV / Sales	EV / Gross Profit	Price-to-Sales
Average Multiple	**1.27x**	**3.45x**	**1.10x**
Multiplying by:			
Revenue	12,502		12,502
Gross Profit		3,119	
Implied Enterprise Value	**15,901**	**10,768**	**-**
(-) Net Debt	(791)	(791)	-
Implied Equity Value	**16,692**	**11,560**	**13,727**
Diluted Outstanding Shares	196	196	196
Implied Share Price	**$ 85.07**	**$ 58.92**	**$ 69.96**

Table 7.10 – Spotify's implied share price using multiples in US$ Millions

Source: Author estimation and Yahoo Finance

We arrived at an enterprise value of $15,901 million by applying the EV/Sales multiple to Spotify's projected 2022 sales. When net debt is factored out, this computation yields an equity value of $16,692 million, resulting in a per-share price of $85.07. This price represents an 8% potential upside. This assessment would indicate a position decrease in Spotify shares based on the recommendations of the recommendation system.

Nonetheless, the EV/Gross Profit and Price-to-Sales multiples suggest a different scenario, with a share price of $58.92 and $69.96, respectively. These figures collectively suggest an overvaluation of Spotify shares as of December 31, 2022, representing a 25% and 11% potential downside, respectively.

Our analysis shows that while the EV/Sales multiple implies that Spotify is undervalued, the degree of undervaluation is lower than what the DCF model suggests. The remaining multiples, on the other hand, point to a sell recommendation.

This result reveals that the assessment of the share price is considerably influenced by the specific multiple picked for analysis.

7.3. Discussion of results

Figure 7.1– Target Price Share range from all the valuation approaches

Source: Author estimation and Yahoo Finance

The graph above illustrates the various possible ranges of Spotify's share values depending on each valuation model. It also includes the highest, lowest, and median prices that were seen in the market for the entire year 2022. Refer to Appendix S- Target Price Share Chart Explanation for a more in-depth explanation of the chart's construction.

It is visible that our DCF valuation produced better outcomes than the relative valuation. We built a high rise in subscriber numbers, revenue, and firm profitability into our DCF valuation while forecasting our FCFF. This level of growth, on the other hand, wasn't incorporated into the relative value process. The underlying rationale for its undervaluation is Spotify's intentional emphasis on long-term expansion and prolonged user engagement versus short-run profitability. However, measures like negative operating margins and the appearance of negative earnings may not be appealing to prospective investors. Nonetheless, the company has enormous development potential, notably in the podcasting and audiobook segments, which provide higher profit margins and the possibility of synergistic cross-selling.

We got different outcomes regarding multiples, and it is clear that the implicit stock prices are higher when considering the EV/Sales ratio. Still, given that Spotify has smaller profit margins than the market, the EV/Gross Profit multiple led to a lower share price of $58.92.

Given the inherent accuracy derived from the comprehensive consideration of future perspectives within the DCF methodology, we believe that the resulting output, namely a target share price of $162.50 coupled by a strong upside potential of 105.83%, is the most reliable.

As a result, based on our analysis, we conclude that Spotify's stock is undervalued. As such, our conclusion coincides with a recommendation to *buy* Spotify shares.

Conclusion

This research aimed to establish an accurate estimation for Spotify's shares on December 31, 2022, and evaluate it against the last recorded 2022 market figure of $78.95. The overarching objective was to determine whether, during that period, the valuation indicated that the company was being undervalued or overvalued.

Considering its unique characteristics, the literature review provided a framework for our study of various firm valuation approaches we could utilize when evaluating Spotify.

In the DCF model, we extend the FCFF forecast to 2030 and apply the WACC to determine the present value of these anticipated cash flows. Regarding the terminal value (84% of enterprise value), we establish a perpetuity growth rate of 3.64%. Given Spotify's technological advances and ambitious plan, we anticipate that it will surpass GDP and inflation growth in its operating countries in the future. Based on our research and assumptions, we arrived at an implied price target per share of €152.42, which amounts to $162.50 and an overall shareholder return of 105.8%.

We used relative valuation as a second valuation approach, comparing Spotify to its five peers chosen based on predefined criteria. Since traditional metrics like EV/EBITDA and Price-to-Earnings were unsuitable owing to historical negative results, we used EV/Revenue, EV/Gross Profit, and Price-to-Sales multiples. EV/Gross Profit and Price-to-Sales multiples yielded share prices below market rates, while EV/Revenue indicated a higher share price but below the DCF value. However, this technique lacks incorporation of future growth, provides a static image, and heavily relies on peer selection, which could not reflect the best possible reality.

Finally, we recommend that investors buy Spotify shares due to the high intrinsic value inherent in the investment and the expected future appreciation.

Spotify detains a dominant position as the global leader in the audio streaming sector. Since its inception, the company has prioritized future growth and sustained user engagement over short-term financial performance. As a result, this strategy has negatively influenced the company's gross margin progress. However, its expenditures in expanding the podcasting industry and entering new verticals inspire the anticipation that these investments will yield improved margins. This trajectory is predicted to lead to Spotify's profitability next year, followed by a major rising trend.

The closing value of Spotify shares on the date of this thesis submission, September 15, 2023, was $158.58. This result supports the accuracy of our recommendation by confirming the upside potential that we had earlier predicted for December 31, 2022.

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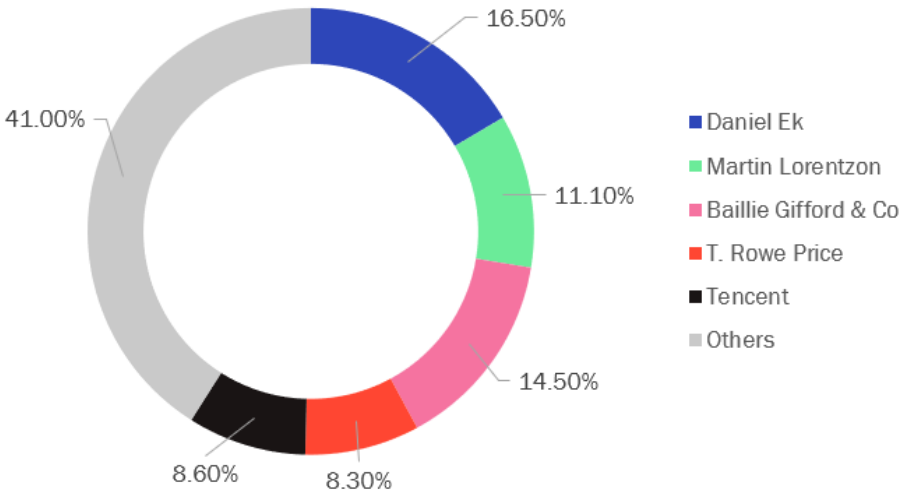
Appendixes

Appendix A- Three Main Categories of Multiples

Multiples based on the company's capitalization	Price-to-Earnings (P/E), Price to Cash Earnings (P/CE), Price to Levered Free Cash Flow (P/LFCF), Price to sales (P/S), Price to Book Value (P/BV), Price to Units, Price to Customer, Price to Output, Price to Potential Customer
Multiples based on the company's value	Enterprise Value to Unlevered FCF (EV/FCF), Enterprise Value to Sales (EV/Sales), Enterprise Value to EBITDA (EV/EBITDA)
Growth-referenced multiples	Enterprise value to EBITDA growth (EV/EG), PER to EPS growth (PEG)

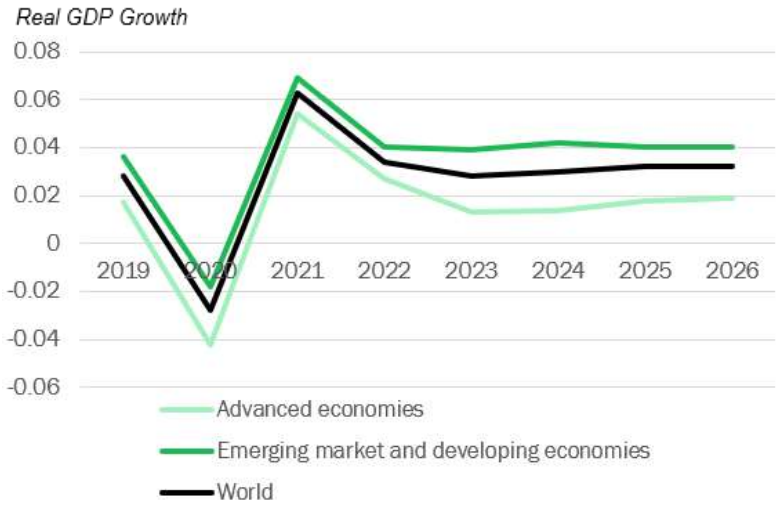
Source: Fernandez (2019)

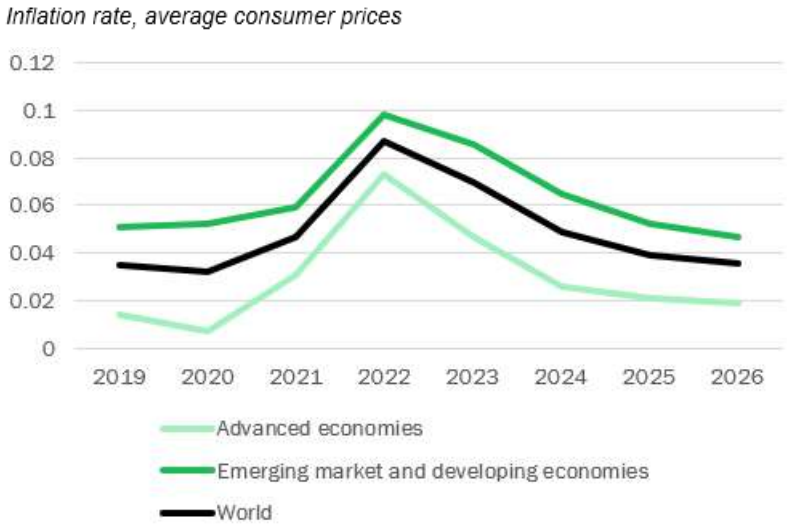
Appendix B- Major Stakeholders



Source: Spotify's Annual Report

Appendix C- Real GDP Growth (Annual Percentage Change) and Inflation rate, average consumer prices (Annual Percentage Change)





Source: IMF

Appendix D- Porter's Five Forces Analysis

Rivalry among existing competitors

The company's growth potential may be constrained if it is under intense pressure from rival businesses.

Spotify provides a free service, in contrast to its competitors, which attracts new customers and helps the company gain a competitive edge. However, this threat is high given that significant rivals like Amazon Music, Apple Music, Pandora, Tidal, YouTube, and others offer similar prices and employ distinctive business strategies. Regardless of the similarities of the primary service, there is a significant degree of product differentiation as everyone strives to stand apart. As a result, switching costs between streaming providers are minimal.

To mitigate this threat, Spotify should continue prioritizing product differentiation, as it has undertaken so far.

Threat of new entrants

When an industry is profitable and easily accessible to new entrants, the higher the threat it represents.

Since it costs money to launch a music streaming business, this threat is minimal for the company's industry, considering that the entrant must negotiate with numerous parties to provide a vast music library and acquire streaming rights. Additionally, several sizable technological firms operating in this sector are well-established and hold substantial market shares.

Bargaining power of suppliers

Suppliers that hold this power have the potential to limit inventory levels, lower quality, or boost prices, which limits the company's opportunity for expansion.

Spotify faces a medium-level threat from this threat. On the one hand, music labels and musicians share the same interests as the company, so they restrain from using their influence to the business' detriment. Nevertheless, streaming services represent the most effective means for major record labels to disseminate their content.

The power resides with the record labels since they own the music. As a result, without its suppliers, Spotify would struggle to continue operating, given that it does not own any musical rights. Each artist's talent is exclusive, and creators may sell and advertise their Albums on their pages.

Bargaining power of buyers

Customer demand for high-quality goods at competitive pricing signals a high bargaining power.

In the streaming market, there is an absence of brand loyalty. As a result, customers may easily cancel their subscriptions and switch streaming services, strengthening its power. However, no rival provides the same service for free or with the same level of personalization. Since its creation, the company has also added various apps to accommodate user requests and consider their preferences.

Because there are numerous subscribers, no individual consumers have a considerable influence over the company, so a limited number of customers transitioning between services doesn't constitute a significant threat.

Thus, the degree to which the purchasing power of consumers affects Spotify's operations is medium to low.

Threat of substitute products or services

Clients can quickly adopt alternative items or services to fulfill their requirements when there is a significant substitute risk.

Even though some people still choose to buy CDs and records, listen to the radio, or perhaps even pirate music, the market expects innovation and convenience.

Users can make customized playlists and have unrestricted access to content and music recommendations on Spotify, which sets their service apart from the substitutes. As for the podcast service the company offers, in contrast to its alternatives like radio and audiobooks, it gives the listener a variety of topics and episodes to pick from. The risk of substitute products is, therefore, low.

Ultimately, users sticking with the free version rather than upgrading would constitute the most prominent risk to Spotify, resulting in lower revenue.

Appendix E- Revenues Forecasting Model

Premium Segment

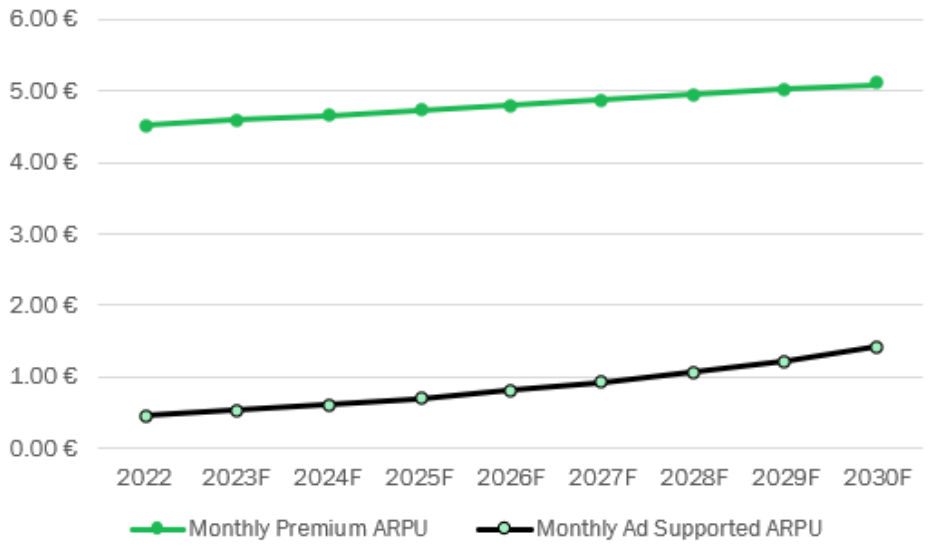
Variable	Unit	2022A	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
Premium MAUs	Mn MAUs	194	209	226	247	270	296	323	354	387
Ad-Supported MAUs	Mn MAUs	295	325	359	392	429	469	513	561	613
Total MAUs	**Mn MAUs**	**489**	**535**	**585**	**639**	**699**	**765**	**836**	**914**	**1,000**
Conversion To Premium Rate	%	41.9%	37.9%	33.9%	39.9%	25.9%	21.9%	27.9%	13.9%	0.9%
Premium Churn Rate	%	3.4%	3.4%	3.3%	3.3%	3.2%	3.2%	3.1%	3.1%	3.0%
Subscribers	**Mn Subscribers**									
Subscribers	Mn Subscribers	**205**	**310**	**410**	**504**	**590**	**665**	**728**	**778**	**810**
% Y/Y change	%		*34%*	*24%*	*19%*	*15%*	*11%*	*9%*	*6%*	*4%*
Annual Premium ARPU	EUR/ Year	54 €	55 €	56 €	57 €	58 €	58 €	59 €	60 €	61 €
Annual Ad-Supported ARPU	EUR/ Year	6 €	6 €	7 €	8 €	10 €	11 €	13 €	15 €	17 €
Total Annual ARPU	**EUR/ Year**	**60 €**	**61 €**	**63 €**	**65 €**	**67 €**	**70 €**	**72 €**	**75 €**	**78 €**
Premium Revenues	**Mn Euros**	**10,251 €**	**17,067 €**	**22,917 €**	**28,591 €**	**33,943 €**	**38,861 €**	**43,206 €**	**46,814 €**	**49,491 €**

Ad-Supported Segment

Variable	Unit	2022A	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
Ad-Supported MAUs	Mn MAUs	295	325	359	392	429	469	513	561	613
Number of hours spent listening	Hour /Year	270	270	270	270	270	270	270	270	270
Revenue per MAU	Eur / Hour	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03
Music Ad-Supported Revenues	**Mn Euros**	**1,476 €**	**1,751 €**	**2,076 €**	**2,442 €**	**2,873 €**	**3,380 €**	**3,976 €**	**4,676 €**	**5,501 €**
% Y/Y change	%		*16%*	*16%*	*15%*	*15%*	*15%*	*15%*	*15%*	*15%*
Podcasting Advertising Market	Mn Euros	2,519 €	3,250 €	3,585 €	3,955 €	4,364 €	4,814 €	5,536 €	6,365 €	7,319 €
Spotify Market Share	%	5%	8%	11%	14%	17%	21%	24%	27%	30%
Podcast Ad-Supported Revenues	**Mn Euros**	**123 €**	**261 €**	**400 €**	**565 €**	**759 €**	**988 €**	**1,309 €**	**1,704 €**	**2,188 €**
Ad-Supported Revenues	**Mn Euros**	**1,599 €**	**2,011 €**	**2,476 €**	**3,007 €**	**3,632 €**	**4,368 €**	**5,285 €**	**6,381 €**	**7,690 €**

Source: Spotify Data and Author estimation

Appendix F- Spotify's ARPU Evolution (2023-2030)



Source: Spotify Data, Statista, and Author estimation

Appendix G- Consolidated Income Statement (2022-2030) and Forecasting Assumptions

		Forecasted Period						
In millions of EUR	2022A	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
Revenue	11,727	19,078	25,393	31,598	37,576	43,228	48,490	53,195	57,181
Premium	10,251	17,067	22,917	28,591	33,943	38,861	43,206	46,814	49,491
Ad-Supported	1,476	2,011	2,476	3,007	3,632	4,368	5,285	6,381	7,690
Cost of revenue	8,801	14,198	18,737	23,116	27,252	31,078	34,555	37,572	40,026
Premium	7,355	11,358	14,989	18,492	21,801	24,863	27,644	30,058	32,021
Ad-Supported	1,446	2,840	3,747	4,623	5,450	6,216	6,911	7,514	8,005
Gross Profit	**2,926**	**4,881**	**6,656**	**8,482**	**10,324**	**12,150**	**13,935**	**15,623**	**17,154**
Research and development	1,387	2,284	3,078	3,876	4,665	5,430	6,162	6,837	7,433
Sales and marketing	1,572	2,405	2,997	3,477	3,834	4,064	4,171	4,150	4,003
General and administrative	626	963	1,207	1,410	1,567	1,676	1,738	1,751	1,715
	3,585	**5,652**	**7,282**	**8,763**	**10,065**	**11,170**	**12,071**	**12,738**	**13,152**
Operating income/ (loss)	**-659**	**-771**	**-626**	**-280**	**259**	**980**	**1,865**	**2,885**	**4,003**
Finance income	421	70	94	117	139	160	179	197	211
Finance costs	-132	-100	-101	-102	-36	-37	-38	-39	-39
Shares in losses of associate	0	0	0	0	0	0	0	0	0
Finance income/ (costs) - net	**289**	**-29**	**-7**	**15**	**103**	**123**	**141**	**158**	**172**
Income/ (loss) before tax	**-370**	**-800**	**-633**	**-265**	**362**	**1,103**	**2,006**	**3,042**	**4,175**
Income tax expense/ (benefit)	60	-200	-158	-66	90	275	500	759	1,041
Net loss attributable to owners of the parent	**-430**	**-601**	**-475**	**-199**	**272**	**828**	**1,506**	**2,284**	**3,134**

Source: Spotify Data and Author estimation

Notes		Assumptions
Cost of revenue	% of Revenues	- Gross Margin continuous growth rate until the company reaches 30% in 2030. - A ratio of ad-supported cost of revenue to premium cost of revenue is assumed to be 20% through the period.
R&D	% of Revenues	- The R&D is assumed to be 13% of revenues in 2030.
Sales and marketing	% of Revenues	- The sales and marketing is assumed to be 7% of revenues in 2030.
G&A	% of Revenues	- The G&A is assumed to be 3% of revenues in 2030.
Lease right - of - use assets Depreciation	% Depreciation / 4y aggregate CAPEX	- Depreciation ratio over the last four years' aggregate acquisitions (2019-2022).
P&E Depreciation	% Depreciation / 4y aggregate CAPEX	- Depreciation ratio over the last four years' aggregate acquisitions (2019-2022).
Intangibles Amortization	% Amortization / 4y aggregate CAPEX	- Amortization ratio over the last four years' aggregate acquisitions (2019-2022).
Finance income	% of Revenues	- Historical average (2019-2022) of interest income weight on total revenues.
Finance costs	% of Lease Liabilities and Exchangeable Notes	- Historical average (2019-2022) of interest expense weight on lease liabilities and exchangeable notes.
Shares in losses of associate	0	- Equal zero until the end of the forecasting period since it is unpredictable due to the profitability of affiliated business.
Marginal Tax Rate	Effective	- Statutory tax rate from Luxembourg: 17% effective tax rate with the 7% solidarity surtax and the 6.75% municipal business tax.

Source: Author estimation

Appendix H- CAPEX and Depreciation & Amortization Forecast

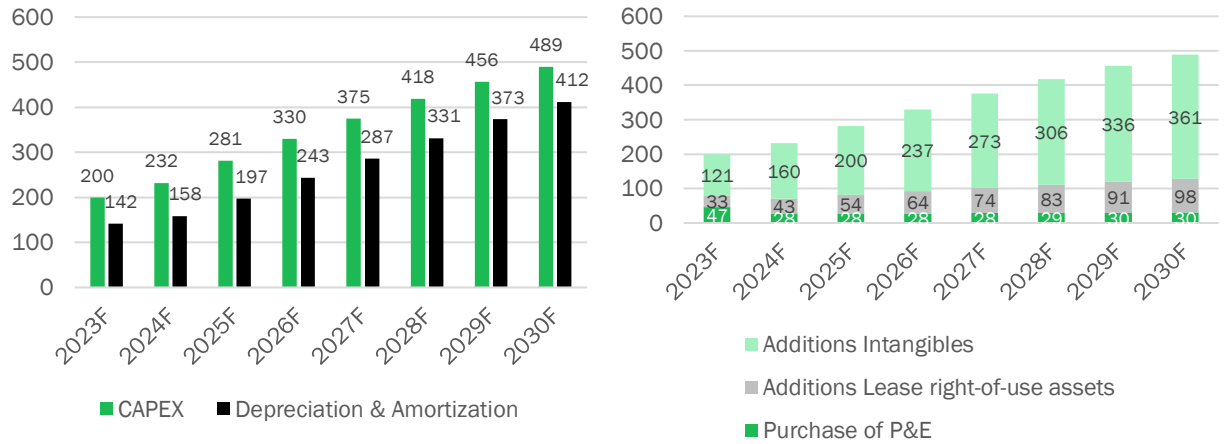
Spotify's capital expenditure (CAPEX) includes investments in fixed assets, intangible assets, and lease right-of-use assets.

Spotify has invested €19 million in new as well as existing leased office premises in 2022 to support its global expansion and anticipates an investment of also €19 million in 2023. According to its Annual Report, current facilities are enough to meet its demands for space. With the implementation of its "Work from Anywhere" policy in 2021, where people can work remotely from anywhere in the world, Spotify's property needs have decreased. Thus, only a replacement CAPEX of 8% of P&E will be predicted beyond 2023 to cover infrastructure and information technology investments through purchasing goods and equipment.

We forecasted intangible additions as a percentage of total revenues since we foresee higher capital spending and intangible purchases as revenue increases. Based on a four-year historical average (2019-2022), a constant investment rate of 0.63% was projected until 2030.

The company's right-of-use assets consist of leased workspace. It is foreseen to advance at a slower rate compared to sales since it is a technology firm and does not need to raise its fixed costs to increase its revenues. Therefore, we use the percentage of additions over total revenues for 2022 when forecasting additions until 2030, which is the lowest over the past four years.

We determine depreciation/amortization for both assets using the historical depreciation ratio in the last four years' aggregate acquisitions. Hence, the depreciation rate for fixed assets was adjusted to 18.3% annually until 2030, applied to the aggregated capex for the four prior years. These figures were 23.5% and 26.3% for intangible and lease right-of-use assets.



Source: Author estimation (in millions of EUR)

Appendix I- Net Working Capital Forecast

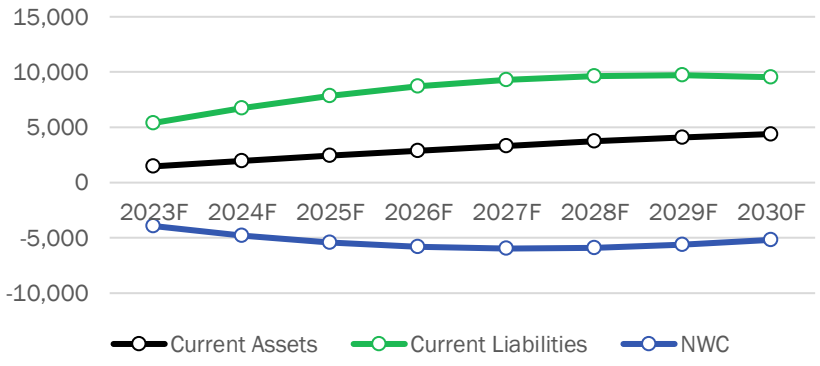
The net change in the working capital (WC), comprised of current assets and current liabilities, must be projected to determine the FCFF. "Trade and other receivables" and "other current assets" were the only short-term assets that contributed to this variation.

For the first, we determined the Average Collection Period (ACP) from 2019 to 2022 and then calculated a historical average of them. We verified that Spotify's average ACP is 20.6 days, indicating it receives earlier than the agreed-upon 30-day payment terms. We applied an ACP of 20.6 days till 2030, which, along with the income prediction, allowed us to estimate "trade and other receivables". The "other current assets", which is mostly made up of content assets, were projected using its historical average percentage of revenues from 2019 to 2022 (2%).

"Trade and other payables", "deferred revenue", and "accrued expenses and other liabilities" were the current liabilities that contributed to the net change in WC.

For "Trade and other payables", we estimated the Average Payable Period (APP) over the last four years of 35.8 days. Then, we applied that figure along with the cost of revenue projection until 2030. Parallel to the method used to forecast "other current assets" above, "deferred revenue" was approximated as a percentage of total revenues of 4.7%.

Finally, "accrued expenses and other liabilities" are the company's most significant liabilities, primarily accrued fees payable to right holders. These are anticipated to decline in the future, as was mentioned in the chapter on the cost of revenue. Accordingly, we determined the accrued fees to right holders as a percentage of the cost of revenue in 2022 (18.9%), and we then assumed that the rate would go down by 2% per year.



Source: Author estimation (in millions of EUR)

Appendix J- Consolidated Balance Sheet (2022-2030) and Forecasting Assumptions

		Forecasted Period							
In millions of EUR	2022A	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
Assets									
Non- current assets									
Lease right- of- use assets	417	421	433	448	461	473	483	492	498
Property and equipment	348	352	346	351	355	363	371	380	389
Goodwill	1,168	1,168	1,168	1,168	1,168	1,168	1,168	1,168	1,168
Intangible assets	127	177	244	310	379	448	516	582	643
Long term investments	1,138	1,140	1,143	1,148	1,154	1,159	1,165	1,170	1,176
Restricted cash and other non- current assets	78	166	220	274	326	375	421	462	496
Deferred tax assets	8	8	8	8	8	8	8	8	8
	3,284	**3,432**	**3,563**	**3,707**	**3,850**	**3,994**	**4,132**	**4,261**	**4,379**
Current assets									
Trade and other receivables	690	1,079	1,436	1,787	2,125	2,445	2,743	3,009	3,234
Income tax receivable	5	5	5	5	5	5	5	5	5
Short term investments	867	1,574	2,095	2,607	3,101	3,567	4,001	4,390	4,718
Cash and cash equivalents	2,483	2,656	2,651	2,795	2,187	3,418	5,329	8,086	11,845
Other current assets	307	386	513	639	759	874	980	1,075	1,156
	4,352	**5,700**	**6,701**	**7,833**	**8,177**	**10,309**	**13,058**	**16,565**	**20,958**
Total assets	**7,636**	**9,132**	**10,264**	**11,540**	**12,028**	**14,303**	**17,190**	**20,826**	**25,337**
Equity and liabilities									
Equity									
Share capital	0	0	0	0	0	0	0	0	0
Other paid in capital	4,789	4,789	4,789	4,789	4,789	4,789	4,789	4,789	4,789
Treasury shares	-262	-472	-682	-892	-1,102	-1,102	-1,102	-1,102	-1,102
Other reserves	1,521	1,877	2,315	2,855	3,519	4,335	5,341	6,578	8,100
Accumulated deficit	-3,647	-4,248	-4,722	-4,922	-4,650	-3,822	-2,316	-33	3,101
Equity attributable to owners of the parent	**2,401**	**1,947**	**1,700**	**1,831**	**2,556**	**4,201**	**6,712**	**10,232**	**14,888**
Non- current liabilities									
Exchangeable Notes	1,128	1,128	1,128	1,128	0	0	0	0	0
Lease liabilities	555	561	577	596	613	629	643	654	663
Accrued expenses and other liabilities	28	69	92	115	136	157	176	193	207
Provisions	3	3	3	3	3	3	3	3	3
Deferred tax liabilities	5	5	5	5	5	5	5	5	5
	1,719	**1,766**	**1,805**	**1,846**	**757**	**794**	**827**	**855**	**879**
Current liabilities									
Trade and other payables	845	1,392	1,837	2,266	2,672	3,047	3,388	3,683	3,924
Income tax payable	11	11	11	11	11	11	11	11	11
Deferred revenue	520	892	1,188	1,478	1,758	2,022	2,268	2,488	2,675
Accrued expenses and other liabilities	2,093	3,077	3,676	4,060	4,227	4,181	3,938	3,508	2,913
Provisions	26	26	26	26	26	26	26	26	26
Derivative liabilities	21	21	21	21	21	21	21	21	21
	3,516	**5,419**	**6,759**	**7,863**	**8,714**	**9,308**	**9,652**	**9,738**	**9,570**
Total liabilities	**5,235**	**7,185**	**8,563**	**9,709**	**9,471**	**10,102**	**10,478**	**10,593**	**10,448**
Total equity and liabilities	**7,636**	**9,132**	**10,264**	**11,540**	**12,028**	**14,303**	**17,190**	**20,826**	**25,337**

Source: Spotify Data and Author estimation

Notes		Assumptions
Total Capex	% of Revenues	Total Capex = Lease right-of-use assets Capex + P&E Capex + Intangible assets Capex
Lease right-of- use assets	% Additions / Total Revenues	- Percentage of additions over total revenues for 2022. The investment rate was, therefore, assumed to be constant at 0.17%.
Property and equipment	8% * P&E(t-1)	-In 2023, it is expected to invest €19 million in new and leased office premises. After 2023, we estimated only a replacement CAPEX of 8% of the previous year's P&E.
Intangible assets	% Additions / Total Revenues	- Intangible additions as a percentage of total revenues. It was assumed a 0.63% constant rate of investment based on the four-year historical average (2019-2022).
Goodwill	2022	- Equal to the Nominal Value for 2022. Given that the company's goodwill is registered because of business combinations or resultant imparity, it's difficult to predict.
Long term investments	TME Stock Forecast until 2030	- 96% of Spotify's long-term investments comprise its 8% stake in Tencent Music Entertainment. For its projections, we'll assume that growth will continue in line with the TME stock forecast until 2030. The remaining 4% will remain the same as in 2022, and we assume that no additional investments will be made.
Restricted cash and other non-current assets	% of Revenues	- Equal to the historical average percentage of revenue - 0.9% (2019-2022).
Deferred tax assets	2022	- Equal to the Nominal Value for 2022.
Trade and other receivables	Average Collection Period days	- Forecast based on the company's average collection period (ACP) over the last four years. We used the ACP average of the previous four years from 2023 forward, which is 20.6 days.
Income tax receivable	2022	- Equal to the Nominal Value for 2022.
Short term investments	% of Revenues	- Equal to the historical average percentage of revenue - 8.3% (2019-2022).
Other current assets	% of Revenues	- Equal to the historical average percentage of revenue - 2% (2019-2022).
Share Capital	0	- No expected share issuance.
Other paid in capital	2022	- As it is hard to anticipate, we assume it equals the nominal value 2022.
Treasury shares	Ordinary Shares Repurchase Program	- A program to repurchase up to $1 billion worth of Spotify's ordinary shares was made public in August 2021 and is set to expire in April 2026. As of December 31, 2022, Spotify had repurchased $104 billion via this program. The remaining shares are worth approximately $895 million. It translates to 839.5 million euros at the USD/EUR exchange rate of 1.0661, as reported by Yahoo Finance on December 30, 2022. - We will assume that the repurchasing will be allocated equally until 2026 and that all shares will be repurchased.
Other reserves	3% * FTEs	-Changes in share-based remuneration are the key factor affecting other reserves. Because this is a type of remuneration, we estimated it considering the number of FTEs and the percentage of share-based compensation on FTEs. We estimated the FTEs based on the average increase over the previous four years (23%). Share-based compensation was estimated through an average of % across the FTEs of the previous four years (3%). The other reserves are equal to the amount from last year plus the share-based payment expenditure that has not yet been activated.
Accumulated deficit	-	- Retained earnings t= Retained earnings t-1 + Net Income t - Common Dividends
Exchangeable Notes	2022 until maturity	- The senior exchangeable notes mature in 2026 and bear no interest. We assumed that the exchangeable notes would only be redeemed at maturity. Because the modifications are the consequence of changes in their fair value effects and changes in the exchange rate, both of which are difficult to foresee, we will assume the same value until maturity.

Lease liabilities	Growth Rate of Lease right- of- use assets	- Equal to the growth rate of lease right-of-use assets
Accrued expenses and other liabilities non-current	% of Revenues	- Equal to the historical average percentage of revenue - 0.4% (2019-2022).
Provisions non-current	2022	- Equal to the Nominal Value for 2022.
Deferred tax liabilities	2022	- Equal to the Nominal Value for 2022.
Trade and other payables	Average Payable Period days	- Forecast based on the company's average payable period (APP) over the last four years. We used the APP average of the previous four years from 2023 forward, which is 35.8 days.
Income tax payable	2022	- Equal to the Nominal Value for 2022.
Deferred revenue	% of Revenues	- Equal to the historical average percentage of revenue - 4.7% (2019-2022).
Accrued expenses and other liabilities current		
Accrued fees to rights holders	% of Cost of Revenue	-Right olders' accrued fees were computed using the assumed percentage of the cost of revenue. The ratio of accrued fees over the cost of revenue in 2022 was projected to decrease by 2% annually.
Accrued salaries, vacation, and related taxes	% of Operating Costs	- Projected using their historical average % over operational costs (R&D, Sales and Marketing, and G&A)- 3.2%.
Other accrued expenses	% of Total Costs	- Projected using the 2022 weight relative to the total costs (cost revenue plus operating expenses).
Provisions current	2022	- Equal to the Nominal Value for 2022.
Derivative liabilities	2022	- Equal to the Nominal Value for 2022.

Source: Author estimation

Appendix K- Projected Cash Flow Statement (2023-2030)

	Forecasted Period							
In millions of EUR	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
Operating Activities								
Net income	-601	-475	-199	272	828	1,506	2,284	3,134
Depreciation & Amortization	142	158	197	243	287	331	373	412
Change in NWC								
Trade and other receivables	-389	-357	-351	-338	-320	-298	-266	-225
Income tax receivable	0	0	0	0	0	0	0	0
Other current assets	-79	-128	-125	-121	-114	-106	-95	-81
Trade and other payables	547	445	429	405	375	341	296	241
Income tax payable	0	0	0	0	0	0	0	0
Deferred revenue	372	295	290	280	264	246	220	186
Accrued expenses and other liabilities	984	599	384	166	-46	-243	-430	-595
Provisions	0	0	0	0	0	0	0	0
Deferred taxes	0	0	0	0	0	0	0	0
Cash from operations	**977**	**538**	**625**	**908**	**1,274**	**1,777**	**2,382**	**3,071**
Investing Activities								
CAPEX	-200	-232	-281	-330	-375	-418	-456	-489
Goodwill	0	0	0	0	0	0	0	0
Investment in Associate	0	0	0	0	0	0	0	0
Long term investments	-2	-3	-5	-5	-5	-6	-5	-6
Short term investments	-707	-521	-512	-493	-466	-434	-388	-329
Restricted cash and other non-current assets	-88	-55	-54	-52	-49	-46	-41	-35
Income tax receivable	0	0	0	0	0	0	0	0
Cash from investing	**-997**	**-811**	**-853**	**-880**	**-896**	**-903**	**-891**	**-858**
Financing activities								
Exchangeable Notes	0	0	0	-1,128	0	0	0	0
Dividends	0	0	0	0	0	0	0	0
Derivative liabilities	0	0	0	0	0	0	0	0
Change in debt - Lease liabilities	6	16	19	17	16	14	12	9
Accrued expenses and other liabilities	41	23	22	22	20	19	17	14
Change in equity	146	228	329	454	817	1,005	1,237	1,522
Cash from financing	**193**	**267**	**371**	**-635**	**853**	**1,038**	**1,266**	**1,546**
Cash and cash equivalents at January 1	2,483	2,656	2,651	2,795	2,187	3,418	5,329	8,086
Change in cash	173	-6	144	-608	1,231	1,911	2,757	3,759
Cash and cash equivalents at December 31	**2,656**	**2,651**	**2,795**	**2,187**	**3,418**	**5,329**	**8,086**	**11,845**

Source: Spotify Data and Author estimation

Appendix L- Projected FCFF (2023-2030)

In million of EUR

	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F
EBIT	-771	-626	-280	259	980	1,865	2,885	4,003
Effective Tax Rate	24.94%	24.94%	24.94%	24.94%	24.94%	24.94%	24.94%	24.94%
Adjusted Taxes	-192	-156	-70	65	244	465	719	998
NOPLAT	**-579**	**-470**	**-210**	**195**	**736**	**1,400**	**2,165**	**3,004**
Plus:								
Depreciation of Lease right- of- use assets	28	31	39	51	62	72	82	91
Depreciation of P&E	43	34	23	24	21	21	21	21
Amortization of Intangible assets	70	93	134	168	204	238	270	299
Operating Cash Flow	**-437**	**-312**	**-14**	**438**	**1,022**	**1,731**	**2,538**	**3,416**
Less:								
CAPEX								
Additions of Lease right- of- use assets	33	43	54	64	74	83	91	98
Purchases of P&E	47	28	28	28	28	29	30	30
Additions of Intangibles	121	160	200	237	273	306	336	361
Changes in non cash working capital	-1,436	-855	-627	-393	-160	60	275	474
Free Cash Flow to The Firm	**799**	**311**	**333**	**501**	**807**	**1,253**	**1,807**	**2,453**

Source: Author estimation

Appendix M- Levered Beta Computation

In millions of USD

Company	Levered Beta	Market Cap (m)	Debt (m)	Firm Value (m)	Cash (m)	EV (m)	Gross D/E	Marginal Tax Rate	Unlevered Beta	Cash/ Firm Value	Adjusted Unlevered Beta
Deezer	N/A	310	25	336	121	215	0.08	24.94%	N/A	36.07%	N/A
The Walt Disney Company	1.29	183,229	51,608	234,837	11,615	223,222	0.28	24.94%	1.06	4.95%	1.12
Comcast Corporation	1.02	155,994	94,811	250,805	4,749	246,056	0.61	24.94%	0.70	1.89%	0.71
Apple	1.28	2,321,000	120,069	2,441,069	48,304	2,392,765	0.05	24.94%	1.23	1.98%	1.26
Warner Bros. Discovery	1.51	37,762	14,759	52,521	3,905	48,616	0.39	24.94%	1.17	7.44%	1.26
Netflix	1.21	141,242	14,353	155,595	6,058	149,537	0.10	24.94%	1.12	3.89%	1.17
Adobe	1.23	146,743	4,633	151,376	6,096	145,280	0.03	24.94%	1.20	4.03%	1.25
Alphabet	1.09	1,142,000	29,679	1,171,679	113,762	1,057,917	0.03	24.94%	1.07	9.71%	1.18
Microsoft Corporation	0.92	1,855,000	61,270	1,916,270	104,749	1,811,521	0.03	24.94%	0.90	5.47%	0.95
HubSpot	1.59	19,072	806	19,878	1,413	18,466	0.04	24.94%	1.54	7.11%	1.66
Tencent Music Entertainment	0.8	12,036	5,965	18,001	9,555	8,446	0.50	24.94%	0.58	53.08%	1.24
Amazon	1.26	1,386,000	140,118	1,526,118	53,888	1,472,230	0.10	24.94%	1.17	3.53%	1.21
NetEase	0.56	65,622	27,531	93,153	24,889	68,264	0.42	24.94%	0.43	26.72%	0.58
Median:	**1.22**						**0.10**		**1.10**	**5.47%**	**1.20**
Spotify	**1.57**	15,490	1,856	17,346	2,647	14,699	0.73	24.94%	**1.02**	15.26%	**1.20**

Source: Yahoo Finance and Author estimation

Appendix N- Computation of Spotify's Market Capitalization

Market Capitalization		
Share price (30/12/2022) in $	$	78.95
EUR/USD Exchange rate (30/12/2022)		1.0661
Share price (30/12/2022) in €	€	74.05
Million of basic shares outstanding		193.29
Million of shares - Exchangeable Notes		2.91
Million of diluted outstanding shares		**196.20**
Market Cap (million)	**€**	**14,529.94**

Source: Spotify Data, Author estimation

Appendix O- Relationship between Interest Coverage Ratio, Ratings, and Default Spread

If Interest coverage ratio is:

>	≤ to	Rating is	Spread is
-100000	0.199999	D2/D	20.00%
0.2	0.649999	C2/C	17.50%
0.65	0.799999	Ca2/CC	15.78%
0.8	1.249999	Caa/CCC	11.57%
1.25	1.499999	B3/B-	7.37%
1.5	1.749999	B2/B	5.26%
1.75	1.999999	B1/B+	4.55%
2	2.2499999	Ba2/BB	3.13%
2.25	2.49999	Ba1/BB+	2.42%
2.5	2.999999	Baa2/BBB	2.00%
3	4.249999	A3/A-	1.62%
4.25	5.499999	A2/A	1.42%
5.5	6.499999	A1/A+	1.23%
6.5	8.499999	Aa2/AA	0.85%
8.5	100000	Aaa/AAA	0.69%

Source: Damodaran- Ratings, Interest Coverage Ratios and Default Spread

Appendix P- Recommendation Mechanism

Sell	≤ 0%	≤ $78.95
Reduce	> 0% and ≤ 10%	> $78.95 and ≤ $86.85
Hold	> 10% and ≤ 20%	> $86.85 and ≤ $94.74
Buy	> 20% and ≤ 45%	> $94.74 and ≤ $114.48
Strong buy	> 45%	> $114.48

Source: Author estimation

Appendix Q- Spotify's WACC and Perpetuity Growth Rate Sensitivity Analysis

The following table displays the impact that shifts in the perpetual growth rate (g) and the WACC of 0.20% and 0.5%, respectively, can have on the final price obtained for Spotify shares.

		WACC								
	$ 162.50	9.15%	9.65%	10.15%	10.65%	11.15%	11.65%	12.15%	12.65%	13.15%
g	2.84%	$ 212.09	$ 192.67	$ 176.06	$ 161.71	$ 149.21	$ 138.23	$ 128.54	$ 119.92	$ 112.23
	3.04%	$ 218.20	$ 197.74	$ 180.31	$ 165.31	$ 152.28	$ 140.88	$ 130.84	$ 121.93	$ 113.98
	3.24%	$ 224.72	$ 203.12	$ 184.81	$ 169.11	$ 155.52	$ 143.66	$ 133.24	$ 124.02	$ 115.81
	3.44%	$ 231.69	$ 208.85	$ 189.57	$ 173.11	$ 158.92	$ 146.57	$ 135.75	$ 126.19	$ 117.71
	3.64%	$ 239.18	$ 214.96	$ 194.63	$ 177.35	**$ 162.50**	$ 149.63	$ 138.37	$ 128.47	$ 119.70
	3.84%	$ 247.22	$ 221.49	$ 200.00	$ 181.83	$ 166.28	$ 152.84	$ 141.13	$ 130.85	$ 121.76
	4.04%	$ 255.90	$ 228.48	$ 205.73	$ 186.58	$ 170.27	$ 156.22	$ 144.02	$ 133.34	$ 123.92
	4.24%	$ 265.28	$ 236.00	$ 211.85	$ 191.63	$ 174.49	$ 159.78	$ 147.05	$ 135.94	$ 126.18
	4.44%	$ 275.45	$ 244.08	$ 218.39	$ 197.01	$ 178.96	$ 163.54	$ 150.25	$ 138.68	$ 128.54

We can observe that stock prices range between a low of $112.23 and a high of $275.45, corresponding to a 31% decline and a 70% increase in price relative to the price target. As the WACC grows, the share price declines, while a rise in the perpetuity growth rate has the reverse effect.

Source: Author estimation

Appendix R- Spotify Peer Group selection (in millions of US$)

Company	Industry	Market Cap $M[9]	Revenues 2022 $M	Revenue 4y CAGR (%)	Gross Margin (%)	Capital Structure (D/E)
Spotify	**Internet Content & Information**	**15,490**	**12,502**	**20.13%**	**24.95%**	**0.73**
Deezer	Entertainment	310	481	5.80%	14.43%	0.08
The Walt Disney Company	Entertainment	183,229	84,415	5.94%	33.40%	0.28
Comcast Corporation	Telecom Services	155,994	121,427	3.68%	68.53%	0.61
Apple	Consumer Electronics	2,321,000	387,537	14.87%	43.06%	0.05
Warner Bros. Discovery	Entertainment	37,762	33,817	44.78%	39.55%	0.39
Netflix	Entertainment	141,242	31,616	16.19%	39.37%	0.10
Adobe	Software - Infrastructure	146,743	17,606	16.37%	87.70%	0.03
Alphabet	Internet Content & Information	1,142,000	282,836	20.45%	55.38%	0.03
Microsoft Corporation	Software - Infrastructure	1,855,000	204,094	14.01%	68.16%	0.03
HubSpot	Software - Application	19,072	1,731	36.89%	81.84%	0.04
Tencent Music Entertainment	Internet Content & Information	12,036	28,339	3.67%	30.96%	0.50
Amazon	Internet Retail	1,386,000	513,983	22.37%	13.16%	0.10
NetEase	Electronic Gaming & Multimedia	65,622	96,496	17.66%	54.68%	0.42
1st Quartile				5.91%	29.46%	0.04
Median				16.28%	41.31%	0.10
2nd Quartile				20.93%	68.25%	0.44

Source: Yahoo Finance and Author estimation

[9] Notes: Spotify and Deezer values reported in euros have been translated to US dollars for this exercise. Furthermore, TTM Revenue is used for companies that do not have the same fiscal year as Spotify.

Appendix S- Target Price Share Chart Explanation

When building the graph in Figure 7.1, the following factors were considered for each of the points:

Scenario Analysis: We considered the target price obtained by the downside and upside scenarios, with the midway point representing the weighting of the base, upside, and downside scenarios based on their assigned likelihood.

Sensitivity Analysis: We treated the sensitivity analysis extremes as minimum and maximum, with the midway point being our baseline scenario.

Comparable multiples: When considering multiples, we use the lowest multiple among peers for the minimum value and the highest among peers for the maximum value. The median was used to determine the intermediate point, excluding any outliers in the peer group.