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Equity valuation: Uber Technologies, Inc

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Master in Finance

Supervisor: Phd Professor António Sarmento Gomes Mota,
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BUSINESS SCHOOL

Department of Finance

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Resumo

A Uber Technologies, Inc. destaca-se no setor de transporte de passageiros e entregas de produtos alimentares, oferecendo serviços de ride-hailing, entrega de refeições e facilitando a conexão entre embarcadores e transportadores, através das suas plataformas e aplicações móveis, com presença global.

Esta dissertação de mestrado tem como principal objetivo avaliar a Uber, determinando o preço das suas ações a 31 de dezembro de 2023, com o propósito de verificar se a perceção do mercado sobre o valor da empresa, nessa data, refletia efetivamente o seu valor intrínseco. Por outras palavras, visa analisar se o preço das ações estava em conformidade com o valor justo da empresa ou se esta se encontrava sobrevalorizada ou subvalorizada.

Para determinar o justo valor da empresa foram utilizados dois métodos: o método de Desconto de Fluxos de Caixa, nomeadamente o FCFF, e a avaliação relativa, através da aplicação de múltiplos. Adicionalmente, a avaliação por Fluxos de Caixa foi complementada por uma análise de sensibilidade, permitindo entender como diferentes cenários impactam o preço das ações da Uber.

A avaliação pelo método dos Fluxos de Caixa resultou num preço de $55.71 por ação, enquanto a avaliação pelos múltiplos indicou um intervalo de preços entre $19.56 e $33.71. No entanto, as grandes discrepâncias entre os resultados obtidos por este último método e o preço a que as ações da Uber estavam a ser transacionadas, combinadas com a falta de justificações para essas mesmas diferenças, levaram a que este método não fosse considerado na formulação da recomendação final.

Considerando o preço obtido através do método dos Fluxos de Caixa e tendo em conta que, a 31 de dezembro de 2023, as ações da Uber estavam a ser transacionadas a $61.57 por ação, conclui-se que o preço das ações estava sobrevalorizado. Com base na análise realizada, a recomendação final é proceder à venda das ações.

Palavras-chave: Uber Technologies, Inc.; Avaliação de Empresas; Desconto de Fluxos de Caixa; Avaliação Relative; Justo Valor

Classificação JEL: G30 – Corporate Finance and Governance: General; G32 – Corporate Finance and Governance: Value of Firms

Abstract

Uber Technologies, Inc. is a leading company in the passenger transport and food delivery sector, offering ride-hailing services, meal delivery, and facilitating connections between shippers and carriers through its platforms and mobile applications, with a global presence.

The primary goal of this master's dissertation is to evaluate Uber by determining the price of its shares on 31 December 2023, with the purpose of verifying whether the market's perception of the company's value at that time accurately reflected its intrinsic value. In other words, it seeks to assess whether the share price was in line with the company's fair value or if it was overvalued or undervalued.

To determine the company's fair value, two methods were used: the Discounted Cash Flow Method, specifically the Free Cash Flow to the Firm (FCFF), and relative valuation through the application of multiples. Additionally, the cash flow valuation was complemented by a sensitivity analysis, allowing for an understanding of how different scenarios might impact the price of Uber's shares.

The valuation using the Free Cash Flow method resulted in a share price of $55.71, while the multiples valuation indicated a price range between $19.56 and $33.71. However, the significant discrepancies between the results obtained from the latter method and the actual price at which Uber's shares were being traded, combined with the lack of Justifications for these differences, led to the exclusion of this method in the final recommendation.

Taking into account the price derived from the FCFF method and considering that as of the 31st of December 2023 Uber's shares were trading at $61.57, it is concluded that the shares were overvalued. Based on the analysis conducted, the final recommendation is to sell the shares.

Abbreviations/Glossary

$	Dollar
$ 000 000	Million dollars
%	Percentage
AI	Aritificial Intelligence
APV	Adjusted Present Value
CAGR	Compound Annual Growth Rate
CAPEX	Capital Expenditures
CAPM	Capital Asset Pricing Model
CEO	Chief Executive Officer
CN	China
COGS	Cost of goods sold
D	Debt
D&A	Depreciationa nd Amortization
DCF	Discounted Cash Flow
DDM	Dividend Discount Model
DivN	Dividend in year N
E	Equity
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
EPS	Earnings Per Share
EV	Enterprise Value
EVA	Economic-Value Added
FCFE	Free Cash Flow to Equity
FCFF	Free Cash Flow to the Firm
G	Terminal growth rate
G&A	General and Administrative
GDP	Gross Domestic Product
IPO	Initial Public Offering
JPN	Japan
KR	Republic of Korea
NOA	Non-Operating Assets
NOPLAT	Net Operating Profit Less Adjusted Taxes
NWC	Net Working Capital
OECD	Organization for Economic Cooperation and Development
P&L	Profit and Loss
P/E	Price earnings ratio
P/S	Price to sales ratio
PN	Stock price in year N
PV	Present Value
R&D	Research and Development
rd	Cost of debt
re	Cost of Equity
rf	risk-free rate

S&P500	Standard and Poor's 500
Std.	Standard
Uber	Uber Technologies, Inc
UK	United Kingdom
US	United States of America
USD	United states dollar
WACC	Weighted Average Cost of Capital
Δ	Variation
τc	Corporate tax rate

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1. Introduction

Founded in 2009, Uber is a technological company that develops and maintains multisided platforms whose primary goal is to connect drivers with passengers, taking a percentage of each fare as revenue. Nowadays, beyond its ridesharing services, Uber also offers food delivery services, connecting consumers with restaurants, grocers, and other merchants. Additionally, it connects shippers and carriers in the freight industry, allowing carriers to book a shipment, transportation management and other logistic services.

The valuation of a company like Uber is pertinent, since it is inserted into an ever-evolving global landscape and specifically into such a disruptive and innovative sector, which is constantly challenged by regulatory and technological hurdles. An equity valuation provides investors and stakeholders with a clear understanding of the company's financial health, growth prospects, market positioning, and associated risks, supporting their decisions regarding capital allocation. Furthermore, being Uber a pioneer company, its valuation also offers insights into the broader impact of innovation on markets and economies.

This study aims to assess Uber's stock value as of 31 December of 2023, through the analysis of the key factors influencing the company's value and its growth potential.

The path to reach the as accurate and reliable as possible valuation possible will start by doing a review of the main literature on the most used valuation techniques and consequently choosing the two methods founded as the most appropriate, based on Uber's characteristics.

The next step involves an exploration of the macroeconomic outlook and an in-depth analysis of sector-specific factors, such as current financial indicators, major players, industry challenges and future forecasts. The information gathered in this section will support the main assumptions made in the valuation phase.

Afterwards, the equity valuation will be conducted using the assumptions derived in the previous section. The valuation will be done through two methods: the Discounted Cash Flow ("DCF") approach, namely the Free Cash Flow to the Firm ("FCFF"), and the relative valuation method, using multiples. Additionally, a sensitivity analysis will be performed to assess the impact of variations in key assumptions on the company's stock price.

Finally, in the concluding chapter, a financial recommendation will be presented regarding whether investors should buy, hold or sell their shares. This recommendation will be based on a comparison between the calculated stock price and the actual share price at the end of 2023, along with the findings from the sensitivity analysis.

2. Literature Review

The valuation of an asset or a company is defined as "the estimation of an asset's value based either on variables perceived to be related to future investment returns or on comparisons with similar assets" (Stowe, 2007, p. 2).

Knowing how to value an asset or a company is particularly important to investors, since they invest with the perspective of making a profit of those investments, that is, when they invest, they believe that the value of the asset in question will grow in the future, to compensate them for the risk associated to that transaction. Furthermore, knowing how companies create value and how to measure it is also very important because when companies compete focused on value creation, the capital and resources are used in a more efficient way, which leads to higher living standards for everyone. (Koller et al., 2010)

According to Stowe (2007) the valuation process is composed of five steps, which are:

1. Analysing the business: the step where the analyst should search about the industry structure, size and historical growth, as well as the company's relative competitive position.

2. Forecasting the company performance: one of the main steps to get the inputs to the estimation of the company's value.

3. Choosing an appropriate valuation model: involves selecting a model that best fits the company's characteristics, while also considering the availability and reliability of the data.

4. Translating projections into a valuation: the step where the valuation model is actually applied.

5. Formulating an investment recommendation: the final step is to provide an investment recommendation, based on the outcome of the valuation.

According to Damodaran (2011), there are three primary approaches to valuation, which are: the discounted cash flow valuation, the relative valuation, and the contingent claim valuation. These approaches will be examined in the following sections to determine the two most suitable methods for conducting the valuation.

2.1. Discounted Cash Flow Valuation

The discounted cash flow valuation, as its name implies, refers to the valuation determined by calculating the present value of the expected future cash flows of the asset or firm under consideration. This valuation method is easier to employ for companies with positive cash flows that can be estimated with a reasonable degree of confidence for the future, and for which a proxy for the discount rate is available. (Damodaran, 2012)

There are several cash flow valuation techniques, among which the following will be explored in more detail: Free Cash Flow to the Firm ("FCFF"); Free Cash Flow to Equity ("FCFE"), Adjusted Present Value ("APV") and Dividend Discount Model ("DDM").

2.1.1. Free Cash Flow to the Firm

Starting by the Free Cash Flow to the Firm, as the name indicates, it reaches the value of a company by discounting its free cash flow, which represents the funds available to all its investors, both equity and debt holders. The free cash flow is calculated by subtracting taxes from EBIT, thereby arriving at NOPLAT. Depreciations and amortizations are then added back, while capital expenditures and changes in net working capital are subtracted. The following formula provides a concise summary of this process:

$$FCFF = NOPLAT + Depreciations\ and\ amortizations - CAPEX - \Delta\ Net\ Working\ Capital \qquad (1)$$

After obtaining the free cash flow of the current year, it is essential to forecast each financial statement line item. To do that, Koller et al. (2010) suggest three different ways. The first one consists of using the company's historical growth to predict the future growth, though this may not be very indicative. The second is to get estimates from informed sources. The third and last method computes the expected growth by multiplying the portion of after-tax operating income invested in new projects, by the return on capital from these investments.

Eventually yearly projections become impractical (Koller et al., 2010), so we should use a terminal value to estimate the cash flows beyond that point, which can be computed using the formula below (Mota et al., 2012):

$$PV\ Terminal\ Value = \frac{\dfrac{FCFF_n}{WACC - g}}{(1 + WACC)^{n-1}} \qquad (2)$$

where:
- FCFF$_n$ is the free cash flow to the firm in the year n;
- WACC is the weighted average cost of capital;
- g is the constant future growth rate.

Since the free cash flow, as mentioned before, is the cash flow available to all investors, it must be discounted using the weighted average cost of capital ("WACC"), which is defined as "the rate of return required by the company's debt and equity holders blended together,

and as such is the company's opportunity cost of funds" (Koller, 2010). The detailed calculation of WACC, including the determination of its components, will be covered later in this section.

After having discounted the free cash flow at the WACC, the enterprise value, which can be interpreted as the "net cost of acquiring the firm's equity, taking its cash, paying off all debt, and thus owning the unlevered business" (Berk & DeMarzo, 2011, p. 322), is reached.

$$Enterprise\ Value = \frac{FCFF1}{1+WACC} + \frac{FCFF2}{(1+WACC)^2} + \cdots + Terminal\ Value \qquad (3)$$

Once the enterprise value has been estimated using equation 3, the market value of equity can be determined by adding the company's cash and subtracting its debt. Furthermore, some authors suggest including the value of non-operating assets in the enterprise value. These are assets whose disposal will not impact future free cash flows, such as marketable securities and minority interests in other companies (Barburski et al., 2012), but they represent additional value for shareholders, as they can be liquidated, contributing to the overall financial health of the company.

$$Equity\ value = Enterprise\ value + Non - Operating\ assets + Cash - Debt \qquad (4)$$

2.1.2. The weighted average cost of capital

The cost of capital is the expected return required by the potential investors in exchange for investing in the company. In other words, it reflects the opportunity cost of forgoing the next best alternative investment. Given that the method described in the previous section is based on the use of FCFF, which, as noted, represents the funds available to all investors, "the company's Weighted Average Cost of capital must include the required return for each investor." (Pratt & Grabowski, 2008, p. 4). Accordingly, the WACC can be calculated using the following formula:

$$WACC = \frac{E}{E+D} * re + \frac{D}{E+D} * rd * (1 - \tau c) \qquad (5)$$

where:
- E is the market value of the firm's equity
- D is the market value of the firm's debt
- re is the equity cost of capital
- rd is the cost of debt

- τc is the firm's corporate tax rate

2.1.2.1. Equity cost of capital

The equity cost of capital is the return that investors expect to have on their investment in a business's equity (Damodaran, 2011). Normally, it is calculated using the Capital Asset Pricing Model ("CAPM") (Berk & DeMarzo, 2011):

$$re = rf + \beta i * (E[rmkt] - rf) \tag{6}$$

where:
- rf is the risk-free interest rate
- βi is the beta of the company
- E[rmkt] is the expected return of the market

By looking to the formula, it is easy to verify that the expected return is computed by adding the security's risk premium to the risk-free rate. The risk-free rate is typically estimated by referring to the yield on long-term debt instruments issued by governments that are considered financially stable (KPMG, 2023) and, according to Damodaran (2011), it should be in the same currency in which cash flows are estimated. The security's risk premium is obtained by multiplying its beta by the market risk premium, as beta measures the security's volatility compared to the market. If a security is riskier than the overall market, the risk premium required by the investors will exceed the market risk premium, otherwise it will be lower. Thus, beta can be described as the risk that the investment adds to a market portfolio (Damodaran, 2012).

2.1.2.2. Debt cost of capital

Regarding the debt cost of capital, it measures the current cost to the firm of borrowing funds. For companies with multiple long-term outstanding bonds that are liquid and actively traded, the cost of debt can be computed using the market price of these bonds, its coupon and maturity dates. If such conditions do not apply, but the firm has a credit rating, the cost of debt can be determined by adding the company's default spread to the risk-free rate. (Damodaran, 2012).

2.1.3. Free Cash Flow to Equity

To evaluate the benefit of the company to its shareholders, an alternative approach is the Free Cash Flow to Equity ("FCFE") method. This method calculates the free cash flow available to equity holders by subtracting the net capital expenditures and changes in net working capital from the company's net income, and by adding the net changes in the company's debt position (Gardner et al., 2012):

$$FCFE = Net\ income - \Delta\ Working\ Capital - CAPEX\ net\ of\ disposals + \Delta\ Debt \quad (7)$$

Since these cash flows represent only the amount left for equity investors, they must be discounted at the equity cost of capital, as it is showed below, automatically reaching the equity value of the company:

$$Equity\ value = \frac{FCFE}{1 + re} + \frac{FCFE2}{(1 + re)^2} + \cdots + \frac{\frac{FCFEn}{re - g}}{(1 + re)^{n-1}} \quad (8)$$

It is important to note that if the assumptions are consistent across the mentioned methods, both will converge to the same equity value (Damodaran, 2012).

2.1.4. The Adjusted Present Value Method

The Adjusted Present Value ("APV") method is based on Modigliani & Miller theory that in a market with no taxes, a company's financial structure does not affect the value of its assets. Only market imperfections, like taxes and distress costs affect enterprise value. Having said that, the APV method first calculates the unlevered value of the company, which is the value of the company if it was totally equity financed and then adds the present value of the interest tax shield that arises from debt financing. Damodaran (2002) also considers the expected cost of bankruptcy, which accounts for the effect of borrowing on bankruptcy probability and its associated costs, because according to him ignoring these costs assumes an unrealistic optimal debt ratio of 100%. However, it is important to highlight that both the probability of going bankrupt and the expected costs of bankruptcy can't be estimated directly, which can lead to some estimation problems (Ootjers, 2007).

Going deeper into this methodology, the first step is to calculate the free cash flows of the company, as it was mentioned before in the explanation of the Free Cash Flow to the Firm, but this time, the cash flows are discounted using the firm's unlevered cost of capital, which

can be obtained by using the unlevered beta of the company as input in the CAPM formula. (Ootjers, 2007).

After discounting the free cash flows, it is time to determine the expected interest tax shield, by multiplying the firm's corporate tax rate by the interest paid in each year. After having the value of the interest tax shield, it should be discounted using the unlevered cost of capital calculated before.

Afterwards, the addition of the two values, according to some authors will generate the levered value of the company, however if we follow the Damodaran (2002) approach, it is still needed to add the expected costs of bankruptcy.

This method is useful when the company's debt-to-value ratio is expected to change. In the free cash flow method, a constant debt-to-equity ratio was assumed, because otherwise it would be harder to implement it, since the WACC will have to change over time. In the APV method, however, the analysts only need to forecast the interest payments and not the debt-to-equity ratio, so the task becomes easier (Berk & DeMarzo, 2011).

2.1.5. The Dividend-Discount Model

The Dividend-Discount Model ("DDM") states that the value of a security is the sum of "the expected cash flows an investor will receive from owning it" (Berk & DeMarzo, 2011). The sources of cash flows from owning a stock are the dividends that the company may pay to the investors as well as the value the investor will receive if they decide to sell the security. The DDM calculates the expected price per share by discounting both the anticipated future dividends and the terminal price of the company (Foerster et al., 2005):

$$P = \frac{Div1}{1+re} + \frac{Div2}{(1+re)^2} + \cdots + \frac{DivN}{(1+re)^N} + \frac{PN}{(1+re)^N} \tag{9}$$

where:
- DivN is the dividend in year N
- PN is the stock price in year N
- Re is the equity cost of capital

However, this model presumes that investors can precisely forecast future dividend payments, which is unrealistic. To address this limitation, the Gordon Growth Model was introduced. This model simplifies the process by requiring only the estimation of the average future growth rate of dividends, making the valuation more feasible (Foerster et al., 2005). According to d'Amico and De Blasis (2020), this model is more appropriate for mature

companies, with stable dividend policy and a growth rate that is lower than that of the overall economy. The model values a stock by discounting shareholders' future dividend cash flows at the cost of equity subtracted by the dividend growth rate. (Resende, 2020). Both the inputs can be easily obtained from the company's historical data (d'Amico & De Blasis, 2020). The following formula can be used to calculate the stock price:

$$P = \frac{Div1}{re - g} \tag{10}$$

2.1.6. The Economic-Value Added

Another method that is used, due to its link to the economic theory is the Economic-Value Added ("EVA"). The EVA is built under the principle that a company is only truly profitable if the return on its invested capital is higher than the opportunity cost of capital. To verify that condition, the EVA "looks at the firm's "residual profitability", net of both the direct cost of debt capital and the indirect cost of equity capital" (Grant, 2003, p. 2). The formula below shows how to calculate the EVA (Mota et al., 2012):

$$EVA = NOPLAT - (WACC * Invested\ Capital) \tag{11}$$

The invested capital can be calculated using either the operating approach (equation 12) or the financing approach (equation 13):

$$Invested\ Capital = NWC + Property\ Plant\ and\ Equipment + Goodwill\ and\ Intangibles \tag{12}$$

or

$$Invested\ Capital = Total\ Debt + Total\ Equity + Non-Operating\ Cash \tag{13}$$

Once all future EVA values have been calculated, they need to be discounted using the WACC. Then the terminal value of EVA should be determined using the following formula:

$$Terminal\ Value\ EVA = \frac{EVAn * (1 + g)}{WACC - g} \tag{14}$$

To determine the overall value of the company, the net present value of the EVA over the forecasted years and the terminal value is summed (Solovyev, 2016):

$$Enterprise\ value\ t = \sum_{t=1}^{t=x} \frac{EVA\ t}{(1+WACC)^t} + \frac{Terminal\ value\ of\ EVA}{(1+WACC)^n} \qquad (15)$$

To determine the market value of equity, some authors suggest that the most effective approach is to add the book value of equity to the present value of EVA, assuming a constant required return and a constant return on equity (Stewart, 1991, as cited in Behera, 2020). Additionally, as discussed in section 2.1.1, including the value of non-operating assets can lead to a more precise valuation, as these assets can add value to a company.

2.2. The Relative Valuation

Another used method is the one based on comparable firms. This method estimates the value of the firm based on the value of other, comparable firms or investments that we expect will generate very similar pattern of cash flows in the future. To do this we need to identify comparable firms and obtain market values for them and convert these values to valuation multiples, which are the value divided by some measure of the firm's scale. According to Suozzo et al. (2001) there are two types of multiples: Enterprise Multiples and Equity Multiples.

2.2.1. Enterprise Multiples

As it was mentioned in the previous section, the enterprise value is the market capitalization of the company plus the adjusted net debt and other non-equity claims and it represents the cost of buying the whole of an enterprise's core cash flow (Suozzo et al., 2001). Having said that, the Enterprise Value multiples ("EV multiples") are more comprehensive since they don't focus only on equity holder's claims, and they are useful if the goal is to compare companies with different levels of leverage. On top of that, EV Multiples are also less affected by accounting measures since this type of multiples use measures such as EBITDA and others that are not affected by those accounting differences.

The most popular enterprise value multiple is the EV/EBITDA, since it is a proxy for operating cash flow, and it is not affected by differences in the depreciation policy and in the capital structure. Furthermore, since it doesn't include the depreciations and the capital expenditures, practitioners rely on this multiple because it is not influenced by such variable items (Berk & DeMarzo, 2011). Some disadvantages of this multiple are the fact that it does not include the value that can arise from the tax management, and it cannot be used when current cash flow is negative.

Some other very used enterprise value multiples are the EV/EBIT and EV/Free Cash Flow.

2.2.2. Equity Multiples

Equity multiples are represented by the ratio between the market value of the equity stake of the company and some relevant statistic related to that value.

According to Suozzo et al. (2001), the most common valuation multiple is the Price-Earnings Ratio ("P/E Ratio"). The P/E ratio is calculated by dividing the company's share price by the earnings per share, which is a metric obtained by the division of the company's net income by the number of outstanding shares. To estimate the value of a firm's share, we should multiply the company's current earnings per share by the P/E ratio obtained during the analysis of its peers. The reasons for being considered the most common valuation multiple are related to the fact of being easy to access the data about the historical and forecasted earnings. This ratio cannot be used when earnings are negative.

Other equity multiples used are the Price/Book Value and the Dividend Yield.

Additionally, according to Fernandez (2023), depending on the industry being analyzed, some multiples are more suitable than others. In Appendix F, a table summarizes the most used multiples for valuing different industries, from which the following stand out, considering the company being analyzed in this study: "technology" sector, with Price Earnings Ratio ("P/E"); and "transport – travellers through road" sector, with the Price to Sales ratio ("P/S").

2.3. The Contingent Claim Valuation

The contingent claim valuation is a method that uses options to value assets, businesses, and equity stakes in businesses. The main idea behind the real options argument is that the DCF valuation methods don't show the value of the assets accurately, since they do not consider the value of the flexibility, in other words, the fact that the companies can adjust their strategies based on new information as the situations evolve (Damodaran, 2011).

On one hand, there are some situations where the utilization of this kind of approach makes sense, such as when the company to be valued is a money-losing company with a lot of debt. In this case, the most investors buying this stock are doing it for the same reasons investors buy deep out-of-the-money options. Additionally, this type of pricing models highlights a very important aspect of risk, which is the fact that the risk can be associated to additional value (Damodaran, 2011).

On the other hand, the argument that the company can learn over time and adapt its strategy is only valid if the learning is exclusive of the company and their competitors cannot use it too. According to Damodaran (2011), "the final values obtained from these applications

have much more estimation error associated with them than the values obtained in their more standard applications.".

2.4. Chosen methodologies for this study

Based on the literature review conducted before, it is reasonable to consider that the Free Cash flow to the firm is the favorite method of academics and practitioners. This can be explained by the fact that it incorporates specific information about the company, cost of capital and future growth potential, making the assumptions that will determine the final outcome more explicit. According to Damodaran (2012), "it is the foundation on which all other valuation approaches are built".

However, like all the methods described, it requires assumptions or forecasts, so we cannot say that it reaches an accurate value of the company. The best approach is to select more than one method to check if the results are consistent across them.

The other method to be used is the Relative Valuation. This method is widely used because of its ease of application, and unlike the DCF method, it requires fewer assumptions to perform the valuation (Damodaran, 2012).

To conclude, it is important to recognize that even after the most meticulous and detailed valuation, there will be uncertainty about the final numbers. This is because cash flows and discount rates are computed based on estimates and can be influenced by the perceptions and biases of the analyst conducting the valuation (Damodaran, 2012). Therefore, conducting a sensitivity analysis is essential, as it allows for recommendations to be based on a range (margin for error) rather than an absolute value.

3.   Macroeconomic overview

In 2022, it was anticipated that the global economy would grow, since the economies were recovering from the COVID-19 in the late 2021, and the same was verified in the first quarter of 2022. However, the invasion of Ukraine by Russia stopped this recovery, triggering significant disruptions in energy and food markets worldwide, causing the prices of natural gas, oil and coal to soar, creating inflationary pressures. This situation forced the Central Banks to tighten the monetary policy, by rising the nominal interest rates, to push the inflation back to the target levels. The increase in the interest rates constituted a significant obstacle to global growth, which led OECD to decrease the global growth estimation for 2023.

Nevertheless, in 2023, despite the predictions and the tight monetary policies implemented to combat inflation, GDP surpassed expectations having grown more than initially anticipated, accompanied by a quicker decrease in inflation and by a stabilization of household incomes due to the energy support programs implemented in many countries. It is also verified that there are some differences between the growth among the different countries/regions. In the United States, the growth was relatively robust (2.5%), thanks to the strong consumer and government spendings. In Europe, the growth slowed down from the third quarter of 2023 on, due to the impact of the tight monetary policies (since banking is the major source of funds in this region), the low confidence among the consumers and the continued adverse effects of the energy price shocks. The developing economies, on its turn, are doing better than Europe, registering growth rates close to those seen before the pandemic, partly because of the better economic policies, the strong investment in infrastructure and the steady employment gains.

One thing that is similar in all regions is the fact that the rise in the interest rates by the Central Banks has been influencing the bank lending rates to firms and households. Despite the little improvements that have been verified recently, the financial conditions remain relatively restrictive and long-term interest rates remain high (Figure 3.1), explaining the abrupt slowdown in the credit growth to the economic agents.
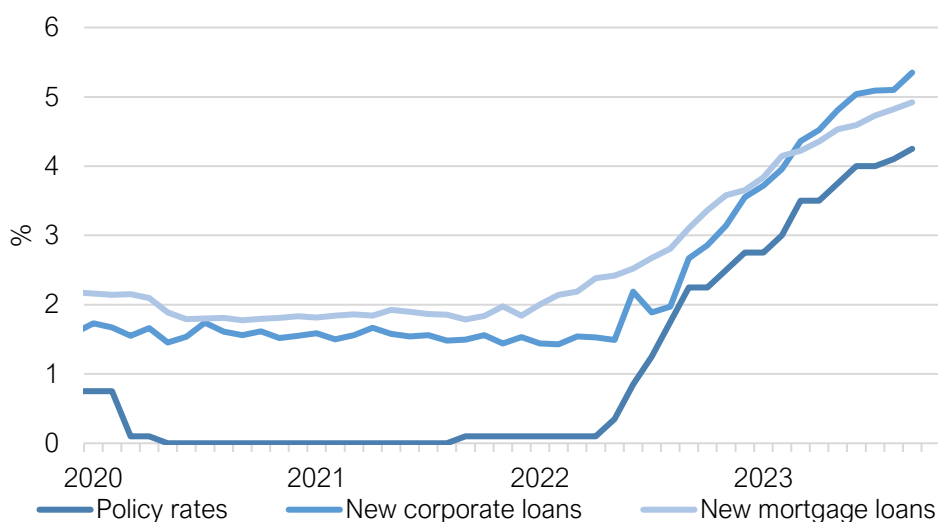
Figure 3.1: Bank loan rates

Regarding inflation, in general terms it has exhibited a downward trend across nearly all economies, mainly due to the decline in the energy prices after the rises registered in the previous two years. However, if only the core inflation is considered, which is the inflation excluding the price variation of food and energy, it is also stabilizing, but a slower rate. In concrete terms, the headline inflation decreased in the major advanced economies from 6.5% in 2022 to 4.5% in 2023.

3.1.   Forecasts

Directing the attention to the future, according to the OECD Economic Outlook, the global GDP growth rate is forecasted to be 3.1% in 2024, before edging up to 3.2% in 2025, if the inflation continues the downward trajectory and the monetary policy starts to ease, which is likely to happen if there are no further adverse supply shocks. Also, the headline inflation is predicted to decrease at similar rates to core inflation from this point onward, due to the expectation of permanence of the commodity prices near the recent levels. Most emerging-market economies are projected to reach target ranges by 2025.

If we look to the projections made by OECD to some regions individually (Figure 3.2), we can ascertain distinct growth paths. Starting by the United States, it is expected a slowdown in the GDP growth, from the 2.5%, registered in 2023, to 2.1% in 2024 and 1.7% in 2025, explained by the rundown of excess savings and the decrease in the government spending. The slowdown will not be greater due to the lower inflation that will allow real wage growth. Regarding Europe, the economic growth is expected to remain slow in 2024 (0.6%) due to the tight policies currently in force, recovering gradually as real incomes strengthens, being

expected a growth of 1.3% in 2025. Focusing on the emerging-markets and starting by China, it is expected to continue to be affected by the problems in the real estate sector and by low consumer confidence, what will result in a slow growth in the private consumption and consequent slowdown in the GDP Growth from 5.2% in 2023, to 4.7% in 2024 and 4.2% in 2025. Contrarily, India and Indonesia are expected to grow steadily, growing more than 6% and 5% annually, respectively.
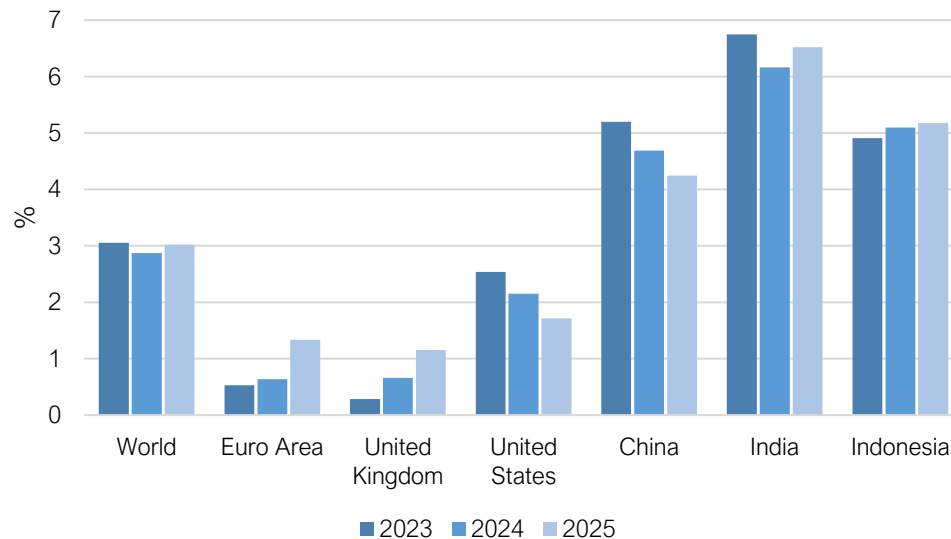
Source: OECD Interim Economic Outlook 115 Database

Figure 3.2: GDP growth projections by OECD

Finally, it is important to note that there are some geopolitical tensions that can lead to more disruptions in the supply chains, posing risks to the economic growth and adding to inflation pressures, consequently changing the forecasts made.

4. Industry overview

As it was mentioned previously, Uber offers services in different segments, such as ridesharing, food delivery and it also operates in the freight industry. Knowing that, in order to have a better view of the environment where it is inserted and also to understand better how the competitive landscape is characterized, it will be performed an analysis of each of the segments individually.

Nevertheless, there are some characteristics that are common to all of the segments of this type of platforms. Among them are the low customer loyalty, due to the minimal switching costs (Singh, 2021), the high exposure to the discretionary consumer spending (Singh & Chintala, 2023), the high barriers to new entrants and the significant levels of initial investment in marketing and delivery expansion needed (Eisenson, 2019). Another common aspect is that they are part of the so-called "gig economy", which "refers to the workforce of people engaged in freelance and side-hustle work" (McKinsey & Company, 2023). In this concrete case, a lot of these workers are young, with less training and, normally, they are recent immigrants in the respective countries and tend to join jobs that have low barriers to entry, which is precisely the case of jobs such as drivers and couriers in this type of entities. This aspect is a source of some advantages to the employers, since they can expand their workforce during periods of peak demand, the costs are lower and, overall, there is a higher flexibility (McKinsey & Company, 2023), but it is also a source of some uncertainties, due to the constant changes in regulation, namely changes in how independent workers are paid and what are the benefits they receive (Ahuja et al., 2021).

In addition to the characteristics mentioned, and looking to the current situation, Singh and Chintala (2023), highlight that ridesharing and delivery marketplaces are very exposed to the fuel prices. Given the ongoing global challenges, the industry may experience a decrease in the take rates – the percentage of the total fare that ridesharing or delivery companies retain – due to rising fuel costs and potential declines in both demand and supply, explained by the pullback in the discretionary consumer spending and the wage inflation, respectively.

4.1. Ridesharing

Focusing our attention on some specifications of the ridesharing segment, according to data from Statista (2023), it is inserted into the shared mobility market, which is divided into two markets, the shared rides and the shared vehicles, being the first, the one where the ridesharing is inserted, along with activities such as taxi, car-sharing, bike-sharing, e-scooter-sharing and moped-sharing. This market is an important component of the modern transportation infrastructure, and it is characterized by its high flexibility and affordability, and

by the fact that its services are exclusively booked online and used for short to medium distance trips. It is a segment that has been registering considerable growth over the years and it is still "poised for sustained growth and innovation" (Morwinsky, 2023), due to the increasingly integration of the digital technologies, the opportunities to expand the services to underserved regions and due to the introduction of electric and autonomous vehicles. However, it also faces some challenges, such as regulatory hurdles, the constant debates regarding driver compensation and labor rights, and the profitability challenges, due to the intense competition among ride-hailing companies.

Now, looking to the numbers, based on Statista Market Insights, the revenue of the ride-hailing market worldwide is expected to be $154 billion in 2023, and it is projected to show a CAGR of 6.97%, between 2023 and 2028, which will culminate in a market volume of $215.7 billion in that year, as can be seen in Figure 4.1.
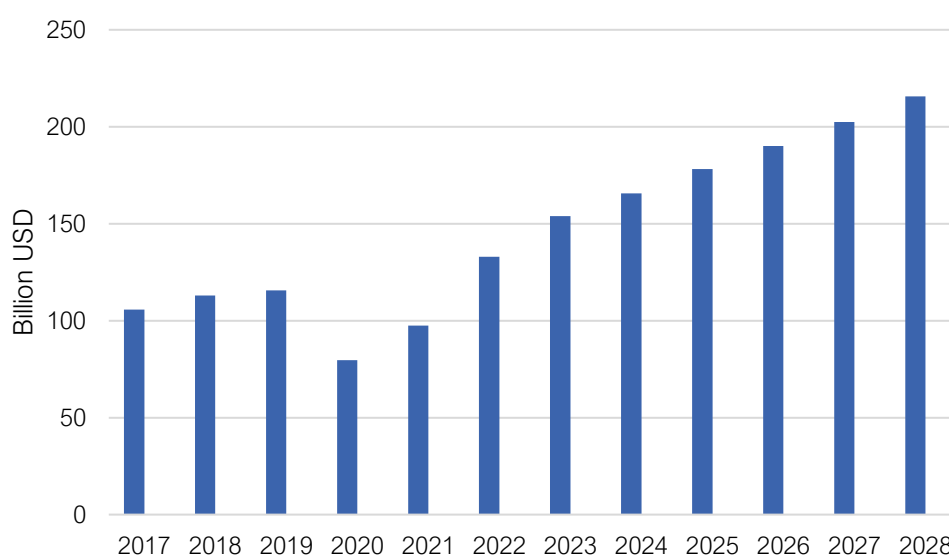
Source: Statista Market Insights

Figure 4.1: Expected ride-hailing revenue worldwide (2017 – 2028)

In what concerns the geographic distribution of the revenue, the biggest market is Asia, followed by Americas. Other important metrics indicate an increase in the user penetration as well as in the average revenue per user.

Regarding the players in the industry, Uber, Lyft and DiDi Global are among the main ones that are public listed. In the United States, specifically, according to an inquiry performed by Statista, from June to August of 2023, to 1,243 people between 18 and 64 years, Uber is the most well-known mobility service provider, being recognized by 89% of the respondents. The second most popular brand is Lyft, with 85% of the respondents.

4.2. Food delivery

According to Statista, the food delivery industry is inserted into the segment of digital delivery services, which is defined as "meals or snacks ordered via mobile app, internet, or text message.". This industry is characterized by having an economic structure still evolving and it is very susceptible to regulatory changes, as it was mentioned in the beginning of this section (Ahuja et al., 2021).

The main five revenue streams in this industry, according to Ahuja et al. (2021), are the restaurant commission fees, which is a percentage of the price of the meal required by the platform to the restaurants, the customer delivery fees, the customer-service fees, the revenue from the so called "in-app advertising" and the tips potentially paid by the customers.

On the side of the costs, beyond the costs associated with the technological infrastructure, namely the mobile apps, payment processing and the constant research and development to improve their efficiency and to introduce new features, one of the most important costs in this type of companies is the variable marketing costs, namely the costs with advertising. In this segment there is a high competition to gain market share therefore, to attract new customers, these companies incur in large advertising costs. According to Ahuja et al. (2021), these costs are "becoming unsustainable".

The industry as a whole has experienced exponential growth between 2018 and 2021, namely during the Covid-19 pandemic, where it more than doubled. Despite the growth that has been experienced, the industry is characterized by having a great difficulty to make a profit, which can be verified by the fact that delivery platforms, with few exceptions, remained unprofitable (Ahuja et al., 2021).

The market size of the global online food delivery sector, according to Statista, was estimated to be over $1 trillion in 2023. This revenue is divided into two types of deliveries, which are the grocery delivery and the meal delivery, being the first, the biggest one, representing around 62% of the mentioned revenue. Furthermore, the market size of this sector is expected to grow constantly between 2023 and 2028, reaching $1.79 trillion in that year. The grocery delivery will continue to be predominant, registering $1.27 trillion (Figure 4.2).
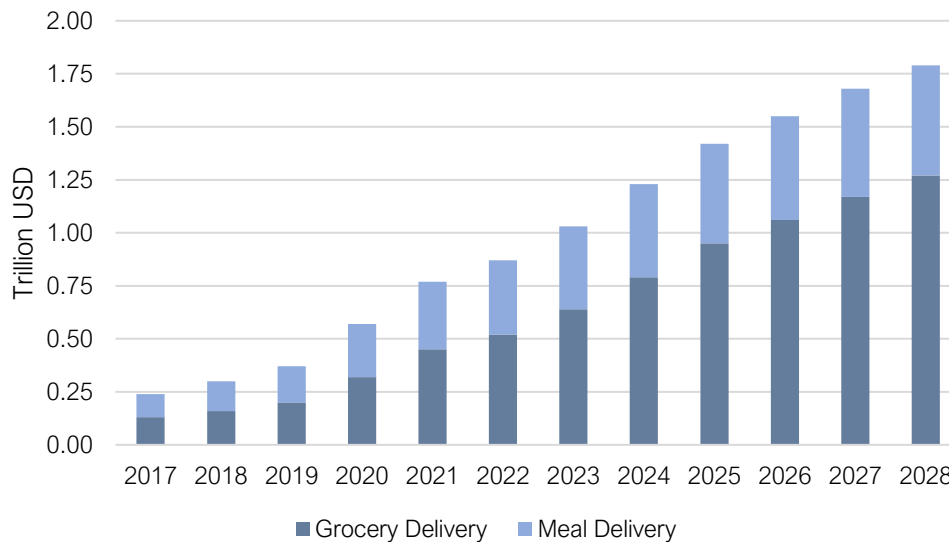
Source: Statista Market Insights

Figure 4.2: Expected online food delivery revenue worldwide (2017 – 2028)

Despite the expected growth, in the future, this industry may face even more competition pressure, namely due to the geographic competition among delivery platforms, the expansion of the scope of services provided and also due to the emergence of some specialized delivery apps focusing on a single costumer segment or cuisine type. However, there are ample opportunities regarding the consumer demand, existing still a lot of potential demand to be "filled" (Ahuja et al., 2021).

In what concerns the geographic distribution of the revenue, it is in China and in the United States where the amount of revenue is the largest, being forecasted to be $395.9 billion and $287.5 billion, respectively, in 2023. However, it is important to note that it is forecasted a higher CAGR in the United States between 2023 and 2028, resulting in an approximation between the countries, being expected amounts of $627.1 billion to China and $534.6 billion to the United States in 2028. As can be seen Figure 4.3, there is a huge difference between the revenue generated in those two countries and the remaining countries selected.

Source: Statista Market Insights
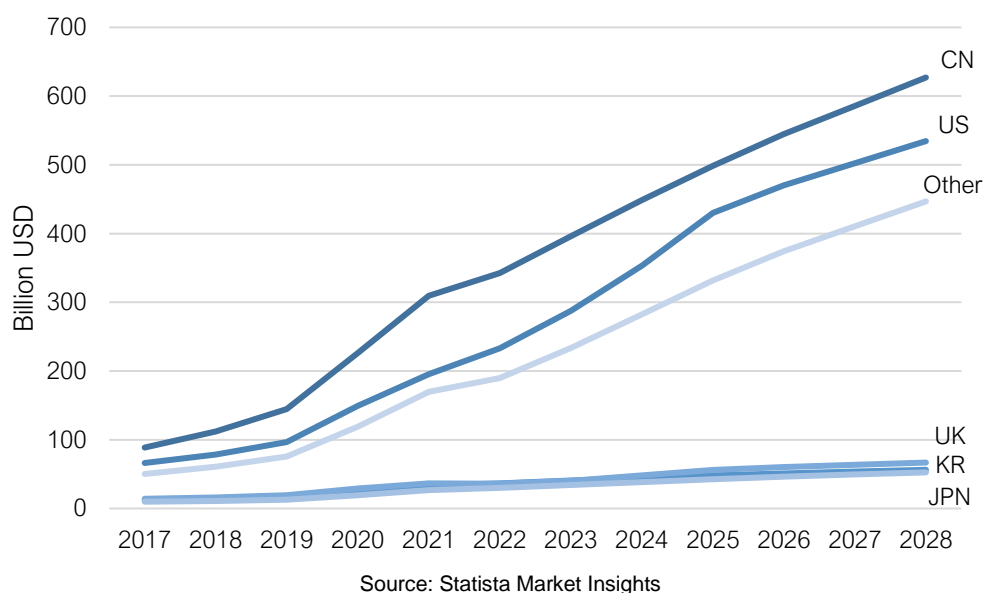
Figure 4.3: Expected online food delivery revenue by country (2017 – 2028)

Focusing on other important data, the number of users of the online food delivery market is expected to register a consistent growth between 2023 and 2028, reaching 2.5 billion users in the meal delivery and 2.1 billion users in the grocery delivery. It is important to note that, although the number of users of the meal delivery services is higher than the number of users of the grocery delivery, the revenue of the grocery delivery represents more than half of the total revenue of the industry, as it was mentioned previously.

Among the main players in this segment are Uber Eats, Delivery Hero, DoorDash, Just Eat Takeaway.com and Deliveroo.

4.3.   Freight

Despite being the segment with the lowest contribution to Uber's overall revenue, the freight segment remains significant for this analysis, particularly in terms of its current performance and estimated future growth trajectory. As a potential driver of growth, this segment can play a key role in diversifying the company's revenue streams.

Starting by defining the freight brokerage market, this market is a segment of the logistics and transportation industry that facilitates connections between shippers and carriers through intermediaries. It is important to note that, unlike related activities, such as freight forwarding, freight brokerage companies do not own vehicles or storage facilities, being only responsible for facilitating the connection between the two parties.

According to Global Market Insights, the freight brokerage market is valued at approximately $51.7 billion in 2023, with the B2B segment accounting for 58% of this total.

The main players in this market are C.H. Robinsons Worldwide, Inc., Total Quality Logistics, LLC and XPO, Inc., holding a market share exceeding 10%.

Looking forward, according to the same source, the freight brokerage market is projected to experience a CAGR of 6% from 2024 to 2032. This growth is justified by the sustained expansion of e-commerce, which has led to increased demand for this this type of flexible and cost-effective logistics solution. Additionally, ongoing efforts by companies within the sector to enhance technological integration, such as improving digital platforms, through the investment in automation and data analytics, and to expand their networks, will also support this growth trajectory.

5. Company Overview

5.1. Company description

Uber Technologies, Inc. is a technological multisided platform founded in 2009 that operates in three different segments, based on the same purpose, which is "to power movement from point A to point B" (Uber Technologies, Inc, 2023). Currently the company is led by Khosrowshahi Dara, who became the company's CEO in August of 2017, after a period of significant controversies and the resignation of the former CEO and co-founder, Travis Kalanick. Before joining Uber, Dara was the CEO of Expedia.

The most important segment, and the one that was the basis for the foundation of the company, is the 'Mobility', which is the segment responsible to connect consumers with a wide range of transportation modalities, such as ride-hailing and ridesharing services. This segment also includes the activities related to the financial partnerships products of the company and advertising. It is worth to highlight Uber's focus on innovation, with the implementation, since an early stage, in September 2016, of a self-driving pilot program in Pittsburgh, enabling the riders to get a self-driving vehicle when they requested a trip.

Another important segment of the company is the 'Delivery', which is the segment where the services responsible for making the connection between the consumers and the local commerce, such as restaurants, grocers, convenience stores and other retailers are inserted. These services started in April 2015, with the launch of the company's delivery app, "Uber Eats", allowing the costumers to order meals or other items, which can be delivered at the address inserted on the platform or can, alternatively, be picked-up at the respective store. Years before the official launch of this service, Uber had already made it possible for the riders to request on demand ice cream in some cities across the US, being the first experience made in July 2012.

The last and the smallest segment where the company operates is the 'Freight', launched in May of 2017, to provide an on-demand platform able to connect carriers with shippers' shipments, giving the carriers "transparent pricing and the ability to book a shipment with the touch of a button" (Uber Technologies, Inc, 2023).

5.2. Stock performance

Uber had its initial public offering ("IPO") in May 2019, at a price of $45 per share on the New York Stock Exchange (Uber Technologies, Inc, 2019). Despite the high expectations, Uber's stock price opened at $42 per share, three dollars below its initial price target and dropped 7.6% on its first day of trading, having closed below the $42 per share, corresponding to a

market cap of $69.7 billion, compared to the $75.46 billion expected before the IPO took place (CNBC, 2019). The second trading day was not better than the first, since Uber's stock registered another decline, closing that day with a share price 18% below its IPO price (Quartz, 2019).

Despite the underperformance following the IPO, Uber continued its expansion path by completing some acquisitions whose goals were to broaden either its product diversity or its geographic presence. As examples of the 13 acquisitions made by Uber, there is the acquisition of Careem's mobility, delivery and payments businesses across the Middle East, in the beginning of 2020, for an amount of $3.1 billion, with the main purpose of reinforcing its presence in that region (Uber Technologies, Inc, 2020); still during 2020, the acquisition of Postmates, an on-demand food delivery platform that covers 80% of US households, across all the 50 states, by $2.7 billion, in order to combine both platforms and consequently provide "more choice and convenience for consumers, new demand and tailored technology offerings for restaurants" (Uber Technologies, Inc, 2020); and in 2021, the acquisition of Drizly, the leading on-demand alcohol marketplace in North America, by approximately $1.1 billion, with the intention of expand its offerings and consequently respond to the increasing search for alcohol items in their platform (Uber Technologies, Inc, 2021).

Looking at the graph below, that presents the stock performance of Uber since its first trading day until the 31st of December of 2023, it is possible to highlight some important variations. The first one occurred in March 2020, when Uber saw the demand for its ridesharing services reduce significantly (declines of 60% to 70% according to Dara Khosrowshai, Uber's CEO), because of the coronavirus outbreak (The Motley Fool, 2020), what was reflected in its share price, that registered all-time lows, since the "investors likely viewed Uber more as a travel company than tech business" (CNBC, 2020).

Another important movement occurred in November 2020, when Uber shares' price registered a significant increase, mainly due to the news of some vaccine producers, such as Pfizer and BioNTech, that announced an effectiveness of 90% of their vaccines at preventing COVID-19. Another factor that drove the price up was the approval of Proposition 22 by the California government, a measure that allowed companies to continue classifying the gig workers as independent contractors and not employees, which protected Uber from numerous labour costs (InvestorPlace, 2020; The Motley Fool, 2020; TechCrunch, 2020).

In the first half of 2022, Uber stock fell 51%, what could be seen as contradictory, since it was benefiting from the economic reopening and its revenues and results were registering improvements, but the fact is that despite of the improvements, the company was still recording net losses and negative free cash flows and the "market sentiment has shifted against the "market share first, profits later" business strategy (The Motley Fool, 2022).

Finally, the year of 2023 was a great year for the Uber stock, since it rose more than 140%, reaching a new all-time high ($61.57 per share). Among the reasons supporting this growth are both the fact that Uber has achieved positive earnings over four consequent quarters and its consequent inclusion in the S&P500 index (on 18th of December of 2023) (The Motley Fool, 2023; Fries, 2023; CNN Business, 2023).

Source: Yahoo Finance

Figure 5.1: Uber's stock price variations until the 31st of December 2023

5.3. Shareholder structure

According to data retrieved from Yahoo Finance (Figure 5.2), Uber's capital is mostly owned by institutional investors, representing around 83% of the company's capital. Among them, the top five shareholders, as of December 2023, are the Vanguard Group, Inc (8.05%), Blackrock, Inc (6.70%), Morgan Stanley (5.95%), FMR, LLC (5.89%) and JP Morgan Chase & Company (4.13%).

Source: Yahoo Finance
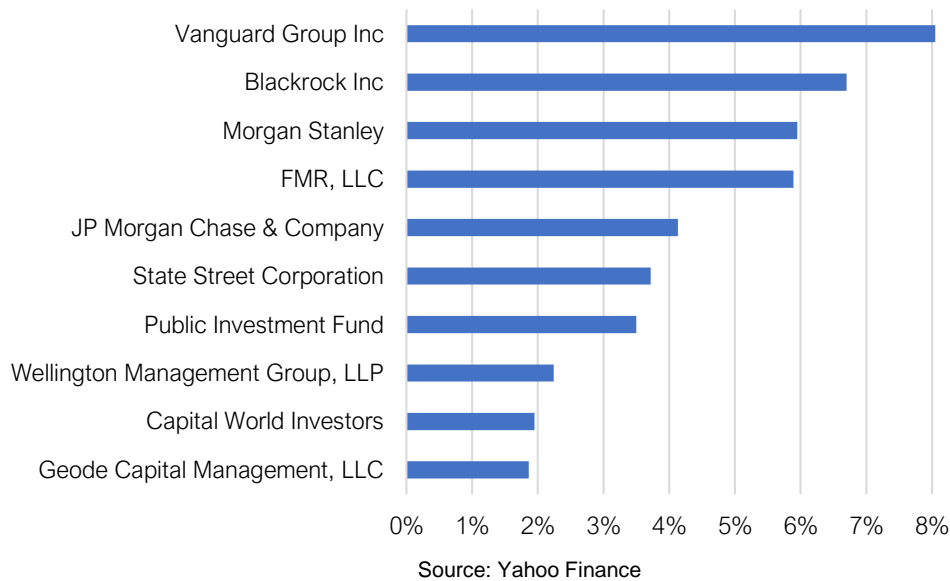
Figure 5.2: Top Uber's institutional investors

Regarding insiders, they own approximately 0.17% of the company, being Uber's CEO, Dara Khosrowshahi, the one with the higher stake, holding more than 1 million shares, as of November 2023, according to Nasdaq.

5.4. Financial results 2023

During the year of 2023, the company implemented some changes in its business model and, as a result, the people using its services (end-users) started being considered direct customers. Consequently, now when the company offers promotions, discounts or some special deals to these end-users considered customers, instead of being registered as sales and marketing expenses in the company's accounts, it is now booked as contra-revenue, which means that those values reduce directly the revenue. Promotions to end-users not considered customers continue being recognized as sales and marketing expenses.

5.4.1. Revenue

Uber's revenue is mainly generated from fees paid by Drivers and Merchants to use its platform. However, there are some markets where Uber acts as the responsible for the services itself, and in those cases the revenue comes from the end-users (Uber Technologies, Inc., 2024).

The Gross Bookings is an indicator of the scale of Uber's platform, and reflects the "total dollar value, including any applicable taxes, tolls, and fees" (Uber Technologies, Inc., 2024)

Regarding the performance of Uber's revenues from 2021 to 2023, they have been growing, reaching a total of $37,281 million in 2023. However, it should be noticed that the revenues did not grow with the same intensity during the periods under analysis. In 2022, the revenues grew 83% (+$14.4 billion) compared to the previous year. To understand this variation, it is important to analyse the changes in revenues by business segment. The Mobility segment, as well as the Freight segment, were the main responsible for this climb in the revenues, being the segments that experienced the highest relative growth (102% and 226%, respectively), reaching $14,029 million and $6,947 million in 2022. This can be explained by the recovery from the impacts of the COVID-19, in the case of the Mobility, since the Gross Bookings registered an increase of 28% and by the acquisition of Transplace, in the case of the Freight segment, which reflected into an increase in the Freight Gross Bookings. The Delivery segment also grew, from $8,362 million to $10,901 million, but it was the segment that grew the least.

It is also important to note that in January of 2021, Uber sold its ATG Business and as a result of the sale, the ATG and other Technology Programs segment was no longer a reportable segment. However, the results from that segment are included in "All Other" represented in the graph below.

Looking at 2023, Uber's revenues registered a less significant growth of 17% ($5.4 billion), compared to 2022, reaching a total of $37,281 million. Once again, growth was not the same across all segments. The Mobility was the one that registered the highest increase, 41% ($5.8 billion), reaching $19.8 billion, followed by the Delivery, with an increase of 12% ($1.3 billion) and a total of $12.2 billion. The growth observed in both segments is related to the increase in their Gross Bookings (31% and 14%, respectively). The total increase in this item wasn't bigger due to the fall of 24% ($1.7 billion) registered in the Freight business, justified by the decrease of 25% in the freight gross bookings, when compared to 2022. As it can be seen in Figure 5.3, there is an evident relationship between the variations in the revenues and in the gross bookings.

Revenue per segment

Gross Bookings

Source: Uber Technologies, Inc Annual Reports

Figure 5.3: Uber's revenue and gross bookings per segment (2021 – 2023)

Before moving on to the analysis of the next item, it is important to see the evolution of the revenue disaggregated by geographical region. This analysis will help us to understand which region is responsible for most of the transactions and whether the revenue have changed in a similar way across the different regions. Based on the data in Figure 5.4, 'United States and Canada' is clearly the region responsible for the biggest part of the revenue generated, representing more than 50% of the total revenue in all years under analysis ($10,094 million in 2021, $19,474 million in 2022 and $20,436 million in 2023). It is also possible to observe that the revenues have been growing across all regions, being 'Europe, Middle East and Africa' the region that have been growing the most, in relative terms, registering a growth rate of 116% in 2022, compared to 2021, and 43% in 2023. These increases contributed to the fact that, in 2023, this region was responsible, for the first time, for more than 25% of the total revenue generated by Uber in that year or, in absolute terms, for $9,904 million.
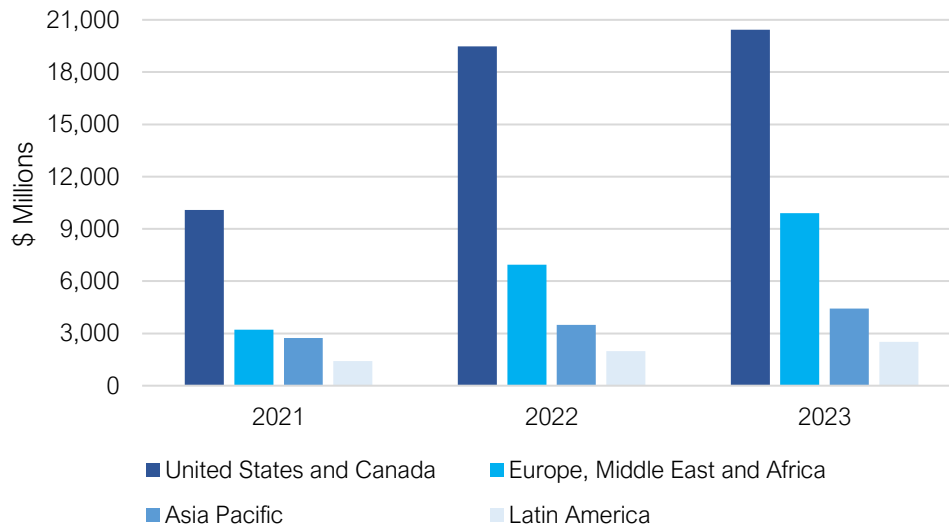
Source: Uber Technologies Inc's Annual Reports

Figure 5.4: Uber's revenue by geographical region (2021 – 2023)

5.4.2. Cost of revenue

The cost of revenue includes expenses incurred with some transactions, payments to drivers and couriers, insurance costs, bank processing fees, costs with data centres, mobile devices, among others (Uber Technologies, Inc, 2024).

Similarly to what happened with the revenues, the cost of revenue has also been increasing, with a significant rise of 110% in 2022 compared to 2021 (from $9,351 million to $19,659 million), and a more modest increase in 2023 (14%), reaching an amount of $22,457 million.

The 2022 increase was mainly due to higher Freight Carrier Payments as a result of the Transplace acquisition mentioned before, increased Driver and Courier Payments, and higher insurance expenses.

The increase recorded in 2023 was less significant due to smaller increases in Driver and Courier Payments, but mainly because of the decrease of $1.3 billion in the cost of revenue observed in the Freight segment, explained by the decrease in the gross bookings, mentioned in the previous topic.

5.4.3. Operating expenses

As previously discussed in this study, one of the most significant operating expenses for this type of company is sales and marketing costs. In the case of Uber, these expenses consist of advertising costs, marketing costs, discounts, loyalty programs, promotions, and refunds. Looking at Uber's sales and marketing costs evolution over the period under analysis, it is

possible to conclude that there have been slight decreases in these costs. In 2022, a reduction of 1% was recorded, followed by an 8% decrease in 2023, reaching $4,356 million. When expressed as a percentage of revenue, these costs declined from 27% in 2021 to 12% in 2023. The variations are mainly attributed to a reduction in consumer discounts and promotions. The larger decrease observed in 2023 can be explained by the business model changes explained at the beginning of this section.

Similarly, the remaining operating expenses have also decreased as a percentage of revenue, as Uber's revenue growth has outpaced the increase in these costs. This reflects Uber's disciplined cost management, which resulted in the company achieving its first operating income in 2023. (Tran, 2024)

In Figure 5.5 it is possible to observe Uber's cost structure, in 2023:
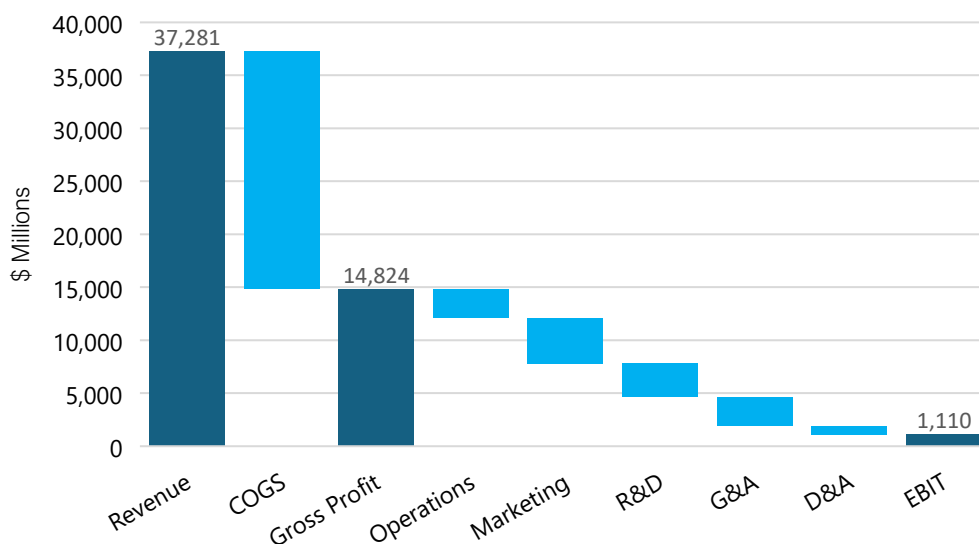
Source: Adapted from Uber's 2023 Annual Report

Figure 5.5: Waterfall EBIT

5.4.4. Cash and debt positions

As of December of 2023, Uber's cash and cash equivalents stood at $4,680 million. When combined with the balance of short-term investments, Uber concluded the 2023 fiscal year with total cash holdings of $5,407 million.

In terms of debt, the total debt amounted to approximately $11,677 million, of which $11,331 million is long-term debt, scheduled for repayment between 2025 and 2030. Given Uber's current cash position and its positive EBIT of $1,110 million, the company is well-positioned to comfortably meet its debt obligations. (Tran, 2024)

6. Valuation using the Free Cash Flow to the Firm

Uber's valuation, as previously discussed in this thesis, will be conducted initially using the Free Cash Flow to the Firm method, followed by the Relative Valuation method as a complementary approach. The valuation will be done with the reference date of 31st of December of 2023.

This chapter will detail the entire valuation process, with a special focus on the assumptions made at each stage, beginning with the calculation of the weighted average cost of capital, moving on to the forecasting of the P&L and Balance Sheet items used in the model, and the computation of the terminal value, concluding with the calculation of the equity value.

For the Free Cash Flow to the Firm method, a 10-years forecasting period from 2024 to 2033 will be considered.

6.1. Main assumptions

6.1.1. Weighted average cost of capital (WACC)

As the literature suggests, the free cash flow to the firm represents the cash flow available to all equity and debt holders, so the appropriate discount rate to use is the WACC, since it reflects the combined return required by both types of investors.

To compute the WACC, equation 5 was used, requiring the determination of its individual components: the cost of equity, cost of debt, corporate tax rate and the ratios between the company's debt and equity.

6.1.1.1. The cost of equity

Starting by the cost of equity, it was determined by using the capital asset pricing model formula (equation 6). Given that the majority of Uber's operations are based in the United States, the risk-free rate used was the yield on the 10-year US Treasury bond, which was 3.96% in 2023. Since the risk-free is derived from US treasury bonds, there is no need to include a country risk premium in the cost of equity calculation, as the country's risk is already reflected in its bond yield.

The market risk premium of the US was retrieved from Statista, and it was 5.70% in 2023.

The last input to the CAPM formula is the company's levered beta, which in this case was obtained from Yahoo Finance and is 1.37.

By introducing all the aforementioned inputs into the CAPM formula, the cost of equity obtained was 11.8%.

6.1.1.2. The cost of debt

To obtain the Uber's cost of debt, I decided to follow Damodaran approach, which consists of adding the default spread associated with the company's credit rating to the risk-free rate. As of December 2023, Uber held a BB– rating from Standard and Poor's and had an interest coverage ratio of 1.75. Knowing that, to determine the company's appropriate default spread, I referred to the table in Appendix G which indicated a spread of 3.1% for this rating. By adding this spread to the risk-free rate mentioned above, I arrived at a cost of debt of 7.1%.

6.1.1.3. Corporate tax rate

In what concerns the corporate tax rate, I initially analysed the "Effective income tax rates" (Appendix H) reported by the company from 2021 to 2023 and I verified significant variations. In 2021 the effective income tax rate was 47.9%, in 2022 it dropped to 1.9% and in 2023 it was 9.2%. These variations are justified mainly by changes on deferred tax on investments and also on taxes related to entity restructuring.

Subsequently, I investigated the corporate tax rate in the company's four main tax jurisdictions, which are the United States, Brazil, the Netherlands and the United Kingdom and I obtained 21.0%, 15.0%, 25.8% and 25.0%, respectively. However, without information on the contribution of each country to Uber's overall results, we were unable to compute the weighted average tax rate. Therefore, in order to have a more reliable tax rate for the WACC calculation, I decided to use the United States corporate tax rate, which is 21.0%. This choice is justified by the fact that the United States is the primary location of Uber's operations.

6.1.1.4. Capital structure

To calculate the equity-to-debt ratios for the WACC calculation, the equity was computed by multiplying the number of Uber's outstanding shares as of December 2023 - 2,070 million shares - by the share price on that date, which was $61.6, according to Yahoo Finance. This produced a market value of equity of $127,450 million. Regarding the market value of debt, it was assumed to be equal to the book value stated in section 5.4.4, which was $11,677 million.

6.1.1.5. WACC estimation

The WACC, calculated using the values discussed in the preceding topics and applied to equation 5, was 11.3%. In Appendix I, there is a resume table with all of the inputs used to the calculation.

6.1.2. Forecasts

6.1.2.1. Revenue

The most critical assumption in forecasting the income statement's financial items, which will be used to calculate the company's Free Cash Flows, is related to Uber's revenues, since most of the other items will be estimated as percentages of the revenues achieved.

Given that I consider Uber to be a growth company, I decided to use two distinct growth stages before assuming the company's constant future growth, used for the terminal value computation. In my point of view this approach better reflects the company's growth potential.

I assumed the first stage to be from 2024 to 2028. The revenue's growth rate for this period was calculated by considering the estimated CAGR for 2024-2028, for each of the segments in which Uber operates, alongside Uber's historical revenue from 2019 to 2023, and the corresponding comparison to the sector's overall performance.

The historical analysis made led me to the following conclusions:

a. The ride-hailing sector grew at a CAGR of 7.4% from 2019 to 2023, while Uber's mobility segment grew at a CAGR of 16.7% (see Appendix J for further details);

b. The food delivery segment grew at a CAGR of 29.2% during that period, with Uber's corresponding segment growing at 71.8% (see Appendix K for further details);

c. The freight segment grew at a CAGR of 1.5%, whereas Uber's freight segment grew at 63.7% (see Appendix L for further details).

Based on this analysis, it became clear that assuming Uber would grow from 2024 to 2028 at the same rate as the sectors' expected growth rate would be misleading, as this has not been observed in the company's recent past. Consequently, my approach was to use the expected CAGR for each segment from 2024 to 2028 (retrieved from Statista for the Mobility and Food Delivery segments, and from Skyquest's Global Freight Brokerage Market for the Freight segment) and add a margin to which one, in order to reflect the Uber's faster growth.

For the Mobility sector, the expected CAGR for 2024-2028 period is 7.0%. I added 9 percentage points, which corresponds to the difference between the sector's and the Uber's CAGR over the past 5 years, resulting in a growth rate of 16.0% for this segment.

Regarding the Food Delivery segment, my approach differed slightly. The most recent growth in Uber's food delivery revenue (30.4% in 2022 and 12.0% in 2023), compared to the sector's growth (13.0% and 18.4%, respectively), leads me to believe that the disparity observed from 2019 to 2023 (42.6 percentage points) will not continue in the future. Therefore, in order to have a more conservative growth rate, I used the difference in CAGR from 2021 to 2023, which was 5 percentage points. With an expected CAGR of 11.7% for this sector, I arrived at an expected annual growth rate of 16.7% for Uber's revenue in this segment.

Finally, due to irregular variations in Uber's Freight revenue over the past 5 years, resulting from acquisitions and changes in the business model, I did not feel confident applying the same approach as for the other two segments. Hence, to reach a prudent estimate, I decided to assume that this segment would grow at the same CAGR expected for the whole sector, which is 6.0%.

Taking into account that, over the past three years, the segments represented the following averages of Uber's revenue: Mobility 45.7%, Online Food Delivery 38.3% and Freight 16.0%, I multiplied the expected growth rates described in the preceding paragraphs by these weights, resulting in and expected annual growth rate of 14.6% for Uber's revenue from 2024 to 2028.

The growth rate for the second growth stage, covering the period from 2029 to 2033, was set at 10%. This figure reflects my belief that Uber's growth during this period will be more aligned with the sector's CAGR of 8.6% (refer to Appendix M for further details), while still remaining above it.

6.1.2.2. Costs and expenses

In what concerns the costs and expenses, after having estimated the revenue, it became easier to project them. I started by computing the ratio between each cost line item and the revenue for 2021, 2022 and 2023, and observed that, generally, costs have been decreasing in relative terms. This trend is reasonable since Uber achieved its first positive profit in 2023, reflecting its efforts to drive profit expansion. This downward trend, combined with the "future margin expansion drivers" presented by Uber in its Investor Update published in February 2024, provided sufficient confidence to assume that costs as a percentage of revenues would continue to decrease. My assumptions were the following:

Table 6.1: Costs and expenses projections in % of revenues (2024 – 2033)

% of revenue	2024	2025	2026	2027	2028
Revenue	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of revenue	59.0%	59.0%	58.0%	58.0%	57.0%
Gross Profit	**41.0%**	**41.0%**	**42.0%**	**42.0%**	**43.0%**
Operations and support	7.0%	7.0%	6.8%	6.8%	6.6%
Sales and marketing	11.7%	11.7%	11.7%	11.7%	11.7%
Research and development	8.5%	8.5%	8.5%	8.5%	8.5%
General and administrative	7.0%	7.0%	6.8%	6.8%	6.6%
Depreciation and amortization	3.4%	3.4%	3.4%	3.4%	3.4%
Total costs and expenses	**37.6%**	**37.6%**	**37.2%**	**37.2%**	**36.8%**
EBIT	**3.4%**	**3.4%**	**4.8%**	**4.8%**	**6.2%**

% of revenue	2029	2030	2031	2032	2033
Revenue	100.0%	100.0%	100.0%	100.0%	100.0%
Cost of revenue, exclusive of D&A	57.0%	56.0%	56.0%	55.0%	55.0%
Gross Profit	**43.0%**	**44.0%**	**44.0%**	**45.0%**	**45.0%**
Operations and support	6.6%	6.5%	6.5%	6.4%	6.4%
Sales and marketing	11.7%	11.7%	11.7%	11.7%	11.7%
Research and development	8.5%	8.5%	8.5%	8.5%	8.5%
General and administrative	6.6%	6.4%	6.4%	6.2%	6.2%
Depreciation and amortization	3.4%	3.4%	3.4%	3.4%	3.4%
Total costs and expenses	**36.8%**	**36.5%**	**36.5%**	**36.2%**	**36.2%**
EBIT	**6.2%**	**7.5%**	**7.5%**	**8.8%**	**8.8%**

Source: Own estimation

Starting with the largest portion of the costs, the "Cost of revenue", which represented 60.2% of the revenues in 2023, I assumed it would decrease to 59% in 2024 and then one percentage point each 2 years, being 55% in 2033. This assumption is based on Uber's intention to leverage new technological functionalities across the platform to minimize payment costs, which are included in this line item.

Regarding operations and support, I assumed it would go from 7.2% in 2023 to 7.0% in 2024 and then decrease 0.2 percentage points each two years, being 6.4% in 2033. This can be explained by the cost efficiencies unlocked by generative AI and increased automation, among other factors. However, since the implementation of generative AI in the company may take some time, I decided to be somewhat conservative regarding the reduction in these costs in relative terms.

In what concerns the sales and marketing costs, according to Uber's 2023 Annual Report, it is expected that these expenses will vary from period to period as a percentage of revenue due to the timing of marketing campaigns, so it is not that easy to estimate these expenses, so I will assume that these expenses in percentage of revenue will be the same as in 2023, i.e., around 11.7%, since these value already reflects the impact of the changes in the business model, implemented in the fiscal year of 2023.

As Uber is an innovative technological company and innovation is part of its future development strategy, I believe the proportion of R&D costs to revenue will not decline, being fixed at 8.5%.

For "General and administrative" costs, Uber intends to continue cost discipline on headcount, which led me to believe that these costs would slightly decrease from 7.2% of the revenues to 7.0% in 2024, and then decrease 0.2 percentage points each two years.

Finally, for depreciation and amortization, I started by analysing the ratio of D&A to revenue over the historical periods from 2021 to 2023 and I observed a declining trend (5.2%

in 2021, 3.0% in 2022 and 2.2% in 2023). As I do not foresee substantial changes in the company's operations or capital expenditure plans, I have assumed that the average D&A ratio over the past three years (3.4%) will serve as a reliable baseline for future projections. As revenue grows, D&A will increase as well, reflecting the amortization of new assets.

6.1.2.3. Capital Expenditures

For capital expenditures, I assumed they would be represented by the "purchases of property and equipment" as reported by Uber in its consolidated statements of cash flows (see Appendix D). With this in mind, I started by calculating the ratio of these values to revenues for the years of 2021, 2022, and 2023, which were 1.7%, 0.8%, and 0.6%, respectively, resulting in an average of approximately 1.0%. This is the percentage I applied to project Capex from 2024 to 2033, as I expect Uber will continue to expand its scale in the future.

It is important to note that, since these values were obtained from Uber's consolidated statements of cash flows, their sign already indicates whether they represent an increase or decrease in cash flows. This influences my projections in the same direction.

6.1.2.4. Working Capital Variations

The final step in determining the Free Cash Flows to the Firm involved projecting the working capital variations for the forecasted period. To achieve this, I first calculated the working capital variations for the past two years (2022 and 2023), by summing the components of "Change in assets and liabilities, net of impact of business acquisitions and disposals", as reported in Uber's consolidated statements of cash flows (see Appendix C for further details). I then computed the ratio between these variations to revenue growth in the corresponding years, which resulted in ratios of 2.3% in 2022 and 3.1% in 2023. The average of these two ratios was 2.7%. For simplification, I assumed that the working capital variations from 2024 to 2033 would represent 3% of the anticipated revenue growth.

Similarly to what was noted for Capex, since the Working Capital Variations were retrieved from Uber's consolidated statements of cash flows, they already indicate whether the variation represents an increase or decrease in the company's cash flows.

6.1.3. Terminal Value

For the calculation of the present value of the terminal value, I used equation 2. This calculation required an additional input not previously determined, which is the future constant

growth rate. This growth rate represents the anticipated rate at which I expect the company's cash flows to grow beyond 2033.

Initially, I consider using the sector's CAGR as a proxy. However, a growth of 8.6% (see Appendix M) in perpetuity appeared overly optimistic. To arrive at a more realistic terminal growth rate, I decided to use GDP growth rate as a stabilizing factor, as GDP growth reflects broader macroeconomic trends limiting excessive optimism.

I started by analysing the GDP growth rates in the regions where Uber operates: United States and Canada; Europe, Middle East, and Africa; Asia-Pacific; and Latin America, over the period from 2013 and 2023, using data from the World Bank. The following annual average growth rates were obtained:

Table 6.2: Annual average GDP growth rates (2013 – 2023)

Region	GDP growth (2013 - 2023)
North America	2.26%
Middle East and North Africa	2.45%
European Union	1.53%
Latin America and Caribbean	1.36%
East Asia and Pacific	4.22%

Source: World Bank and Own estimation

To ensure that the GDP growth rate reflects Uber's geographic revenue distribution, I weighted the growth rates of each region based on their contribution to Uber's overall revenue over the past three years. The weighted average GDP growth rate was 2.39% (Appendix N).

Assuming GDP will continue to grow at a consistent rate and recognizing that the company will continue to be influenced by sector-specific growth dynamics, I decided to average the sector's CAGR with the weighted average GDP growth rate. This resulted in a terminal growth rate of approximately 5.5%.

6.2. Uber's equity value

Uber's enterprise value was determined by summing the present value of its free cash flows from 2024 to 2033 with the terminal value, resulting in an enterprise value of $108,039 million.

To determine the company's fair market equity value, I added Uber's cash balance of $5,407 million and subtracted its total debt of $11,677 million from the estimated enterprise value. Additionally, I also included the value of Uber's non-operating assets by taking into account several balance sheet items: "restricted cash and cash equivalents" (current and non-current, which serve as security pledges for letters of credit or insurance, totalling $2,324

million; "Restricted investments", which includes marketable debt securities, amounting to $4,779 million; and "Investments" and "Equity method investments", valued at $6,101 million and $353 million, respectively. I did not include "Short-term investments", since they were considered cash-like items and already reflected in the cash balance. The total value of non-operating assets was $13,557 million, which was also added to the enterprise value. The resulting market value of equity was $115,326 million. By dividing this market value by the number of outstanding shares as of December 2023, Uber's fair value per share at that date was found to be $55.71.

Table 6.3: Uber's discounted free cash flows (first growth stage: 2024 – 2028)

Income Statement: $ 000 000	2024	2025	2026	2027	2028
Revenue	42,741	49,001	56,178	64,405	73,838
Cost of revenue	(25,217)	(28,911)	(32,583)	(37,355)	(42,088)
Gross Profit	**17,524**	**20,090**	**23,595**	**27,050**	**31,750**
Operations and support	(2,992)	(3,430)	(3,820)	(4,380)	(4,873)
Sales and marketing	(4,994)	(5,725)	(6,564)	(7,525)	(8,627)
Research and development	(3,627)	(4,159)	(4,768)	(5,466)	(6,267)
General and administrative	(2,992)	(3,430)	(3,820)	(4,380)	(4,873)
Depreciation and amortization	(1,453)	(1,666)	(1,910)	(2,190)	(2,510)
Total costs and expenses	**(16,058)**	**(18,410)**	**(20,882)**	**(23,940)**	**(27,151)**
EBIT	**1,466**	**1,680**	**2,713**	**3,110**	**4,599**
Taxes	(308)	(353)	(570)	(653)	(966)
NOPLAT	**1,158**	**1,327**	**2,143**	**2,457**	**3,633**
Depreciation and amortization	1,453	1,666	1,910	2,190	2,510
Operational Cash Flow	**2,611**	**2,993**	**4,053**	**4,647**	**6,144**
CAPEX net of disposals	(427)	(490)	(562)	(644)	(738)
Working capital variation	164	188	215	247	283
Free Cash Flow to the Firm	**2,347**	**2,691**	**3,707**	**4,249**	**5,689**
PV FCFF	**2,110**	**2,174**	**2,692**	**2,774**	**3,338**

Source: Own estimation

Table 6.4: Uber's discounted free cash flows (second growth stage: 2029 – 2033)

Income Statement: $ 000 000	2029	2030	2031	2032	2033
Revenue	81,222	89,344	98,278	108,106	118,917
Cost of revenue, exclusive of D&A	(46,296)	(50,033)	(55,036)	(59,458)	(65,404)
Gross Profit	**34,925**	**39,311**	**43,243**	**48,648**	**53,513**
Operations and support	(5,361)	(5,807)	(6,388)	(6,919)	(7,611)
Sales and marketing	(9,490)	(10,439)	(11,483)	(12,631)	(13,895)
Research and development	(6,893)	(7,583)	(8,341)	(9,175)	(10,092)
General and administrative	(5,361)	(5,718)	(6,290)	(6,703)	(7,373)
Depreciation and amortization	(2,762)	(3,038)	(3,341)	(3,676)	(4,043)
Total costs and expenses	**(29,866)**	**(32,585)**	**(35,843)**	**(39,103)**	**(43,014)**
EBIT	**5,059**	**6,727**	**7,399**	**9,545**	**10,499**
Taxes	(1,062)	(1,413)	(1,554)	(2,004)	(2,205)
NOPLAT	**3,997**	**5,314**	**5,845**	**7,540**	**8,294**
Depreciation and amortization	2,762	3,038	3,341	3,676	4,043
Operational Cash Flow	**6,758**	**8,352**	**9,187**	**11,216**	**12,337**
CAPEX net of disposals	(812)	(893)	(983)	(1,081)	(1,189)
Working capital variation	222	244	268	295	324
Free Cash Flow to the Firm	**6,168**	**7,702**	**8,472**	**10,430**	**11,473**
PV FCFF	**3,253**	**3,651**	**3,610**	**3,995**	**3,950**

Source: Own estimation

6.3. Sensitivity analysis

As previously discussed in this paper, the valuation using the FCFF method involves numerous assumptions that are inevitably shaped by the analyst's perceptions and biases. Given this, the purpose of this section is to examine the impact that variations in the key drivers can have on Uber's final share price. The four variables I consider most relevant are the WACC, as it affects the present value of free cash flows across all the projected years in the analysis; the revenue growth rates both in the first and the second growth stages, because revenue impacts nearly every other item in the forecasts; and the terminal growth rate, as it represents the rate at which it is anticipated the company will continue to grow indefinitely after 2033.

I tested the sensitivity of the Uber's price per share, by changing the values of the WACC and the terminal growth rate, by adding and subtracting 0.25 percentage points to each of them until reaching a maximum of 1 percentage point in both directions. Regarding the revenue growth rates for the first and second growth stages, I similarly added and subtracted 0.5 percentage points in both directions, until a maximum adjustment of 2 percentage points. The results obtained are shown in the following tables, where the green cells represent an

increase in the share price, compared to the price obtained in my valuation, while the red cells represent the opposite.

Table 6.5: Sensitivity analysis of Uber's price per share – WACC and terminal growth rate

					Terminal growth rate				
55.71	**4.51%**	**4.76%**	**5.01%**	**5.26%**	**5.51%**	**5.76%**	**6.01%**	**6.26%**	**6.51%**
12.25%	45.37	46.28	47.26	48.31	49.43	50.64	51.95	53.37	54.91
12.00%	46.48	47.46	48.50	49.63	50.84	52.15	53.56	55.11	56.79
11.75%	47.65	48.70	49.83	51.04	52.35	53.76	55.30	56.99	58.83
11.50%	48.90	50.03	51.24	52.55	53.97	55.51	57.19	59.03	61.06
11.25%	50.23	51.45	52.75	54.17	**55.71**	57.39	59.24	61.26	63.50
11.00%	51.66	52.96	54.38	55.92	57.60	59.45	61.47	63.71	66.20
10.75%	53.18	54.60	56.14	57.82	59.66	61.69	63.93	66.41	69.20
10.50%	54.81	56.36	58.04	59.88	61.90	64.14	66.63	69.41	72.54
10.25%	56.58	58.26	60.10	62.13	64.37	66.85	69.64	72.77	76.31

(Left axis label: **WACC**)

Source: Own estimation

Table 6.6: Sensitivity analysis of Uber's price per share – revenue growth rate 2024 – 2028 and 2029 - 2033

					Revenue growth rate 2029 - 2033				
55.71	**8.00%**	**8.50%**	**9.00%**	**9.50%**	**10.00%**	**10.50%**	**11.00%**	**11.50%**	**12.00%**
12.65%	47.84	48.72	49.61	50.53	51.46	52.41	53.37	54.35	55.35
13.15%	48.79	49.69	50.61	51.54	52.49	53.46	54.45	55.45	56.48
13.65%	49.76	50.68	51.62	52.58	53.55	54.54	55.55	56.58	57.62
14.15%	50.75	51.69	52.65	53.63	54.62	55.63	56.67	57.72	58.78
14.65%	51.76	52.72	53.70	54.70	**55.71**	56.75	57.80	58.87	59.97
15.15%	52.78	53.76	54.77	55.79	56.82	57.88	58.96	60.05	61.17
15.65%	53.82	54.83	55.85	56.89	57.95	59.03	60.13	61.25	62.40
16.15%	54.88	55.91	56.95	58.02	59.10	60.20	61.33	62.47	63.64
16.65%	55.96	57.01	58.07	59.16	60.27	61.40	62.55	63.72	64.91

(Left axis label: **Revenue growth rate 2024 - 2028**)

Source: Own estimation

As shown in Table 6.4, the lowest share price occurs when the WACC is at its highest (12.3%) and the terminal growth rate is at its lowest (4.5%), corresponding to a share price of $45.37, which is 18.57% lower than the price derived from my valuation and 26.31% below Uber's share price in December 2023. Conversely, the highest share price is achieved when the WACC is at its lowest (10.3%) and the terminal growth rate is at its highest (6.5%), leading to a price of $76.31, which is 36.98% above my valuation and 23.95% higher than Uber's actual December 2023 price.

In terms of Uber's share price sensitivity to the revenue growth rates, the price fluctuates between $47.84 and $64.91, representing changes of -14.14% and +16.50% compared to my valuation, and -22.30% and -5.42% compared to Uber's actual price, respectively. As expected, the lowest price is reached when the revenue growth rates are at their lowest (12.65% in the case of the first stage and 8.00% in the case of the second stage) and the highest when the growth rates are at their peak (16.65% and 12.00%, respectively).

In conclusion, it is essential to note that while this sensitivity analysis does not cover every possible scenario, it shows that even small changes in these variables can significantly impact the final share price. Therefore, maximum accuracy in estimating these factors is crucial, and this should be considered when assessing the stock's risk.

7. Valuation using multiples

To complement the valuation obtained through the FCFF method, I decided to also apply the relative valuation. The peers chosen were the following: Lyft Inc., Deliveroo plc, Delivery Hero SE, Doordash Inc., Just Eat Takeaway.com, C.H. Robinson Worldwide Inc., and XPO Inc.

In terms of multiples used, since most of the peers selected do not have positive earnings, I thought the best multiples to use would be the Price to sales ratio, the Price to book value and the Price to forward earnings. Below there is more detail about each of these multiples.

7.1. Price to sales ratio

It represents how much investors are willing to pay for each dollar of sales.

In the case of this multiple, since I have access to the sales of each one of the segments where Uber operates, I decided to value each business unit individually and, in the end, add the parts in order to reach the company's total valuation. For the mobility sector, Lyft was the only comparable considered, with a multiple of 1.31, which resulted in a valuation of the Mobility segment of $25,980 million. In the case of the delivery segment, I used Deliveroo, Delivery Hero, Door Dash and Just Eat Takeaway, with Price to sales ratios of 1.09, 0.67, 4.50 and 0.57. However, if we look to the numbers, there is one company whose multiple exceeds the initial average plus a standard deviation. Accordingly, in order to not distort the final valuation, I decided to exclude Door Dash and compute a new average, which was 0.78. This multiplied by Uber's delivery sales, resulted in a valuation of $9,478 million of the segment. Finally, for the Freight segment I used C.H. Robinson and XPO, with multiples of 0.59 and 1.33, resulting in a segment valuation of $5,035 million. All the parts summed resulted in a Uber's valuation of $40,494 million, or $19.56 per share.

Below, it is depicted this multiple for the selected companies of the peer group, as of December 2023.

Table 7.1: Price to sales ratio

Segment	Peers	Price to sales ratio
Mobility	Lyft	1.31
New Average		1.31
Delivery	Deliveroo	1.09
	Delivery Hero	0.67
	DoorDash	4.50
	Just Eat Takeaway	0.57
Initial average		1.71
Standard deviation		1.88
Average + Std deviation		3.58
Average – Std deviation		-0.17
New Average		0.78
Freight	C.H. Robinson	0.59
	XPO Logistics	1.33
Initial average		0.96
Standard deviation		0.52
Average + Std deviation		1.48
Average – Std deviation		0.44
New Average		0.96

Source: Trading View

7.2. Price to book value

Regarding the price to book value, I excluded Lyft and Just Eat Takeaway from my calculations, since they were outliers, with price to book values of 11.07 and 0.49, respectively. Using the rest of the selected companies, I reached a multiple of 5.80, which multiplied by Uber's equity book value led to a valuation of $69,786 million or $33.71 per share. See table 7.2 for more details.

Table 7.2: Price to book value

Peers	Price to book value
Lyft	11.07
Deliveroo	3.93
Delivery Hero	4.08
DoorDash	5.86
Just Eat Takeaway	0.49
C.H. Robinson	7.11
XPO Logistics	8.03
Initial average	5.80
Standard deviation	3.39
Average + Std deviation	9.19
Average – Std deviation	2.40
New average	**5.80**

Source: Trading View

7.3. Price to forward earnings

Similarly to what was made before, in the case of price to forward earnings, I excluded the outliers, which in this case was just Door Dash, with a price to forward earnings of 241.20. The multiple obtained using the remaining companies were 33.15, which multiplied by Uber's expected EPS for 2024, retrieved from Yahoo Finance[1], resulted in a price per share of $32.82. See table 7.3 for more details.

Table 7.3: Price/forward earnings

Peers	Price/Forward earnings
Lyft	40.03
Deliveroo	43.17
Delivery Hero	n.a.
DoorDash	241.20
Just Eat Takeaway	n.a.
C.H. Robinson	21.60
XPO Logistics	27.81
Initial average	74.76
Standard deviation	93.46
Average + Std deviation	168.22
Average – Std deviation	-18.69
New average	**33.15**

Source: Morningstar

7.4. Multiples obtained vs Uber's multiples as of December 2023

Upon reviewing table 7.4 and comparing the obtained multiples with those of Uber as of December 2023, it is evident that there are substantial differences, with Uber's multiples being considerably higher. This can be attributed to several factors, namely the investors optimism, which is supported by Uber's global dominance in the ride-hailing sector, its strong brand recognition and its diversified business model that extends beyond ride-hailing, offering substantial growth potential. Additionally, Uber is perceived as a high-growth technological company, leading investors to assign higher multiples due to its innovative nature. All of these factors, along with Uber's improved operational efficiency that resulted in its first profit contribute to the explanation for the higher multiples observed. However, given the substantial difference between Uber's multiples and those derived from comparable companies, I believe it is unreliable to apply such a large premium to the multiple obtained through the relative valuation. As a result, I will not base my recommendation on this approach, as it does not provide a solid foundation for accurate and consistent valuation in this case.

Table 7.4: Uber multiples as of December 2023 vs multiples obtained

Multiple	Uber	Multiples reached
Price to sales ratio	3.45	Mobility: 1.31 Delivery: 0.78 Freight: 0.96
Price to book value	11.34	5.80
Price to forward earnings	55.47	33.15

Source: Trading view, Morningstar and own estimations

8. Conclusion and recommendation

The objective of this study was to conduct a valuation of Uber Technologies, Inc., a leading company in the passenger transport and food delivery sectors, with the aim of determining its share price as of 31st of December 2023 and comparing it to the actual share price on that date.

After reviewing the relevant literature, two methodologies were selected to estimate the company's fair value: the Free Cash Flow to the Firm model, complemented by a sensitivity analysis, and a relative valuation using multiples.

Uber's share price as of December 2023, according to Yahoo Finance, stood at $61.57.

The FCFF methodology estimated Uber's intrinsic value at $55.71 per share, implying a downside potential of 9.51% compared to the actual share price. Furthermore, the sensitivity analysis revealed that Uber's share price is highly sensitive to variations in the WACC, revenue growth rates, and the terminal growth rate.

In the relative valuation model, the Price to Sales ratio, Price to Book value and Price/Forward earnings multiples were applied, resulting in share prices of $19.56, $33.71 and $32.82, respectively, which are all significantly below the actual market price. Although there are potential explanations for these discrepancies, I do not find them sufficient to justify such large differences; hence, my recommendation is not based on the results of this method.

Therefore, based on the share price obtained from the Free Cash Flow to the Firm model, my recommendation to Uber's investors is to sell the shares. However, in addition to the potential overvaluation of Uber's share price, I also advise investors to consider the high sensitivity of the company's share price to several key variables used in my analysis.

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Appendices

Appendix A: Uber Technologies, Inc consolidated balance sheets (2021 – 2023)

Balance Sheet: $ 000 000	2021	2022	2023
Cash and cash equivalents	4,295	4,208	4,680
Shot-term investments	0	103	727
Restricted cash and cash equivalents	631	680	805
Accounts receivable	2,439	2,779	3,404
Prepaid expenses and other current assets	1,454	1,479	1,681
Current assets	**8,819**	**9,249**	**11,297**
Restricted cash and cash equivalents	2,879	1,789	1,519
Restricted investments	0	1,614	4,779
Investments	11,806	4,401	6,101
Equity method investments	800	870	353
Property and equipment (net)	1,853	2,082	2,073
Operating lease right-of-use assets	1,388	1,449	1,241
Intangible assets (net)	2,412	1,874	1,425
Goodwill	8,420	8,263	8,151
Other assets	397	518	1,760
Non-current assets	**29,955**	**22,860**	**27,402**
Total Assets	**38,774**	**32,109**	**38,699**
Accounts payable	860	728	790
Short-term insurance reserves	1,442	1,692	2,016
Operating lease current liabilities	185	201	190
Accrued and other current liabilities	6,537	6,232	6,458
Current Liabilities	**9,024**	**8,853**	**9,454**
Long-term insurance reserves	2,546	3,028	4,722
Long-term debt, net of current portion	9,276	9,265	9,459
Operating lease non-current liabilities	1,644	1,673	1,550
Other long-term liabilities	935	786	832
Non-current liabilities	**14,401**	**14,752**	**16,563**
Total Liabilities	**23,425**	**23,605**	**26,017**
Redeemable non-controlling interests	**204**	**430**	**654**
Additional paid-in capital	38,608	40,550	42,264
Accumulated other comprehensive loss	(524)	(443)	(421)
Accumulated deficit	(23,626)	(32,767)	(30,594)
Shareholder's equity	**14,458**	**7,340**	**11,249**
Non-redeemable non-controlling interests	687	734	779
Total equity	**15,145**	**8,074**	**12,028**

Source: Uber Technologies, Inc Annual Reports

Appendix B: Uber Technologies, Inc consolidated statements of operations (2021 – 2023)

Income Statement: $ 000 000	2021	2022	2023
Revenue	17,455	31,877	37,281
Cost of revenue, exclusive of D&A	(9,351)	(19,659)	(22,457)
Gross Profit	**8,104**	**12,218**	**14,824**
Operations and support	(1,877)	(2,413)	(2,689)
Sales and marketing	(4,789)	(4,756)	(4,356)
Research and development	(2,054)	(2,798)	(3,164)
General and administrative	(2,316)	(3,136)	(2,682)
Depreciation and amortization	(902)	(947)	(823)
Total costs and expenses	**(3,834)**	**(1,832)**	**1,110**
EBIT	**(3,834)**	**(1,832)**	**1,110**
Interest expense	(483)	(565)	(633)
Other income/expense (net)	3,292	(7,029)	1,844
Income/loss before income taxes and income from equity method invest.	**(1,025)**	**(9,426)**	**2,321**
Provision for/benefit from income taxes	492	181	(213)
Income/loss from equity method investments	(37)	107	48
Net income/loss including non-controlling interests	**(570)**	**(9,138)**	**2,156**
Less: net income/loss attributable to non-controlling interests, net of tax	74	(3)	(269)
Net income/loss attributable to Uber Technologies, Inc	**(496)**	**(9,141)**	**1,887**

Source: Uber Technologies, Inc Annual Reports

Appendix C: Net cash provided by operating activities (2021 – 2023)

Cash flow statement: $ 000 000	2021	2022	2023
Net income (loss) including non-controlling interests	-570	-9,138	2,156
Depreciation and amortization	902	947	823
Bad debt expense	109	114	92
Stock-based compensation	1,168	1,793	1,935
Loss from sale of investments	-413	0	74
Gain on business divestitures	-1,684	-14	-204
Deferred income taxes	-692	-441	26
Impairments of goodwill, long-lived assets and other assets	116	28	86
Impairment of equity method investment	0	182	0
Loss (income) from equity method investments, net	37	-107	-48
Unrealized (gain) loss on debt and equity securities, net	-1,142	7,045	-1,610
Revaluation of MLU B.V. call option	0	-191	0
Unrealized foreign currency transactions	38	96	138
Other	4	-7	-48
Adjustements to reconcile net income to net cash provided by operating activities	**-1,557**	**9,445**	**1,264**
Accounts receivable	-597	-542	-758
Prepaid expenses and other assets	-236	-196	-1,462
Collateral held by insurer	860	0	0
Operating lease right-of-use assets	165	193	191
Accounts payable	90	-133	64
Accrued insurance reserves	516	736	2,015
Accrued expenses and other liabilities	1,068	492	295
Operating lease liabilities	-184	-215	-180
Net cash provided by (used in) operating activities	**-445**	**642**	**3,585**

Source: Uber Technologies, Inc Annual Reports

Appendix D: Net cash used in investing activities (2021 – 2023)

Cash flow statement: $ 000 000	2021	2022	2023
Purchases of property and equipment	-298	-252	-223
Purchases of non-marketable equity securities	-982	-14	-52
Purchases of marketable securities	-1,113	-1,708	-8,774
Proceeds from sale of non-marketable equity securities	500	0	0
Proceeds from maturities and sales of marketable securities	2,291	376	5,069
Proceeds from sale of equity method investments	1,000	0	721
Proceeds from business divestiture	0	26	0
Acquisition of businesses, net of cash acquired	-2,314	-59	0
Purchase of notes receivables	-297	0	0
Other investing activities	12	-6	33
Net cash used in investing activities	**-1,201**	**-1,637**	**-3,226**

Source: Uber Technologies, Inc Annual Reports

Appendix E: Net cash provided by financing activities (2021 – 2023)

Cash flow statement: $ 000 000	2021	2022	2023
Proceeds from issuance and sale of subsidiary stock units	675	255	0
Proceeds from the issuance of common stock under the Employee Stock Purchase Plan	107	92	130
Issuance of term loan and notes, net of issuance costs	1,766	0	2,824
Purchase of Capped Calls	0	0	-141
Principal repayment on term loan and notes	-309	0	-2,675
Principal repayment on Careem Notes	-307	-80	-25
Principal payments on finance leases	-226	-184	-171
Other financing activities	74	-68	-37
Net cash provided by (used in) financing activities	**1,780**	**15**	**-95**

Source: Uber Technologies, Inc Annual Reports

Appendix F: Most commonly used multiples in different industries

Industry	Sub-sector	Most commonly used multiples
Automobiles	Manufactures	P/S
	Components	P/CE relative and P/S
Banks		P/BV
Base Materials	Paper	P/BV
	Chemicals	EV/EBITDA, EV/S, P/CE
	Metals & Mining	P/LFCF and EV/EBITDA
Building & Construction		P/LCFCF, EV/FCF, PER and EV/EBITDA
Business Services		EV/EBITDA, ROCE, P/LFCF, PER and PER to growth
Capital Goods	Engineering	PER, EV/EBITDA and EV/S
	Defence	PER, EV/EBITDA and EV/S
Food, Drink & Tobacco	Food Products	EV/EBITDA and EV/CE
	Brewers & Pubs	ROCE, PER to growth and PER relative
	Alcoholic Beverages	EV/EBITDA
	Tobacco	ROCE
Healthcare		PER, PER relative to S&P and EV/EBITDA
Insurance		P/AV
Leisure		EV/EBITDA
Media		PER relative and EV/EBITDA
Oil & Gas	Integrated	PER and EV/CE
Real Estate		P/FAD, EV/EBITDA and P/NAV
Retail & Consumer Goods	Clothing	PER relative to market and sector, EV/EBITDA
	Food	PER relative
	Luxury Goods	PER, PER to growth, EV/S and EV/E to EBITDA growth
Technology	Software, equipment & semiconductors	PER y PER relative
Telecoms		EV/E to EBITDA growth, EV/S and P/customer
Transport	Air	EV/EBITDA
	Travellers through road	P/S
Utilities		PER and P/CE

Source: Fernandez, P. (2023)

Appendix G: Ratings, Interest Coverage Ratios and Default Spread

If interest coverage ratio is			
Higher than	**Lower or equal to**	**Rating**	**Spread**
-100,000	0.199999	D2/D	20%
0.20	0.649999	C2/C	17%
0.65	0.799999	Ca2/CC	11.78%
0.80	1.249999	Caa/CCC	8.51%
1.25	1.499999	B3/B-	5.24%
1.50	1.749999	B2/B	3.61%
1.75	1.999999	B1/B+	3.14%
2.00	2.249999	Ba2/BB	2.21%
2.25	2.499990	Ba1/BB+	1.74%
2.50	2.999999	Baa2/BBB	1.47%
3.00	4.249999	A3/A-	1.21%
4.25	5.499999	A2/A	1.07%
5.50	6.499999	A1/A+	0.92%
6.50	8.499999	Aa2/AA	0.70%
8.50	100,000	Aaa/AAA	0.59%

Source: Damodaran, A. (2017)

Appendix H: Uber's effective income tax rate (2021 – 2023)

%	2021	2022	2023
Federal statutory income tax rate	21.00	21.00	21.00
State income tax expense	(2.30)	0.80	1.20
Foreign rate differential	10.30	2.00	(0.40)
Non-deductible expenses	(5.20)	(0.70)	(0.20)
Stock-based compensation	4.50	(1.40)	(1.90)
Interest on convertible notes	(0.10)	0.00	0.00
Gain on convertible notes	0.00	0.00	0.00
Federal research and development credits	7.80	0.60	(7.20)
Deferred tax on invesments	48.70	(1.10)	(3.50)
Entity restructuring	(2.00)	(12.70)	0.60
Change in unrecognized tax benefits	(27.80)	(8.90)	(6.80)
Valuation allowance	(33.70)	1.10	(2.80)
US tax on foreign income	(10.80)	0.60	4.10
Withholding taxes	(0.60)	(0.30)	9.50
Tax rate change	22.40	0.00	0.00
Other interest	16.80	1.70	(4.10)
Other, net	(1.10)	(0.80)	(0.30)
Effective income tax rate	**47.90**	**1.90**	**9.20**

Source: Uber Technologies, Inc Annual Reports

Appendix I: WACC calculation

WACC Calculation	
Market Risk Premium of the US	5.70%
Risk-free rate	3.96%
US 10 Year Bond Yield	3.96%
Country Risk Premium	0.00%
Spread	3.14%
Cost of debt	7.10%
Outstanding shares (millions)	2,070
Price per share	61.57
Market value of equity (millions)	127,450
Market value of debt	11,677
D/E	9.16%
E/(D+E)	91.61%
D/(D+E)	8.39%
Corporate tax rate	21.00%
Levered beta	1.37
Cost of equity	11.77%
WACC	**11.25%**

Source: Own estimation

Appendix J: Uber's mobility revenue CAGR vs Sector's CAGR (2019 – 2023)

Mobility: $ 000 000	2019	2020	2021	2022	2023	CAGR 2019-2023
Worldwide revenue	115,700	79,580	97,520	133,000	154,000	**7.4%**
Uber's revenue	10,707	6,089	6,953	14,029	19,832	**16.7%**

Source: Uber Technologies, Inc Annual Reports, Statista and Own estimation

Appendix K: Uber's food delivery revenue CAGR vs Sector's CAGR (2019 – 2023)

Food delivery: $ 000 000	2019	2020	2021	2022	2023	CAGR 2019-2023	CAGR 2021-2023
Worldwide revenue	370,000	570,000	770,000	870,000	1,030,000	**29.2%**	**15.7%**
Uber's revenue	1,401	3,904	8,362	10,901	12,204	**71.8%**	**20.8%**

Source: Uber Technologies, Inc Annual Reports, Statista and Own estimation

Appendix L: Uber's freight revenue CAGR vs Sector's CAGR (2019 – 2023)

Freight: $ 000 000	2019	2020	2021	2022	2023	CAGR 2019-2023
Worldwide revenue	48,100				51,130	**1.5%**
Uber's revenue	731	1,011	2,132	6,947	5,245	**63.7%**

Source: Uber Technologies, Inc Annual Reports, Statista and Own estimation

Appendix M: Sector's CAGR (2024 – 2028)

Sector	Sector CAGR (2024 -2028)	Average Weight in Uber's revenue in the last 3 years	Weighted Sector CAGR
Ridesharing	7.0%	45.7%	3.2%
Online food delivery	11.7%	38.3%	4.5%
Freight	6.0%	16.0%	1.0%
			8.6%

Source: Statista, Global Market Insights, Uber Technologies, Inc Annual Reports and own estimations

Appendix N: Average anual GDP growth (2013 – 2023)

Region	GDP growth (2013 - 2023)	Average Weight in the revenue in the last 3 years	Weighted GDP growth
North America	2.26%	58.00%	1.31%
Middle East and North Africa	2.45%	22.00%	0.44%
European Union	1.53%		
Latin America and Caribbean	1.36%	7.00%	0.10%
East Asia and Pacific	4.22%	13.00%	0.55%
			2.39%

Source: World Bank, Uber Technologies, Inc Annual Reports and own estimations