ISCTE Business School
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EQUITY RESEARCH: AN ANALYSIS ON FARFETCH'S IPO

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Resumo

O mercado da moda de luxo tem vindo a crescer nos últimos 20 anos, apresentando uma taxa de crescimento anual de 6%, sendo que em 2017 registou um valor superior a 300 mil milhões de dólares. Os continentes americano e europeu são, do ponto de vista geográfico, os principais mercados, representado 65%, ainda que o mercado asiático tenha demonstrado um forte crescimento nos últimos anos, devido ao seu desenvolvimento económico.

Em relação aos canais de distribuição, o segmento online do mercado da moda, tem vindo a crescer, impulsionado pelo forte e rápido desenvolvimento tecnológico, sendo que representa 9% do valor total e registou um crescimento anual de 24% de 2016 para 2017. O forte crescimento deste segmento deve-se à mudança geracional que se tem vindo a assistir nos últimos anos, sendo que têm vindo a crescer o número de consumidores da geração Y e Z.

Assim sendo, a Farfetch vai aproveitando as oportunidades que este mercado proporciona, para o seu desenvolvimento e crescimento, tendo-se tornado uma empresa cotada na bolsa norte americana NASDAQ.

Este projeto visa a avaliação da empresa aquando da sua entrada em bolsa, onde irá ser avaliado o preço por ação através de diferentes modelos e os valores obtidos serão comparados entre eles e com o preço da OPI da Farfetch.

Considerando os resultados obtidos, concluiu-se que o valor da OPI de 20 dólares por ação, fica aquém dos valores obtidos pelos modelos de DCF, sendo assim é recomendado a compra das ações ao preço da OPI.

Palavras-Chave: Valor da Empresa; Avaliação do Capital Próprio; Finanças da Empresa; Modelos de Avaliação

Código de classificação JEL: G32 – Financing Policy; Financial Risk and Risk Management; Capital and Ownership Structure; Value of Firms; Goodwill

G39 – Corporate Finance and Governance: Other

Abstract

The personal luxury goods market has been growing over the past 20 years, presenting an annual growth rate of 6%, being that in 2017 it registered a value over 300 billion of dollars. The regions of America and Europe are the main geographical market segments, representing 65% of the personal luxury goods market, even though the Asian region has shown a big growth over the last years, due to its economic development.

The online segment has been increasing, driven by the strong and fast technological development, being that this segment represents 9% of the market and it registered a growth rate of 24% in 2017. The fast growth observed in the online segment is also due to the generational shift that is occurring over the last years, since the consumers of the generations Y and Z are increasing.

Therefore, Farfetch is taking advantage of the opportunities that the market provides, to its development and growth, and it became a listed company on the North American stock exchange NASDAQ.

This project aims to valuate the company upon its listing on the stock market, where it will be valued the price per share through different valuation model, and the values obtained will be compared between them and with Farfetch's IPO price.

Taking into consideration the results, it was concluded that the IPO price of 20 dollars per share, falls short from the values obtained through the DCF models, so it is suggested to buy the shares of the IPO.

Keywords: Value of Firm; Equity Research; Corporate Finance; Valuation Models

JEL Classification Code: G32 – Financing Policy; Financial Risk and Risk Management; Capital and Ownership Structure; Value of Firms; Goodwill

G39 – Corporate Finance and Governance: Other

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List of Abbreviations

B – Billion

CAGR – Compound Annual Growth Rate

CAPEX – Capital Expenditure

CAPM – Capital Asset Pricing Model

D/E – Debt-to-Equity

DCF – Discounted Cash Flow

EBIT – Earnings Before Interests and Taxes

EBITDA – Earnings Before Interests, Taxes, Depreciations and Amortizations

EPS – Earnings Per Share

EQV – Equity Value

EV – Enterprise Value

EV/EBITDA – Enterprise to EBITDA

EV/Sales – Enterprise Value to Sales

FCFE - Free Cash Flow to the Equity

FCFF – Free Cash Flow to the Firm

IPO – Initial Public Offer

M – Million

MRP – Market Risk Premium

NI – Net Income

NOPLAT – Net Operating Profit Less Adjusted Taxes

NWC – Net Working Capital

OPI – Oferta Pública Inicial

P/S – Price to Sales

PBV – Price to Book Value

PEG – Price to Earnings Growth

PER – Price to Earnings Ratio

ROA – Return on Asset

ROE – Return on Equity

U.S. – United States of America

WACC – Weighted Average Cost of Capital

WC – Working Capital

1. Introduction

Valuation is the main source of information regarding the company's financial situation, results and prospects in terms of growth and expansion of the business. In order to understand the business of the company itself it is essential to estimate the fair value of the company. When estimating the value of the company it is important to understand and analyze the past situation of the business in order to accurately predict its future.

Encouraged by the possibility of being able to put into action the concepts and ideas learned during the master's in finance programme, the main goal of this thesis is to estimate the fair share price of a company, Farfetch, to compare the fair value obtained through each valuation model with the price of the IPO.

The company that this thesis will analyze is Farfetch, due to the fact that it is a company growing at a fast pace and because recently it went public, through an IPO on 21/09/2018. Another factor that motivated me to choose this company is the fact that it should be challenging to analyze, in terms of value, a company that is still having negative results, but, that at the same time is seeing its value to continue to grow.

This project will start with the review of existing literature, where it will be explained each valuation model that will be used in the project and its main advantages and disadvantages. Afterwards, it will be made an analysis of the company and the industry. Later, the cost of capital will be explicitly computed and there will be made a business forecast, where it will be explained every assumption made and estimation regarding the evolution of the business. Considering the predictions made the value the company will be estimated, using the several models that were previously explained and analyzed in the literature review. In the case of the FCFF model, it will be performed a sensitivity analysis to the results obtained, in order to understand how the main variables of the model would impact in the final value. Finally, the results obtained through each valuation model will be analyzed and it will be made a comparison between them and with the share price of the IPO of the Farfetch, highlighting after that the main conclusions drawn from the analysis.

To compute the fair price of Farfetch, it will be used several valuation models and then identify which ones are the most appropriate to use for this particular case.

2. Review of existing literature

2.1.Unicorns

The term "Unicorn" was initially used to label the young technological companies that were valued at 1 billion dollars. This term was intended to identify a company which business was "extremely rare and magical" (Lee, 2013).

Since then, there have been several authors such as Brown & Wiles (2015) and Simon (2016) using this term and defining the criteria that should be used to consider a company as an "unicorn". According to these authors, the companies should have a market capitalization value of one billion dollars, at some point during their lifetime and having a relevant technological component in their activity.

2.2. Valuation Models

The value of a company can diverge for different parties since each one may be valuing the company through different perspectives. One party could be more interested in the operational aspects and another one could value more the strategic advantages of the company. The value of a company is subject to several factors that can be either objective or subjective (Mota el al, 2015).

There are several reasons that drive to the exercise of valuating a company, for instance a potential transaction or to explain the price in the market of a listed company, or to support a strategic decision, like for example to determine if there should be made an investment or divestment in a certain business unit.

Fernandez (2017) states that the Valuation models can be divided into 4 different groups: Balance Sheet Methods; Income Statement Methods; Mixed Methods and Discounted Cash Flow models.

The Balance Sheet methods value the company estimating the value of its assets, assuming that the company's real value is reflected on its balance sheet. The main criticism regarding these models is that they determine a company's value ignoring growth opportunities, the time value of money and external factors that the company cannot control.

The Income Statement models are used to value a company using its earnings, sales or other indicators. The process of valuation is made through the use of several multiples of a selected peer group, this is, the companies that are comparable with the one that is being analyzed.

The Mixed models or Good-will are the models that estimate the value of future earnings of a company and add it to the book-value. Fernandez (2017) refers that "… goodwill is the value that a company has above its book value or above the adjusted book value…" The goal of the goodwill is to value the company's intangibles which might not be reflected in the company's financial statements.

2.2.1. DCF

The Discounted Cash Flow models are the ones that are most used in the process of corporate valuation, especially the Free Cash Flow to the Firm and the Free Cash Flow to the Equity. These models are the preferred in Corporate Valuation because they consider the time value of money effect and are the ones that better reflect the future prospects regarding the profitability of a business and better support the decision of investing or not in the company (Bilych, 2013).

The main Discounted Cash Flow models that are used in corporate valuation are the Free Cash Flow to the Firm and the Free Cash flow to the Equity. Both models are used in the valuation of the company through its ability to generate cash flows in the future.

2.2.1.1.FCFF

In the FCFF, the cash flows are computed ignoring how the company is being financed. The FCFF is computed as the Operational Cash Flow less the Investments in Capital Expenditure (CAPEX) and in Working Capital (WC):

$$FCFF = Operational\ Cash\ flow \pm CAPEX\ Net\ of\ Disposals \pm Working\ Capital\ Variation \quad (1)$$

The Operational Cash Flow is equal to the Net Operating Profit Less Adjusted Taxes (NOPLAT) plus the total Depreciations since it isn't a cash cost. The NOPLAT is the operating income (EBIT) less the corporate taxes (denominated as "t") that are applied to the firm.

$$Operational\ Cash\ Flow = NOPLAT + Depreciation \quad (2)$$

$$NOPLAT = EBIT * (1 - t) \quad (3)$$

The CAPEX Net of Disposals plus the Working Capital Variation will be the total investments made in CAPEX and in the WC. The CAPEX Net of disposals are the investments that are made in the renovation, expansion and growth of the non-current business assets. The Investment in WC will be the Net Working Capital (NWC), this is, the difference between this year's WC and the WC of the previous year.

$$NWC_t = WC_t - WC_{t-1} = \Delta WC \quad (4)$$

The working capital will be the current liabilities (excluding financial debt) deducted from the current assets, but only considering the items related with the business. If the WC is positive it indicates that there is a need to invest on a permanent basis in the company. (Mota et al, 2013).

$$WC = Current\ Assets - Current\ Liabilities \quad (5)$$

Thus, the FCFF formula can be rearrange to the following:

$$FCFF = EBIT * (1 - t) + Depreciation \pm Investment\ in\ CAPEX \pm Variation\ in\ WC\ (\Delta WC) \quad (6)$$

Once the FCFF is computed, it is necessary to define the rate that will be used to discount the cash flows.

The way the company is being financed was initially ignored, when computing the FCFF. The FCFF is available to remunerate debt and equity.

WACC

Therefore, the discount rate should reflect the global cost of the capital structure of the company, the Weighted Average Cost of Capital (WACC). The cost of debt needs to be adjusted so it can incorporate the tax savings generated by the interest payments of the debt (Fernadez, 2011).

The formula of the WACC will be the following:

$$WACC = \frac{E}{E+D} * rE + \frac{D}{E+D} * rD * (1 - t) \quad (7)$$

Where D is the Market Value of Debt; E is the Market Value of Equity; rE is the Required Return of Equity; rD is the cost of Debt and t represents the corporate tax.

The WACC formula and each of its components will be analyzed in more detail, in another section of this text.

Once identified the discount rate, the next step is the computation of the Enterprise Value. The Enterprise value represents the present value of the perpetual stream of future FCFF discounted at the appropriate rate (WACC). In order to properly use this method, it is assumed that the company's has an unlimited lifetime and that it will continue its business endlessly.

$$Enterprise\ Value = \sum_{t=1}^{\infty} \frac{FCFF_t}{(1 + WACC)^t} \quad (8)$$

When computing the Enterprise Value, it is important to acknowledge that it will be impossible to project annually the FCFF for the entire lifetime of the company. In order to overcome this limitation, it becomes necessary to define at least two different time periods.

In an initial period, the annual FCFF will be explicitly estimated. For this time period all of the main variables of the FCFF are explicitly projected. This time period usually doesn't extend beyond 5 years, due to the complexity and increasing uncertainty involved in long term projections.

In the second period it will be defined a constant annual growth rate on a perpetual basis. Therefore, the cash flows will no longer be explicitly forecasted. In the case of high growing companies this second period can be split in two or more periods to allow the setup of different growth rates, until reaching a "normal" growth rate in the final period.

The present value of the perpetual cash flow stream under a constant growth rate is called the Terminal Value. It is a critical element of the value of a company since it incorporates the largest fraction of the future cash flows. Therefore, there is a need of being extremely cautious in the assumptions that will be made, in order to avoid an overvaluation of the company.

The terminal value is estimated, through the stable growth model, assuming that in the last period, the cash flows will grow at a constant rate due to the fact that the business is reaching a stable stage, so it will be computed just like a perpetuity:

$$Terminal\ Value = \frac{FCFF_{n+1}}{WACC - g} \quad (9)$$

Where $FCFF_{n+1}$ represents the FCFF at the first year of the perpetuity, *WACC* is the appropriate discount rate to be used and g is the stable growth rate to be used.

The best estimation for the growth rate should be to use the same growth rate of the industry, since the companies, on the long run tend to follow the industry's growth rate and is very rare to see a company growing, systematically at a faster pace that the industry (Koller, Goedhart & Wessels, 2015).

When the company reaches the stable growth stage it is assumed that the value of depreciation will be equal to the investment in capital expenditures. The investment made in WC for the first

year of the perpetuity will be equal to the last year of the initial period time the *g* rate. Thus, the $FCFF_{n+1}$ can be computed as follows:

$$FCFF_{n+1} = NOPLAT_n * (1 + g) - WC_n * g \quad (10)$$

$$FCFF_{n+1} = FCFF_n * (1 + g) \quad (11)$$

Thus, the Enterprise Value, considering that the company will reach the stable growth stage at the year *n*, can be computed as the following:

$$Enterprise\ Value = \sum_{t=1}^{n} \frac{FCFF_t}{(1 + WACC)^t} + \frac{Terminal\ Value_n}{(1 + WACC)^n} \quad (12)$$

The Enterprise Value represents the value of the business of the company.

The Firm Value differs from the enterprise value since it measures the company's whole value, and not just the business. Thus, the Firm Value needs to consider the non-operating business that weren't considered when valuing the business of the company. The Firm value will be computed as following:

$$Firm\ Value = Enterprise\ Value + Non - Operating\ Assets \quad (13)$$

The Non-Operating Assets are the assets that don't contribute for the production of the business cash flows, this is, it is irrelevant to the company's business if they exist or not. This is the reason why they shouldn't be included in the Enterprise Value (value of the business) but should be considered in the Firm Value. These assets should be included using their market value.

The Firm Value is the company's value to both Equity and Debt holders. So, the Equity Value, will reflect the value of the business plus the Non-Operating Assets minus the company's debt, being computed as:

$$Equity\ Value = Firm\ Value - Finacial\ Debt - Non - Operating\ Liabilities \quad (14)$$

The value of the Financial Debt is the debt that is being used to finance the operations of the business and it needs to reflect its market value but to exclude its operating debt, that were already used in the valuation of the business as Working Capital items.

2.2.1.2.FCFE

In the FCFE, the company will be valued through the perspective of the equity holder, this is, the method values the company based on the cash flows that are available to be distributed to the shareholders, after all expenses and necessary investments are made. Through the FCFF model, the Equity Value is obtained using a two-staged approach, since it is obtained after the computation of the Enterprise Value; through the FCFE model, the Equity Value is obtained directly, once all the available cash flows are discounted at the appropriate rate.

The FCFE will be computed as:

$$FCFE = Net\ Income + Depreciation \pm CAPEX\ Net\ of\ Disposals \pm Working\ Capital\ Variation \pm Debt\ Variation \quad (15)$$

Once the FCFE is computed, it is necessary to know what is the appropriate rate to discount the cash flows. In the FCFF, the way the company is being financed was initially ignored, since the FCFF remunerated both debt and equity holders. Since in the FCFE, the cash flows are measuring the value of the company through the perspective of the shareholder, the capital structure of the company is already being considered in the valuation. As so, the appropriate rate to discount the cash flows should reflect the level of risk that affects equity holders, thus being the Required Return of Equity (rE) the best rate to discount the FCFE.

The Equity Value will be computed through the same approach that was used when computing the Enterprise Value in the FCFF model. This means that it will be considered two different periods of time, where in an initial period it will be made a detailed estimate of the FCFE and then, in the second period, the cash flows will be estimated based on a constant growth rate.

The method to compute the terminal value in the FCFE model will be very similar to the method used in FCFF, but instead of using the FCFF and the WACC it will be used the FCFE and rE:

$$Terminal\ Value = \frac{FCFE_{n+1}}{rE - g} \quad (16)$$

Thus, the Equity Value will be:

$$Equity\ Value = \sum_{t=1}^{n} \frac{FCFE_n}{(1+rE)^n} + \frac{Terminal\ Value_n}{(1+rE)^n} \quad (17)$$

2.2.1.3.WACC

Now that the formula for the WACC is known, let's analyze its main components.

Required Return of Equity

Starting with the Required Return of Equity, the most common approach to estimate this variable is through the Capital Asset Pricing Model (CAPM).

The CAPM is a single factor model that estimates the expected return of equity where the riskless rate is added to the levered beta of the company times the market risk premium.

Thus, the formula to estimate the Return of equity will be (Damodaran, 2012):

$$rE = rf + \beta_L * (Rm - rf) \quad (18)$$

Where the risk-free rate is represented by *rf*, the Levered Beta by β_L, and the market risk premium by *(Rm-rf)*. Before the computation of the Return of Equity, we need to understand and to know how to measure the different elements of the equation.

Risk-Free Rate

The assets will have returns that might diverge from the return that was initially expected, this means, that the actual return of an asset will depend on its riskiness. So, for an asset to be considered risk-free, then the expected return will always need to be equal to the actual return (Damodaran, 2008).

Damodaran (2008) argues that there are 2 conditions that need to be accomplished in order to define an investment as risk-free. The bond can't have default risk, which means that, the issuer needs to ensure that when the security is due, it will pay the expected return. Since the governments control the printing of currency, the government bonds are the only one that might be considered risk-free. For a security to be considered as risk-free it can't have no reinvestment risk, this means that, the government bonds who have interim coupon payments shouldn't be used, since the coupon payments will need to be reinvested at a rate that isn't known in the present.

Taking into consideration the previous conditions, several authors such as Koller, Goedhart & Wessels, (2015) and Damodaran (2012) sustain that the risk-free rate to be used should be the expected return of a government zero coupon bond.

Since it's highly complex and difficult to discount each cash flow using its matched risk-free rate maturity, the most common rate to use as the riskless rate is the expected return of the 10-year zero coupon government bond.

Beta

The Beta (β) is a measure of volatility that reflects the behavior of a security's returns to changes in the market, this is, it's a measure of risk that reflect the exposure that a security has in relation to the market. This parameter can be estimated using different methods.

The first one uses the historical data of market prices. This method consists on estimating the beta using a regression of the returns on the investment against the returns of a market index, where the slope of the regression corresponds to the value of the beta. However, this isn't the best approach to estimate the beta since "… regression betas will almost always be either too noisy or skewed by estimation choices to be useful measures …" (Damodaran, 2012).

The second method consist into taking a look at the fundamental determinants of the business and from there the beta of the business is estimated. The levered beta of the business will be determined taking into consideration the firm's business, the level of operating leverage and the firm's financial leverage. The Bottom-Up Beta approach is a better way to estimate the Levered Beta rather than using the historical data. Through this method, it is estimated the levered betas of several publicly traded companies (using a regression), then it is computed the average or the median of the betas, and from the measure used (either the average or the median) the Unlevered Beta of the business is computed. Assuming that the Unlevered Beta previously calculated will be similar to the company's Unlevered Beta and bearing in mind the firm's market values of debt and equity, the Levered Beta of the firm is calculated (Damodaran, 2012).

The formula that allows to compute the Levered Beta and the Unlevered Beta are below:

$$\beta_L = \beta_U + (\beta_U - \beta_D) * \frac{D}{E} * (1 - t) \tag{19}$$

$$\beta_U = \frac{\beta_L + \beta_D * {}^{D}/_{E} * (1 - t)}{1 + {}^{D}/_{E} * (1 - t)} \tag{20}$$

Where the Unlevered Beta is represented by β_U, the Levered Beta by β_L, the Beta of Debt by β_D, the Debt to Equity Ratio by *D/E*, and *t* represents the corporate tax rate being applied to the firm.

Market Risk Premium

The Market Risk Premium is the expected return of the market minus the risk-free rate. It represents the premium demanded by the investor that compensates to invest in the market portfolio instead of in a riskless security.

The most common and accepted method to estimate the market risk premium is through the historical risk premiums. In this method, the premium is estimated as the difference between the actual returns of the market and the risk-free security. Even though this approach is the most commonly used to estimate the market risk premium, it is only rational to use in stock markets that are large, diversified and have a long historical data of the market returns and risk-free rate that can be used (Damodaran, 2012).

For the less developed markets, there is another method that can be used, the Modified Historical Risk Premium. To estimate the premium for these markets, it should be added a country risk premium to the equity base premium for a mature market.

$$Market\ Risk\ Premium = Base\ Premium + Country\ Premium \tag{21}$$

There is another way to estimate the market risk premium, that doesn't rely on the historical data to be computed, however it assumes that the market is being correctly priced. This approach is the market implied cost of equity, where the cost of equity is estimated based on the current share prices and the performance of the company, and it is derived from the below formula (Koller, Goedhart & Wessels, 2015):

$$Equity\ Value = \frac{Earnings\ *\ \left(1\ -\ \frac{g}{ROE}\right)}{rE - g} \tag{22}$$

Where g represents the expected growth rate; *ROE* the Return on Equity and *rE* the Cost of equity. Solving the above equation for the cost of equity, the equation can be rearranged as:

$$rE = \left(\frac{1}{P/_E}\right) * \left(1 - \frac{g}{ROE}\right) + g \tag{23}$$

Cost of Debt

Koller, Goedhart & Wessels (2015) suggests that the best option to calculate the cost of debt for investment grade companies, with a rating of BBB or higher, is the yield to maturity of the company's long-term debt, since the probability of default is very low.

For the firm's that have a Non-Investment grade debt (that have a rate of BB or lower), the authors don't recommend the usage of the yield to maturity since the default risk is higher. Instead of using the WACC approach, it is recommended to use the Adjusted Present Value model.

However, Damodaran (2012) proposes another way of estimating the cost of debt, that consists in adding the firm's default spread associated with its rating to the riskless rate:

$$rD = rf + Default\ Spread \quad (24)$$

In order to obtain the appropriate default spread to each company, it is necessary to know the company's rating. Damodaran (2018) has created a table that relates each rating to a specific default spread. In the cases where the company doesn't have a rating, Damodaran (2018) proposes to create a "synthetic" rating, relating the interest coverage ratio of the firm to the rating (see annex J). This connection was created taking into consideration all the rated companies of the United States of America, and the default spreads were computed based on the traded bonds.

Interest Tax Shield

When a company isn't all-equity financed, it will have interest expenses, which are tax deductible, meaning that there are tax benefits associated with the existence of debt. As so, this tax benefit should be reflected when computing the WACC, as a function of the debt. The interest tax shield can be valued through the cost of debt, net of the taxes saved, as presented in the below formula:

$$After\ tax\ cost\ of debt = Cost\ of\ Debt * (1 - tax\ rate) \quad (25)$$

Even though the computation of the interest tax shield is simple, there are different points of view when it comes to selecting the appropriate tax rate, between the effective tax rate and the marginal tax rate. The choice of the appropriate tax rate is rather important for the multinational firms since its income could be taxed at different rates, depending on the locations where the firm has operations.

Several authors, such as Koller, Goedhart & Wessels (2015) and Damodaran (2012) sustain that the appropriate correct tax rate to be applied should be the marginal tax rate, "…since interest expenses save you taxes at the margin …".

Capital Structure

Once the required return of equity and the cost of debt after tax are known, there is only one more variable needed to determine to be able to compute the WACC, the capital structure of the firm.

The capital structure is how the company overall funds are distributed between equity and debt. Ideally, the values of equity and debt used in the computation of the WACC should reflect the market values and not the accounting values.

The equity market value can be obtained multiplying the number of outstanding shares with the current stock price of the firm:

$$Equity\ Market\ Value = Outstanding\ Shares * Stock\ Price \quad (26)$$

The market value of debt is usually more difficult to find, since very few companies have their entire debt outstanding trading in the market. Damodaran (2012) proposes a way to change the book value of debt into market value, that consists in using the debt book value as one coupon bond. This way considers that the bond will pay annually the interest expenses of all debt and with a weight average maturity and then this coupon bond is valued using the current cost of debt previously computed:

$$Debt\ Market\ Value = Interest\ Expenses * \left(\frac{1 - \frac{1}{(1+rD)^{Av.Mat.}}}{rD} \right) + \frac{BV\ of\ Debt}{(1+rD)^{Av.Mat.}} \quad (27)$$

2.2.2. Dividend Discount Model

The Dividend Discount Model is a valuation model that takes into consideration the future dividends that will be distributed.

There are two possible cash flows, for an investment in shares. The investor could sell the shares, being the profit or loss the difference between the price at which the shares were bought and sold; and by holding the shares and collecting the several cash dividends that will be paid throughout the period of time that the investor holds the shares (Bodie, Kane & Marcus, 2009).

The fair price of the stock today will be the present value of all future dividends discounted at the appropriate rate. Considering one-year period, the present value of a certain stock today (P_0) will be the dividend that will be distributed one year from now (D_1), plus the price of the share one year from now (P_1), discounted at the appropriate rate (r):

$$P_0 = \frac{D_1 + P_1}{1 + r} \tag{28}$$

Since P1 will be computed through the same way, as function of D2 and P2, and using for each P the same approach, the present value of the stock will be the perpetual stream of dividends (Brealey, Myers & Allen, 2017):

$$P_0 = \sum_{t=1}^{\infty} \frac{D_t}{(1 + r)^t} \tag{29}$$

The method to value a company using the dividends approach, is similar to the one used in the Discounted Cash Flow models, where it is defined two different time periods. The dividends will be explicitly estimated for the first period and for the second period it is assumed that the dividends will grow at a constant *g* rate:

$$P_0 = \sum_{t=1}^{n} \frac{D_t}{(1 + r)^t} + \frac{\frac{D_n}{r - g}}{(1 + r)^n} \tag{30}$$

This second period can be split into two or more periods, so that in the case of high growing companies, different growth rates can be setup until reaching a stable growth rate. Damodaran (2012) defends that the three-stage model is the one that better estimates the value of company, since it's a more flexible model that better reflects the changes of the growth rate.

Even though the DDM is widely studied and used, there are several limitations that should be taken into account when using this model. Since this model focusses only on dividends, it might lead to an underestimate of a company's true value, in the cases where the companies decide to have a low dividend payout ratio or even if they choose to not pay any dividend. The DDM might be too conservative since it doesn't consider, in its valuation, the non-business assets, that other models use in their valuation, also leading to an underestimate of the company's value.

2.2.3. Multiples Model

The valuation of a company through the multiples model is based on the idea that similar assets should be selling at similar prices, this means that similar companies with similar performance

should have similar multiples. The discounted cash flows models are the most used and widely accepted valuation methods; however, the multiples model could also be used as a complementary model, since it can help summarize and test the valuation produced and provide valuable insights of the company (Koller, Goedhart & Wessels, 2015).

In this method, the company value is estimated based on the value of one company or on the value of the peer group, that is a group of companies, usually of the same industry, that have similar characteristics and are comparable with the company being analyzed. In practice, there aren't two companies that are exactly equal, so there should be made some adjustments to the peer group, in order to harmonize the data. In the peer group, the companies to be considered, should have, as much as possible, a similar profile to the company that is being valued.

This method usually employs several multiples, to analyze and value the company taking into consideration different perspectives, since each multiple has its own variables. Once the multiples to be used are selected, the value of the company is achieved through the average of each multiple, or it is possible to establish a range of the company's value.

Since the selection of the peer group and the choice of multiples to be used is a critical factor, Koller, Goedhart & Wessels (2015) have 5 principles to correctly use the multiples model:

1. Value multibusiness companies as a sum of their parts, since companies could compete in several subindustries;
2. Use forward estimates instead of multiples based on historical data, since these provide more realistic expectations;
3. Use the right multiple;
4. Adjust the multiple considering the nonoperating items;
5. Use the right peer group and not the industry average.

There are several critics made to this model, namely being a simplistic approach reducing extensive information regarding the different perspectives of a company into a single number. Another limitation of this model is that it represents a static approach, this is, it values the company using data from a specific moment of time, not considering though the dynamics of the long-term evolution of the company's business.

In spite of the mentioned limitations, this model is still very popular and widely used among investors. This model, when properly used is quite useful and provides relevant information

since it offers a framework and an overall view of the company's business, being usually used as a complementary model to the DCF models.

2.3.Multiples

According to Pablo Fernandez (2001) the multiples could be divided into 3 different groups, Multiples based on the company's price or capitalization (PER; P/S; PBV; etc.); Multiples based on the company's Enterprise Value (EV/EBITDA; EV/Sales; etc.); and the Growth Referenced Multiples (PEG or PER to EPS Growth; EV/EBITDA Growth; etc.).

$$Price\ to\ Earnings\ Ratio\ (PER) = \frac{Market\ Capitalization}{Total\ Net\ Income} \quad (31)$$

$$Price\ to\ Sales\ (P/S) = \frac{Market\ Capitalization}{Total\ Sales} \quad (32)$$

$$Price\ to\ Book\ Value\ (PBV) = \frac{Market\ Capitalization}{Book\ Value\ of\ Equity} \quad (33)$$

$$Enterprise\ Value\ to\ EBITDA\ (EV/EBITDA) = \frac{Enterprise\ Value}{EBITDA} \quad (34)$$

$$Enterprise\ Value\ to\ Sales\ (EV/Sales) = \frac{Enterprise\ Value}{Total\ Sales} \quad (35)$$

$$PER\ to\ EPS\ Growth\ (P/EG) = \frac{PER}{Growth\ EPS\ rate} \quad (36)$$

$$Enterprise\ Value\ to\ EBITDA\ Growth\ (EV/EG) = \frac{EV/EBITDA}{EBITDA\ Growth} \quad (37)$$

3. Company Overview

Farfetch is an e-commerce company, based in London, that sells luxury fashion products through its innovative and groundbreaking technology platform. The company, founded in 2007 by José Neves, attempted to explore the difficulties faced by small independent boutiques in selling their products and wanted to increase their exposure and sales.

There are several e-commerce companies that sell fashion products online, so what is it that makes this company stand out from the crowd? The key success factor is the fact that it sells luxury fashion items online while offering a reliable and trustworthy service; guaranteeing that the products get to the costumer in perfect conditions, but still offering the option to return and refund the costumer.

Basically, Farfetch offers similar services of a physical store making sure that the costumer can shop several luxury items online knowing that it is safe to order and to pay for their shopping.

In October of 2008 the Farfetch website was officially launched, starting to sell products from 25 boutiques in 5 countries, thus initiating its path to become one of the few Portuguese unicorn companies.

In March of 2015 Farfetch become the first ever Portuguese start-up to be considered a "unicorn". In March, the Portuguese start-up raised 86 million of dollars in a new funding round and in that round the company achieved a valuation of 1 billion of dollars. This funding round was led by DST Global (one of the principal investors in technology worldwide), having some previous investors returning, like the Condé Nast and Vitruvian Partners.

In May, the company started to develop the Store of the Future and acquired the Browns boutique, one of the most prestigious and renowned boutiques of London, as part of the Farfetch's growth strategy.

By the year of 2016, the company had almost 500 boutiques selling their products through the Farfetch website and 200 brand partners. Currently, the company sells to 190 countries having over 3,200 brands on their platform, offering multilingual costumer support and same day delivery in 18 cities.

In April of 2017, the company revealed the Augmented Retail vision launching the Farfetch Store of the Future technology. Still in 2017, the company announced that it had partnered up with China's largest retailer, the JD.com group, in order to promote and stimulate its business

in China. The JD.com group has made an investment of almost 400 million dollars in Farfetch, that will facilitate the access to the luxury fashion world to the Asian consumers.

Ten years after the Farfetch website was launched, the company went public, on 21 of September of 2018, being the share price of the IPO 20.00 USD and having more than 250 million outstanding shares, thus being the company valued at a price over 5 billion dollars.

Farfetch's Black & White Solutions offers a global, multi-channel e-commerce where the luxury fashion brands and retailers can design and build their brand website and have access to several channel features and capabilities allowing them to ship its products to 190 countries, through the Farfetch's platform.

This tool permits to the retailers and brands see their products exposed in several websites and app stores, where they can easily engage with its consumers. Farfetch's Black & White also facilitates the harmonization between the websites with the inventory available in its stores and warehouses.

Farfetch Store of the Future is a technology retail operating system that aims to improve the retail productivity. This technology focus on collecting consumers data and uplift the relations between the consumers and the brands. This tool permits for brands to use other companies technology, offering a unique experience and allowing for the brands to maintain their in-store and online strategy.

4. Profitability and Financial Analysis

4.1. Farfetch

The Financial analysis of the company will be made considering the most recent information that was available before the Farfetch's IPO date (21/09/2018). The company's information used was available on the F-1 form (that is also known as the Registration Statement), of the NASDAQ website. It will be analyzed the information regarding the years between 2015 and 2017, and also the first semester of 2017 and 2018.

Revenue

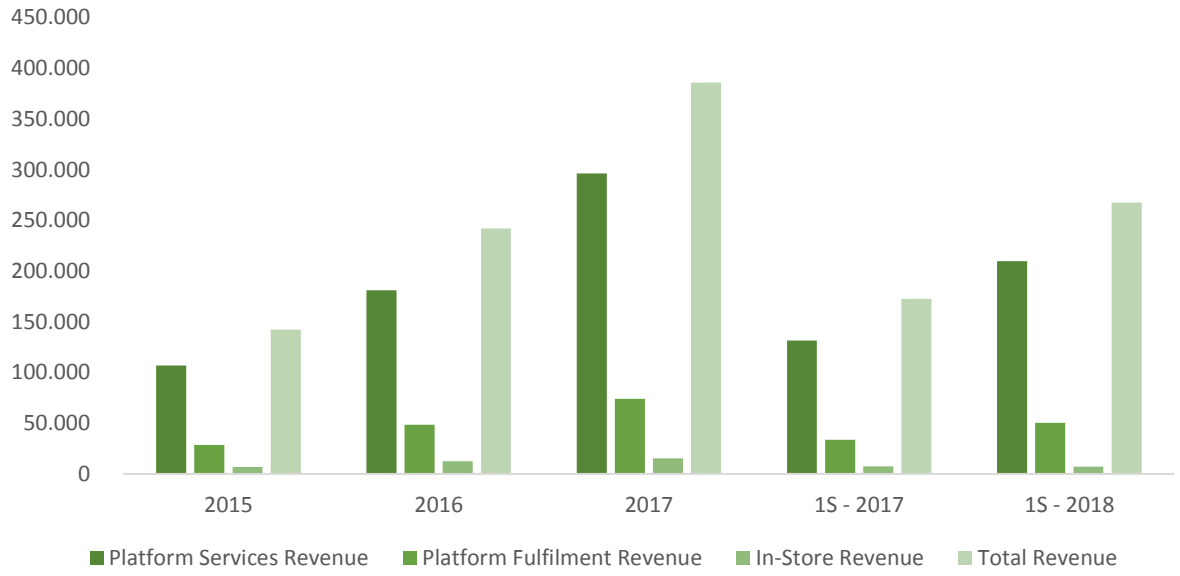

Figure 1 – Total revenue per type of service, in $ thousands

Source: Farfetch

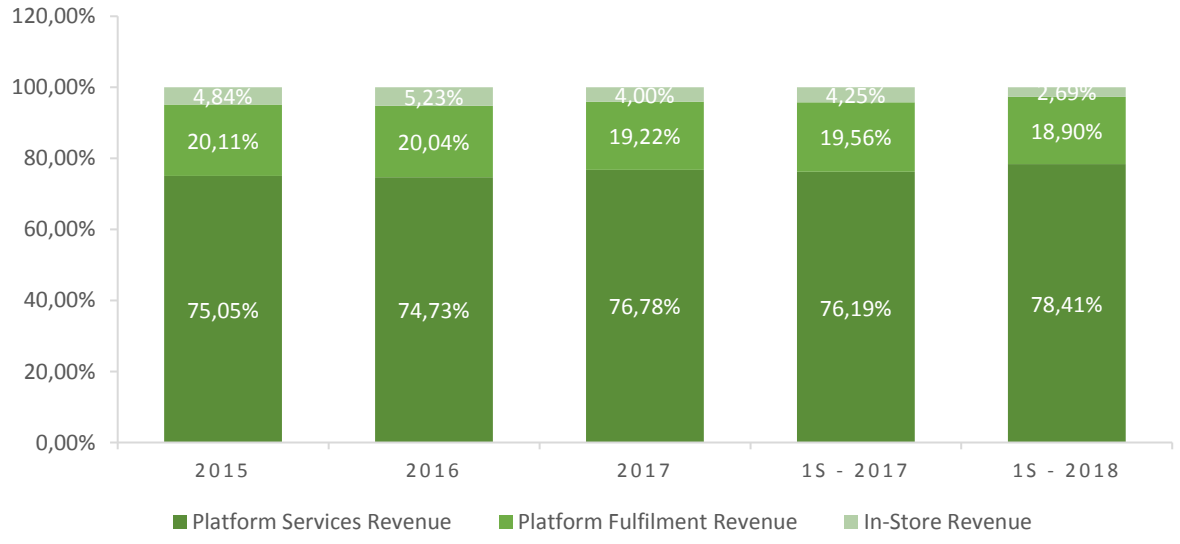

Figure 2 – Revenue breakdown per type of service

The total value of revenue earned by the company has been increasing in each year since 2015, from $142M to $386M in 2017, and it achieved $267.5M in the first semester of 2018. It's possible to observe in figure 2 that the Platform Services Revenue is the main source of revenue of the firm, being responsible for over 75% of the total revenues.

This shows that Farfetch is a company in an early stage where it is quickly growing and expanding its business, meaning that the revenues growth observed on the above graphic won't continue to grow at this pace.

There are several factors affecting the results and the financial state of the firm, being the most significant the quality of the luxury supply, the retention of active consumers and the investments in technology and innovation.

There are other factors that will impact Farfetch's results, like the seasonality, since this business has a seasonal nature throughout the year; additionally, foreign exchange fluctuations also play a role, due to the fact that it is a global company that earns its revenue all over the world and in different currencies.

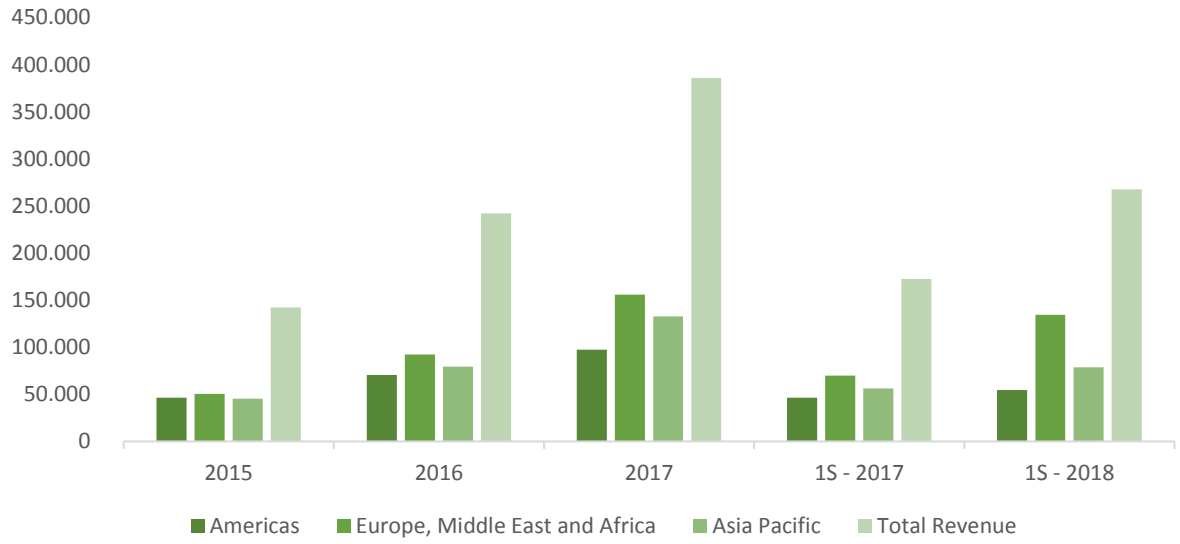

Figure 3 – Total revenue per region, in $ thousands

Source: Farfetch

It is possible to observe that in the year of 2015, the revenues generated in each region were very close to each other, being the difference between regions less than 5 million dollars.

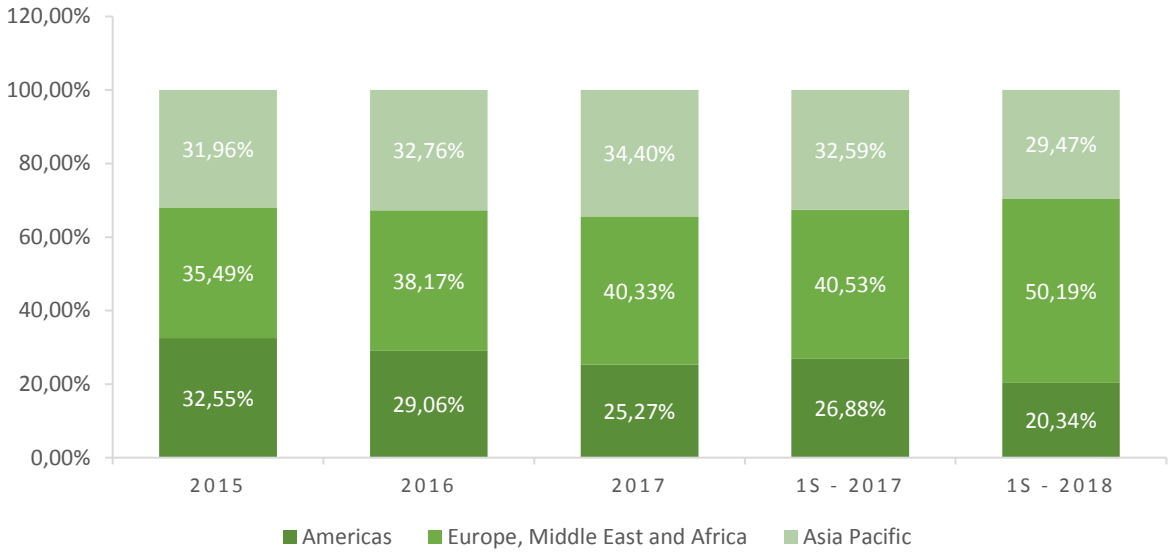

Figure 4 – Revenue breakdown per region

Even though the total revenues are increasing in each region, year over year, the region of Europe, Middle East and Africa is the one growing at a faster pace, while the Asian region is also showing a fast pace of growth, thus being the ones responsible for the boost of the total revenues of Farfetch.

That's the reason why, in 2015, the distribution of the revenues per region were very similar, being between 30% and 35% for every region, and in the present days there starts to show a discrepancy between the regions, since in the first semester of 2018 more than half of the revenues were registered in the European region.

Selling, General and Administrative Expenses

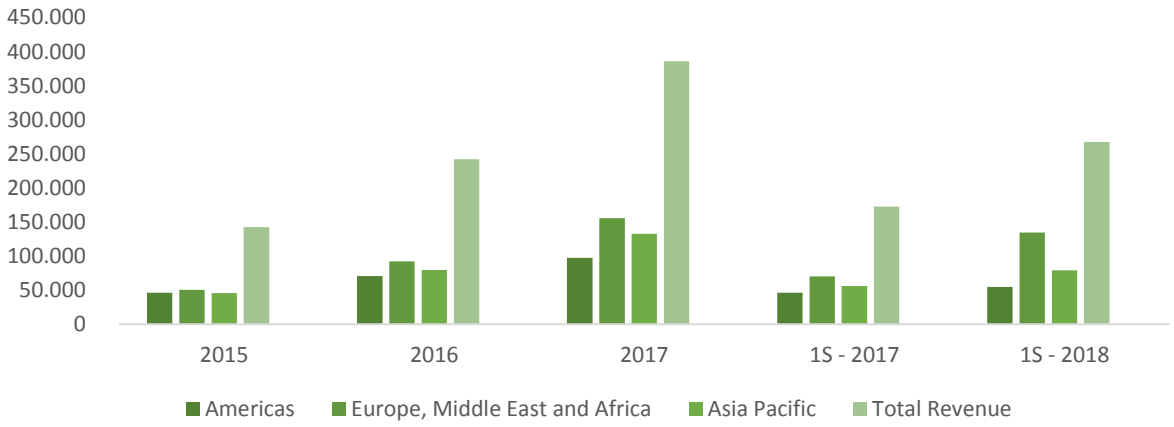

Figure 5 – Total Selling, General and Administrative Expenses, in $ thousands
Source: Farfetch

The investment made in infrastructures and technology development, and the increase of general and administrative expenses are the major reason that drives the increase of negative results for the EBITDA and Net Income, since the expenses have increased from $130M to $300M.

The selling, general and administrative expenses are expected to continue to rise in the near future, as the firm will become a publicly traded company and it is expected for its business and operations to continue to grow at a high rate. In figure 5, it is exhibited the tendency for this expense to continue to increase its value in the near future, since it has always demonstrated an increase over the last three years.

Profitability Ratios

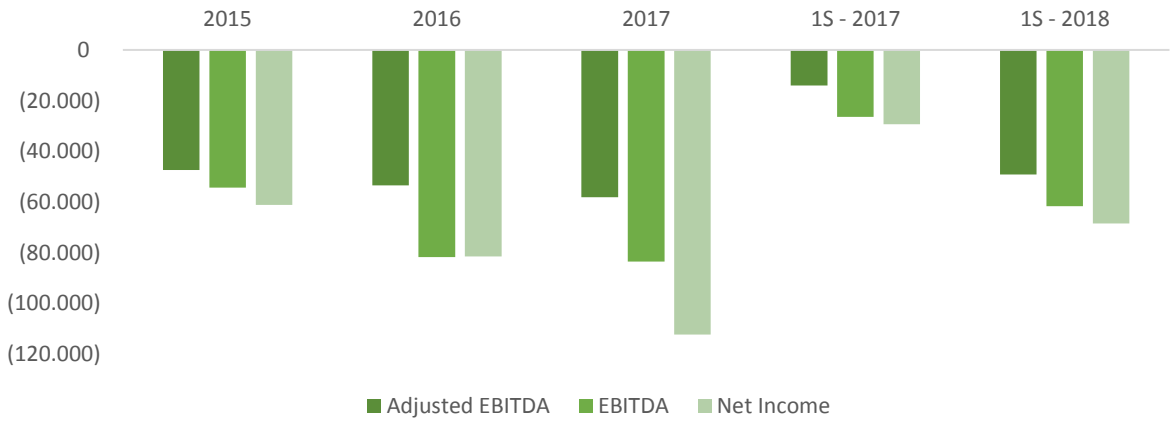

Figure 6 – Adjusted EBITDA, EBITDA and Net income, in $ thousands

Source: Farfetch

Even though the revenues are positively increasing at a fast pace, the EBITDA and the net income keep presenting negative results and its losses are increasing from $54M, in 2015, to $83.5M in 2017; and the Net Income loss has increased in almost $40M from the first semester of 2017 to the first semester of 2018.

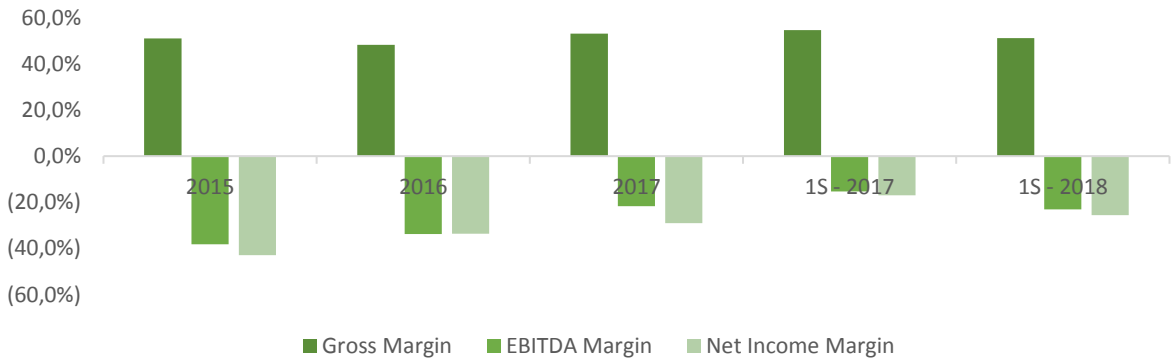

Figure 7 – Profitability Ratios

Farfetch presents a positive gross margin, thus indicating that its revenues generated surpass the costs of the items sold, but the EBITDA margin and the net income margin are negative, due to the fact that the company presents high selling, general and administrative expenses.

Liquidity Ratios

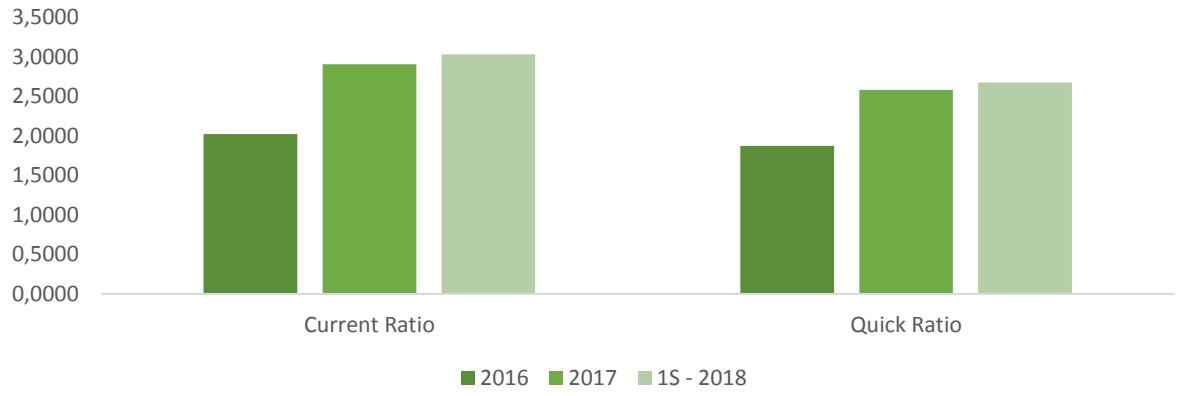

Figure 8 – Liquidity Ratios

The liquidity ratios have always been above 1, meaning that the company has always been capable of covering its short-term obligations by its own current assets. The liquidity ratios have been increasing due to the increase of Cash and Cash Equivalents, since this item has increased 230 million of USD in 2017. Even though the company shows high values for its liquidity ratios, the fact that these ratios keep on increasing, could be interpreted as a bad sign, since high liquidity ratios may represent a less efficient allocation of capital.

Leverage Ratios

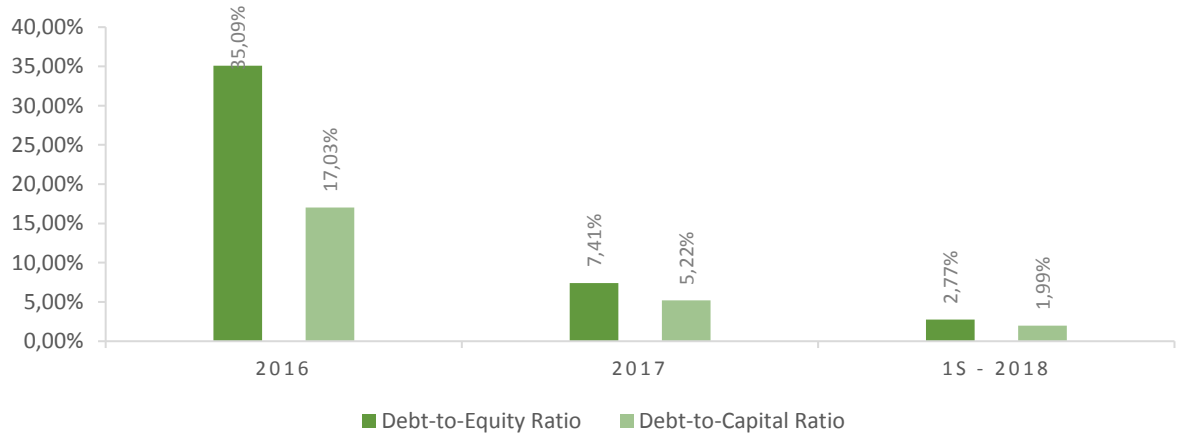

Figure 9 – Leverage Ratios

The debt-to-equity ratio has been decreasing over the last years registering values lower than 7.5%, since the end of 2017. Consequently, the debt-to-capital ratio also presents very low values, around 5% or less. Since Farfetch presents such low values for the leverage ratios, this indicates that the firm is almost completely an all-equity financed firm.

Returns Ratios

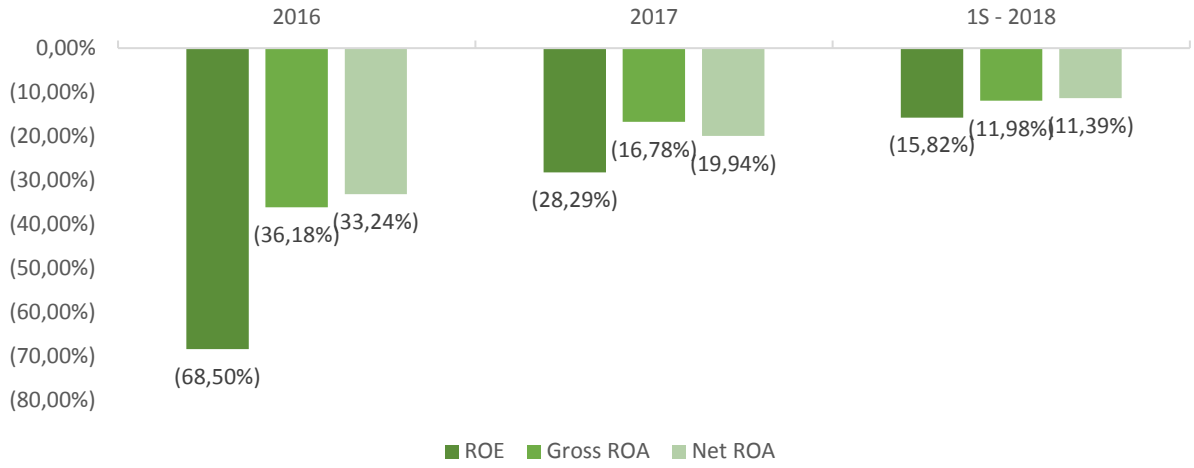

Figure 10 – Returns Ratios

In the previous three years, Farfetch has always shown a negative EBIT and also a negative Net Income. Consequently, its main operating returns ratios, such as return-on-equity, gross and net return-on-asset, have always present negative results. It is noticeable that these ratios are positively growing over the last years, and are becoming less negatives, even though the EBIT and the NI are decreasing and being more negative. These ratios present a positive evolution due to the fact that the firm's assets and equity book value is increasing at a fast pace, being that the assets book value grew from 245 million of USD in the end of 2016, to over 600 million of USD in the end of the first semester of 2018, and the equity has grown from almost 120 million of USD, to 432 million of USD.

4.2. Industry

Farfetch is an e-commerce company that sells luxury fashion products through its innovative platform, meaning that the company has operations that aren't limited to a single market but rather set the connection between the luxury fashion, online commerce and technology industry.

The data relatively to the luxury market was withdrawn from the study developed by Bain & Company, being that all the data available corresponds to the end of the year of 2017. Even though the values are in EUR, these were converted to USD using the same exchange rate that was used by Farfetch in its Registration Statement, where the EUR/USD rate is 1.1834.

The luxury industry is composed by nine different groups recording an estimated value of almost €1.2 trillion (approximately $1.42 trillion), having a growth of 5%, from 2016 to 2017. The luxury cars market leads the industry having a market value of €489B ($578.7B), being followed by the personal luxury goods, with a market value of €262B ($310B) and the luxury hospitality segment, that is value at €191B ($226B). These are the main groups of the industry, representing more than 80% of the total value of the market.

Farfetch is company that sells personal luxury goods, so this is the market that it will be analyzed.

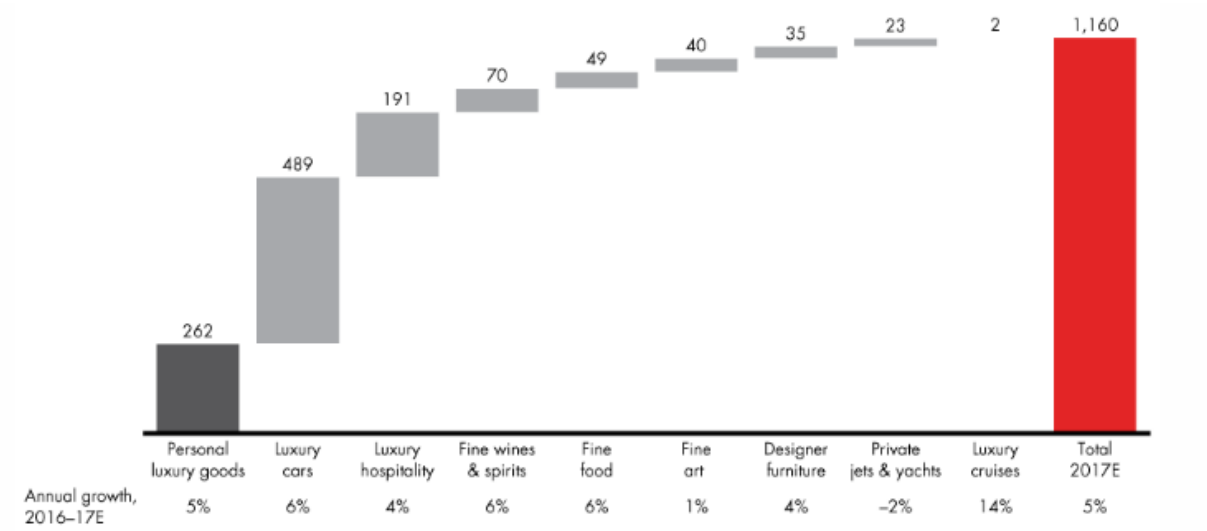

Figure 11 – Total value of luxury market and each segment, in € billions, 2017

Source: Bains & Company, Luxury Goods Worldwide market study, Fall–Winter 2017

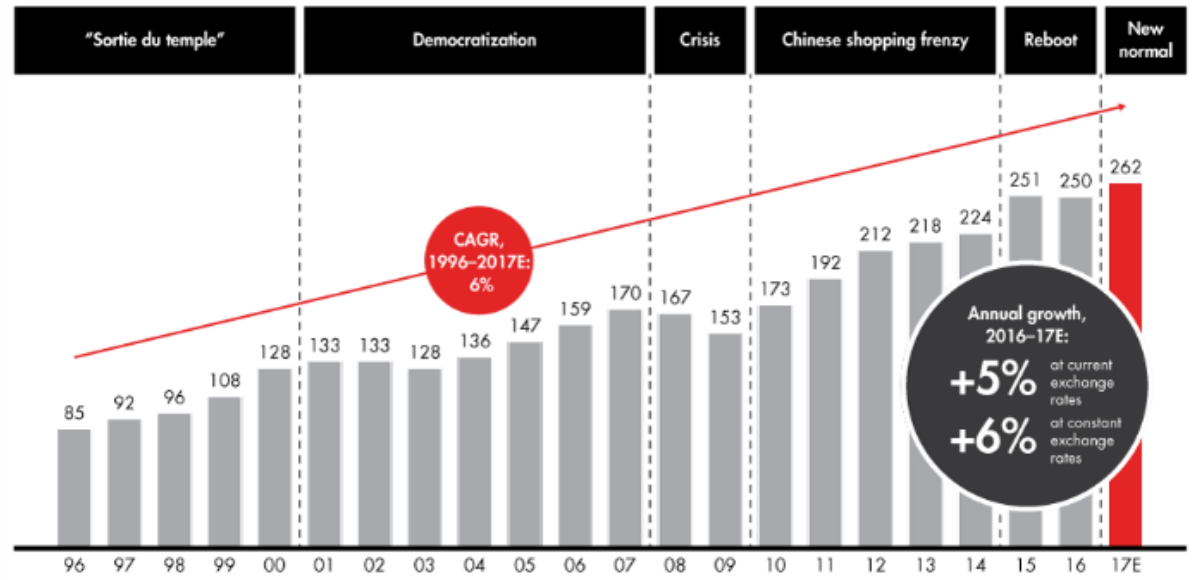

Figure 12 – Evolution of personal luxury goods market, , in € billions, 1996-2017

Source: Bains & Company, Luxury Goods Worldwide market study, Fall–Winter 2017

The personal luxury goods segment reached the value of €262 billion ($310 billion), in 2017, registering an increase of 5%, growing at the same rate of the global luxury market. Since the decade of 90 the luxury goods market has been growing constantly, except in the years of the 2008 crisis and in 2016, reporting a Compound Annual Growth Rate (CAGR) of 6%.

In 2017, Asia was the region that boosted the growth of the personal luxury goods market, being led by China which recorded the biggest increase having a growth rate of 15% and reaching a market value of €20B ($23.7B), having a total market share of 8%. Japan and the rest of Asia also had solid contributions showing growth rates of 4% and 6%, respectively.

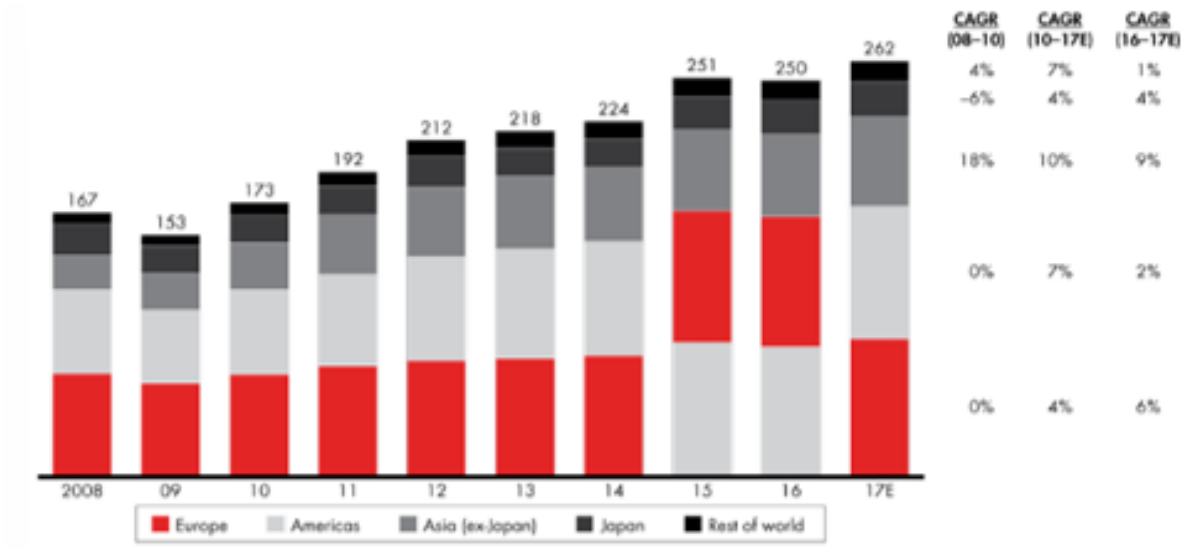

Figure 13 – Evolution of personal luxury goods market by region, in € billions, 2008-2017

Source: Bains & Company, Luxury Goods Worldwide market study, Fall–Winter 2017

From 2008 to 2010, Asia (except for Japan) displays a big CAGR growing annually at 18%, contrarily to what was the norm during the years of the 2008 crisis, where Japan showed a negative CAGR and the main regions, such as Europe and Americas, presented a growth rate of zero.

Even though the Asian region is the one growing at the faster pace, Europe is still the region with the biggest market share of the market, regaining its top place, in 2017, after losing it to the Region of Americas in 2015.

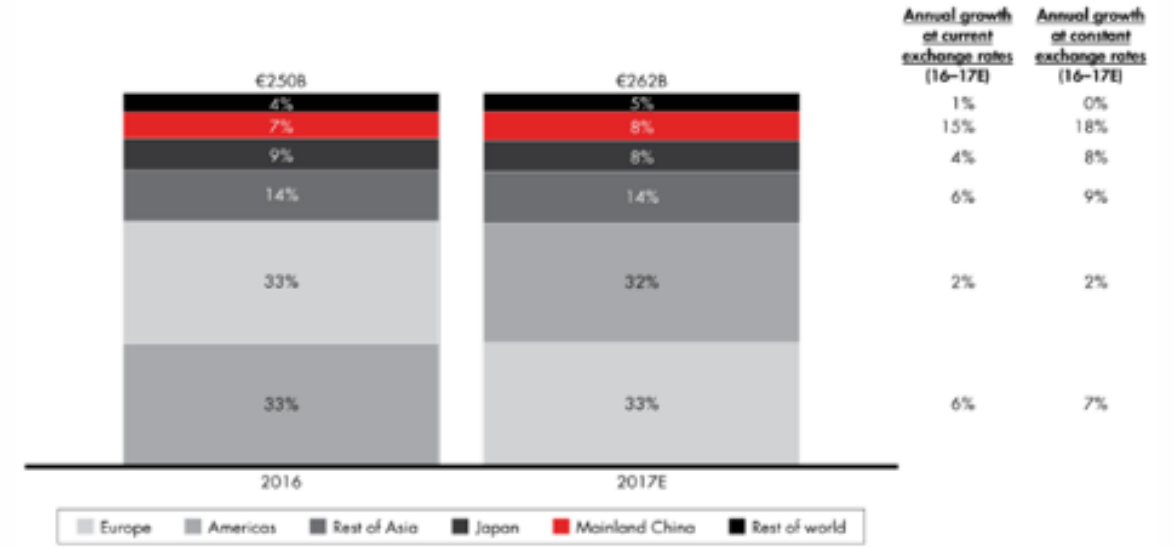

Figure 14 - Personal luxury goods market breakdown by region

Source: Bains & Company, Luxury Goods Worldwide market study, Fall–Winter 2017

Regarding the distribution trends, it's visible that most of the distribution channels present a positive CAGR, being the off-price stores, airport stores and the online channel the ones showing the biggest CAGR, respectively 8%, 12% and 24%.

Even though these channels are the ones growing at a faster pace, these are relatively small, when compared to the other channels, being responsible for less than 30% of the total market value.

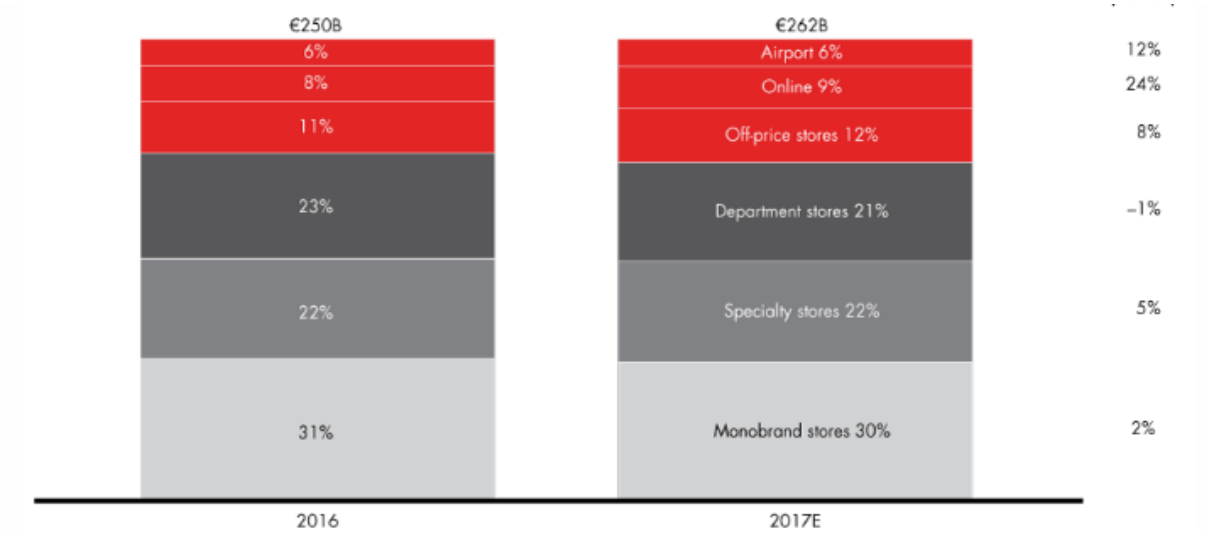

Figure 15 - Personal luxury goods market breakdown by distribution channel

Source: Bains & Company, Luxury Goods Worldwide market study, Fall–Winter 2017

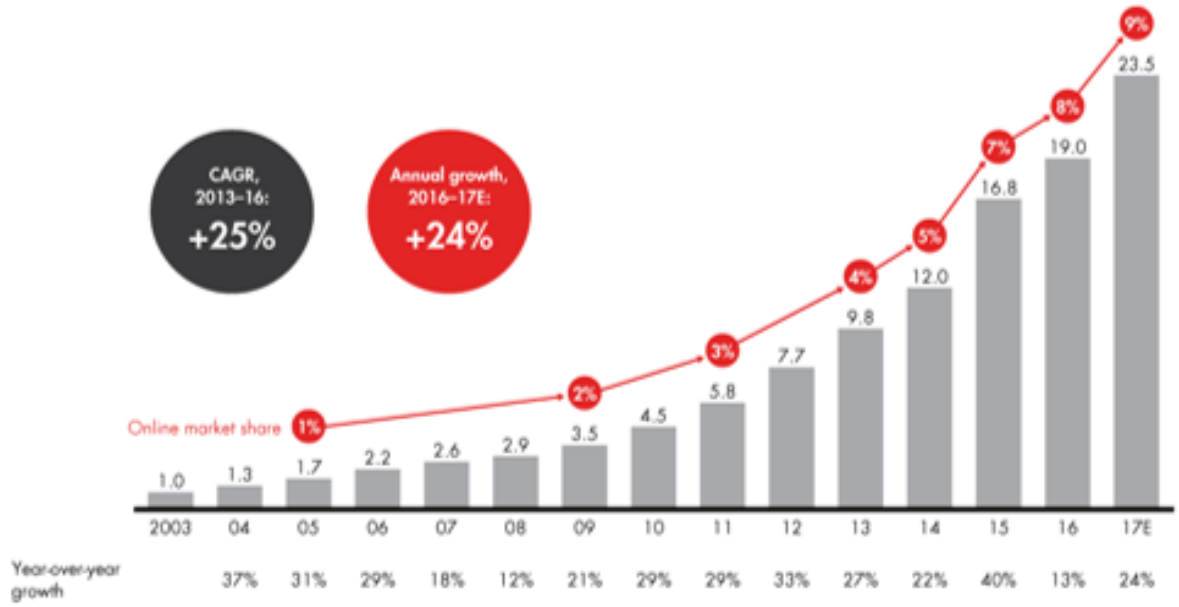

Figure 16 – Evolution of online personal luxury goods market, in € billions, 2003-2017

Source: Bains & Company, Luxury Goods Worldwide market study, Fall–Winter 2017

During 2017, the online sales have continued its ascent showing the biggest growth among the distribution channels, registering a CAGR of 24%. Currently it has a market share of 9%, having a total market value of €23.6B ($27.9B).

Since 2003 the online sales market has always grown year over year at a rate bigger than 10%. Even during the period of the 2008 crisis, this channel has kept its tendency to grow at a fast pace, even if its grow rate was decelerated by the crisis.

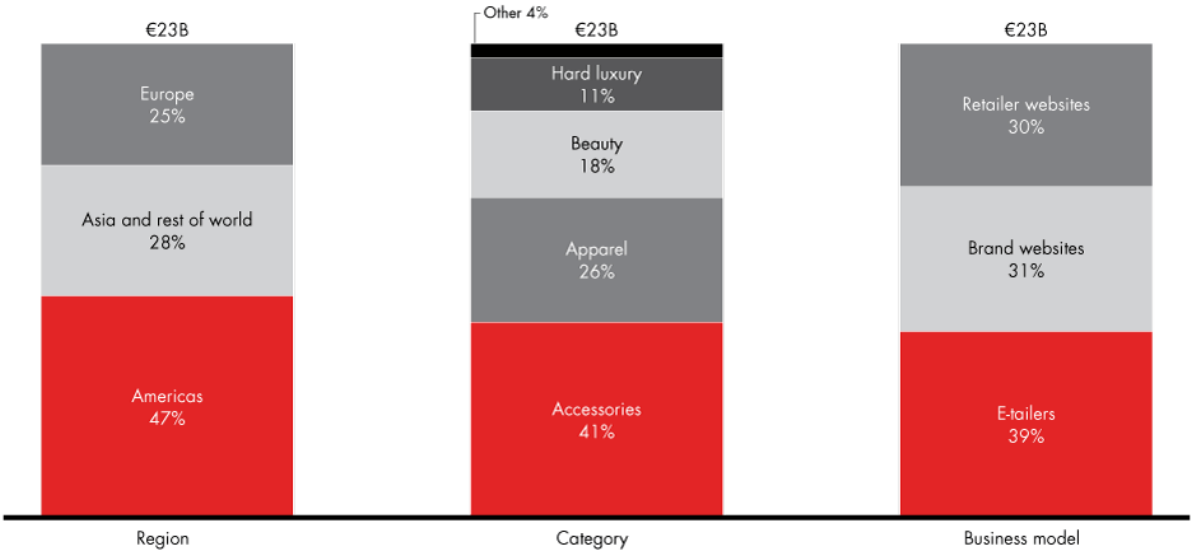

Figure 17 – Online personal luxury goods market breakdown by region, category and business model, 2017

Source: Bains & Company, Luxury Goods Worldwide market study, Fall–Winter 2017

Despite the fact that the Americas region represent almost half of the total online sales, Europe and Asia were the regions that shown a stronger growth rate.

The accessories represent more than 40% of the online market sales, being followed by the apparel category that represents over one quarter of the market.

Even though brands are starting to increase their online presence and establish their own websites representing 31% of the online sales; this market is still dominated by the specialized luxury e-tailers, which represent almost 40% of the total value.

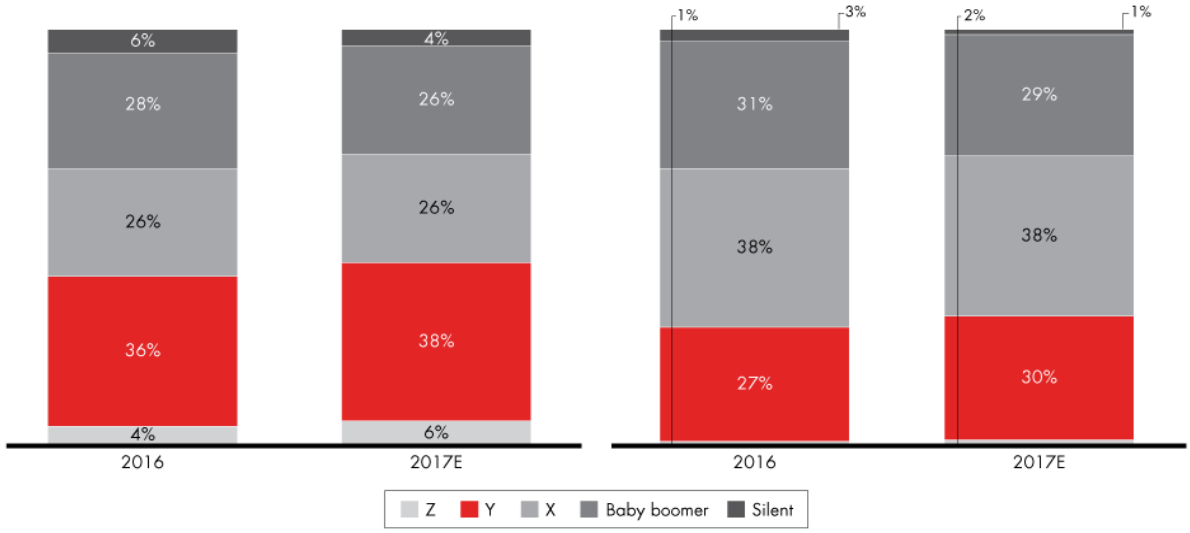

Figure18 - Personal luxury goods total consumer and sales breakdown by generation, 2017

Source: Bains & Company, Luxury Goods Worldwide market study, Fall–Winter 2017

There is a generational shift occurring that is the main responsible for the increase of the luxury personal goods market, being that the generations Y and Z are the ones responsible for 85% of the growth of the market in 2017.

This generational shift is infiltrating the market changing the way costumers' shop, and this will push the brands to reinvent themselves and to reformulate what products they want to offer to the new consumers, and how they want to deliver them.

Even if the generational shift is occurring and the generations Y and Z are the ones boosting the market growth, the market is still dominated by the generation X and the baby boomers.

In terms of consumers, generation Y and Z have over 40% of the total value, but in terms of sales value, these two generations barely surpass 30% of the value; being that generation X shows the bigger value (38% of the market) being followed by the baby boomers.

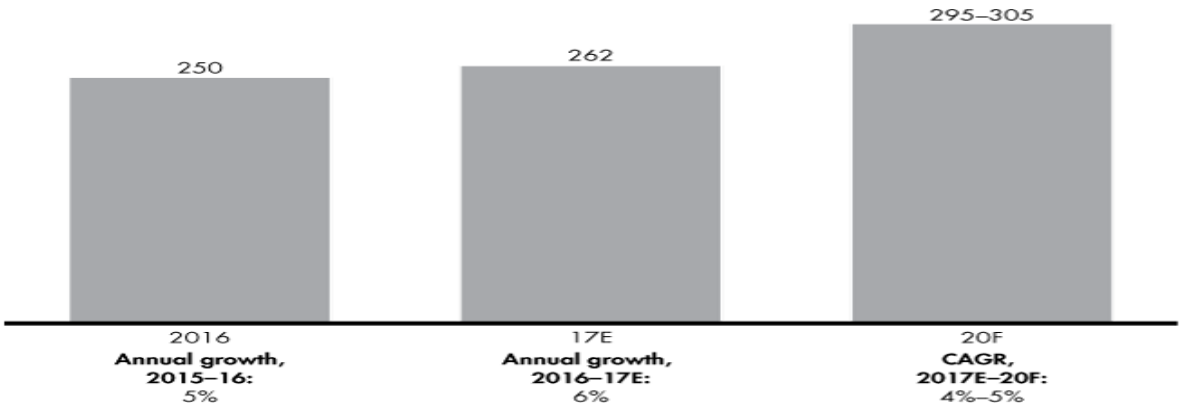

Figure 19 - Projected evolution of personal luxury goods market, in € billions, 2016-2020

Source: Bains & Company, Luxury Goods Worldwide market study, Fall–Winter 2017

Regarding the future of the industry, it is expected for the market to continue to demonstrate its fast growth pace, having a CAGR value between 4% and 5% for the next 3 years, being expected for the personal luxury goods market to be valued between €295B ($349B) and €305B ($361B), in 2020.

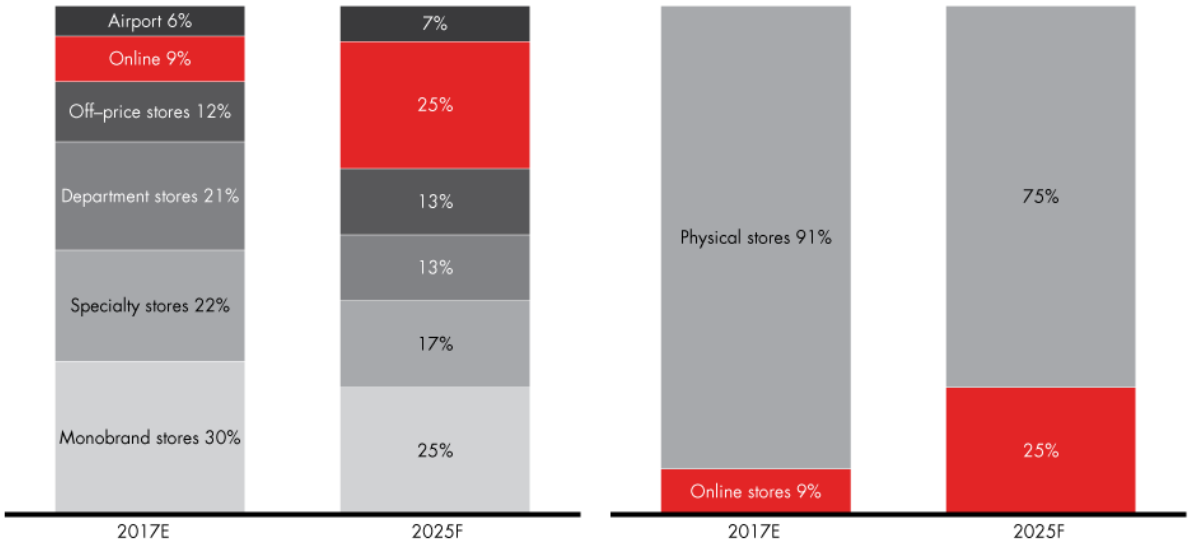

Figure 20 - Projected evolution of personal luxury goods market by distribution channel, 2017-2025

Source: Bains & Company, Luxury Goods Worldwide market study, Fall–Winter 2017

During the next decade, it is expected to occur an alteration in the distribution trends, regarding the distribution channel, being that it is expected for the online stores to keep its rapid growth, shown over the last years, and to be representative of 25% of the total luxury market value, until the year of 2025.

It is expected for the off-price stores and the airport stores to increase their market presence, but, on the other hand the monobrand, specialty and department stores will see their market share diminish.

The number of brands who saw their business grow increased, from 50% in 2016, to 65% in 2017. However, out of these brands who were capable to increase their revenue, only one third were capable to seize the opportunity to explore this growth of the market and to increase their profits.

5. Forecasting

In this section, it will be computed the appropriate discount rates to be used in each of the models selected to estimate the fair value of the company.

The forecasting of the business results and each of its variables will be thoroughly analyzed, being that all of the estimations, assumptions and the reasoning behind them will be explained in detail.

The forecasting of the business results and the computation of the discounted rates will be made using the data available before the IPO date, which was on 21st of September of 2018. The most recent data available from Farfetch concerns the previous 3 years (2015, 2016 and 2017) and the end of the first semester of 2017 and 2018.

5.1. Cost of Capital (WACC)

In order to correctly estimate the value of Farfetch, it is necessary to use the appropriate discount rate, considering the model that is being used. Therefore, the cash flows will be discounted at the WACC rate in the Free Cash Flow to the Firm model, and at the Required return of Equity in the Free Cash Flow to the Equity model.

To formula (7) will be used to estimate the WACC, being necessary, accordingly, to compute the company's capital structure, the required rate of return for equity and the cost of debt.

It will be assumed that the discount rates will maintain constant throughout the estimation period of time.

5.1.1. Capital Structure

In the last years of the data available, Farfetch had shown very low Debt-to-Equity ratios, being 7.41% in the end of 2017 and 2.77% in the end of the first semester of 2018. Therefore, it will be assumed, to simplify the analysis, that the D/E ratio of the company will be 0%. This means that the company will be 100% equity financed.

Since it is assumed that Farfetch will be 100% equity financed, there are some assumptions that can already be made regarding its WACC. The levered beta of the company will be equal to the unlevered beta of the industry; the required rate of return of equity will be equal to the WACC rate.

Bearing in mind, that the company isn't listed on the stock exchange, it becomes necessary to use a benchmark of the industry, in order to correctly estimate Farfetch's Beta levered.

5.1.2. Required Return of Equity

The required return of equity will be estimated using the capital asset pricing model (CAPM), from equation (18), since this is the widely accepted and most used model to estimate the rate. To compute the CAPM it is needed the risk-free rate, the market risk premium and the levered beta of the company.

This rate will be used to discount the cash flows in the free cashflow to the equity model, and it is an input of the WACC formula, which is used to discount the cash flows of the free cash flow to the firm model.

Risk-free Rate

As it was stated in the review of literature, several authors defend that the best rate to be used as the risk-free rate is the expected return of the 10-year zero coupon government bond, since these are the only securities that can be nearly default risk and reinvestment risk free.

Farfetch has its business operations all over the world and it will enter in the NASDAQ Stock Market, hence the risk-free rate to be used will be the United States of America 10-year zero coupon bond. According to the website of the U.S. Department of Treasury (https://home.treasury.gov/) the 10-year zero coupon bond registered a yield to maturity of 2.85% on 29/06/2018.

Market Risk Premium

The market risk premium represents the premium that is demanded by an investor to compensate the risk of investing in the market portfolio instead of the riskless security.

The most common way to estimate the MRP is through the historical risk premiums. In this method, the expected return of the market is firstly computed and then deduct the risk-free rate. The risk-free rate is already known, and the expected market return should be computed using a proxy, since it doesn't exist a market portfolio that contains all of the securities. Farfetch will enter in NASDAQ stock market, as so, it will be used the index S&P 500 as proxy to achieve the expected market return, since this is the most common proxy used for the U.S. stocks.

The expected market return of the index S&P 500 was computed using the data of the last 10 years, from 30/06/2008 until 30/06/2018, obtaining a value of 7.82%. As it was previously stated, the risk-free rate is 2.85%, meaning that the market risk premium to be used will be 4.97%.

Pablo Fernandez (2018), conducted a survey that gathered data regarding the market risk premium and the risk-free rate used for different countries by professors, analysts and managers. In 2018, the average market risk premium used by the specialists had a value of 5.4% and a median of 5.2%, and the riskless rate registered an average and median value of 2.8%.

The average and median values, for both for the market risk premium and the risk-free rate, of the study conducted by Fernandez are close to the values obtained through the historical risk premium model, thus meaning that it's reasonable to use such values to compute the WACC.

Levered Beta

The best approach to compute the levered beta of a company is to use the Bottom-Up, that consists in determining the unlevered beta of the company's industry, and from there deduct the levered beta of the company, using the formulas (19) and (20).

However, the company is assumed to be 100% equity financed, meaning that the if the formula (19) is used, assuming a Debt-to-Equity ratio of 0%, a beta debt of 0 (since there is no debt, there is no default risk of debt) and a tax rate of 17%, it's evident that the levered beta will be equal to the unlevered beta of the industry. Therefore, it is only necessary to find the value of beta of the industry.

$$\beta_L = \beta_U + (\beta_U - \beta_D) * \frac{D}{E} * (1 - t)$$

$$\beta_L = \beta_U + (\beta_U - 0) * 0\% * (1 - 17\%)$$
$$\beta_L = \beta_U$$

Damodaran (2018) has gathered data regarding the levered and unlevered betas of several companies and divided the companies by industry.

From the industries studied by Damodaran, it was assumed that Farfetch should fall in the "Retail (Online)" sector, which had an unlevered beta of 1.30, thus concluding that the levered beta of the company will be 1.30.

Required Return of Equity Conclusions

Taking into consideration the formula (18), that exhibits the CAPM model, and the items that integrate the required rate of return of equity, this discount rate will have a value of 9.31%.

$$rE = rf + \beta_L * (Rm - rf)$$
$$rE = 2.85\% + 1.30 * (7.82\% - 2.85\%)$$
$$rE = 9.31\%$$

5.1.3. Cost of Debt

In the year of 2018, the company didn't have any outstanding bonds, meaning that it isn't possible to estimate the cost of debt using the yield to maturity of the company's long-term debt.

However, Damodaran proposes another method to estimate the cost of debt, that uses the risk-free rate and it is added a default spread, taking into consideration the firm's debt rating. Since the company doesn't have a rating for its debt, it is required to estimate a hypothetical rating, taking into account the interest coverage ratio of Farfetch.

The company has presented negative results of EBIT in the most recent years, and the interest results have been sometimes positive, sometimes negative. Therefore, it is implicit that the interest coverage ratio will always be lower than zero. According to annex J, the company will have a hypothetical debt rating of D, meaning that the default spread will be 18.60%. Adding the risk-free rate to the default spread risk, the total cost of debt would be 21.45%.

However, this value is unreasonable to use and to assume as valid in the WACC formula, since the cost of debt is much higher that the required return of equity. Therefore, it was assumed a Debt-to-Equity ratio equal to 0%, in order to solve this inconvenient, thus having a cost of debt of 0% (since there won't be any outstanding Debt).

5.1.4. WACC

Taking into account all the inputs previously explained, it is possible to compute the WACC, using formula (7):

$$WACC = \frac{E}{E+D} * rE + \frac{D}{E+D} * rD * (1-t)$$

$$WACC = \frac{100\%}{100\% + 0\%} * 9.31\% + \frac{0\%}{100\% + 0\%} * 0\% * (1 - 17\%)$$

$$WACC = 9.31\%$$

The weighted average cost of capital will be 9.31%, which is a value relatively high because it was assumed that the company would be all equity financed, and the required rate of return is higher than the cost of debt.

5.2.Business Forecasting

The forecasting of the business for the next five years will be divided into two main parts. In the initial part, it will be estimated the revenue and carefully explained in detail the assumptions made throughout the forecasting process. In the second part, the remaining of the statement of operations will be examined and explained all the assumptions made to forecast each item.

5.2.1. Revenues Forecast

Bearing in mind that the firm's results are known until the end of the first semester of 2018, it is necessary to estimate the revenues for 2018 (end of the year) and, after that, the revenues for the remaining years until 2022.

Assuming that it exists the seasonality effect, that means that there will be a period of time during the fiscal year, where the sales will register higher values than the rest of the year. Taking into account the seasonality effect it will be assumed that the percentage of revenue earned during the first semester of 2017 will be equal to the percentage of revenue earned in the first semester of 2018, and the percentage of revenue earned in the second semester of 2017 will be the same for the second semester of 2018.

Revenue	2017	1S - 2017	2S - 2017	1S - 2018	2S- 2018 (E)	2018 (E)
Platform Services Revenue	296.350	131.480	164.870	209.766	263.037	472.803
Platform Fulfilment Revenue	74.182	33.760	40.422	50.551	60.526	111.077
In-Store Revenue	15.434	7.331	8.103	7.191	7.948	15.139
Total Revenue	385.966	172.571	213.395	267.508	330.791	598.299

Figure 21 – Total revenue projection, in $ thousands, 2017-2018

% of Revenue	2017	1S - 2017	2S - 2017	1S - 2018	2S- 2018 (E)	2018 (E)
Platform Services Revenue	100,00%	44,37%	55,63%	44,37%	55,63%	100,00%
Platform Fulfilment Revenue	100,00%	45,51%	54,49%	45,51%	54,49%	100,00%
In-Store Revenue	100,00%	47,50%	52,50%	47,50%	52,50%	100,00%
Total Revenue	100,00%	44,71%	55,29%	44,71%	55,29%	100,00%

Figure 22 – Total revenue projection, 2017-2018

For the remaining of the years, the revenues estimation will be performed taking into consideration the data collected from the company and the personal luxury goods market (using the values of 2017), assuming several reasonable assumptions that will help to forecast the revenues of Farfetch.

According to the study developed by Bain & Company, the personal luxury goods market has reached a total market value of 310 billion of USD, in 2017, and the online luxury market segment, reached the value of 27.9 billion of USD. This study also revealed that it was estimated a compound annual growth rate (CAGR) between 4 and 5% for the next 3 years. It was forecasted that by the year of 2025, the total market value of the online luxury segment would correspond to 25% of the total value of the personal luxury goods market.

Taking into consideration the above inputs, relatively to Farfetch's industry, it is possible to estimate the CAGR of the online luxury market, and this rate will be useful further ahead in this thesis.

Assuming that the CAGR of the total luxury market will be 4.5% from 2018 until 2020, and that starting from 2021 it will be constantly 4%, it is estimated the market will have approximately a value of 430 billion of USD in the year of 2025. Considering the previsions made in the study of Bain, where the luxury online segment would be 25% of the total market in 2025, it is estimated that this segment will have a value of 107.6 billion of USD. Since it is

known the value of the luxury online segment in 2025 and the value of 2017, it is possible to infer that the value of the CAGR between these years will be of 18.38%.

	2017	2018	2019	2020	2021	2022	2023	2024	2025
Personal Luxury Goods Market	310,000	323,950	338,528	353,761	367,912	382,628	397,934	413,851	430,405
CAGR		4,50%	4,50%	4,50%	4,00%	4,00%	4,00%	4,00%	4,00%
Online in %	9%								25%
Online in B$	27,900	33,028	39,098	46,284	54,791	64,862	76,783	90,895	107,601
CAGR	18,38%	18,38%	18,38%	18,38%	18,38%	18,38%	18,38%	18,38%	18,38%

Figure 23 – Projection of online personal luxury goods market CAGR, 2017-2025

Now that the CAGR of the luxury online market is known and the revenue for 2018 has been estimated, it is necessary to estimate the revenue for the remaining years that will be considered. Taking into account these inputs and the evolution of revenues, there are several assumptions that can be used towards the evolution of the revenue and create three different scenarios: a pessimistic scenario, a realistic one and an optimistic.

In the first scenario it will be assumed that the revenues will have the same growth rate than the market after 2018, this is, the revenues will grow 18.38% year-over-year. This is a highly conservative scenario, due to the fact that the company has shown in the last 3 years a high growth rate, being always above of 50% in each year, and assuming that this growth will instantly drop to less than 20% is, probably, too much conservative.

In the third scenario, a more optimistic view, it will be assumed that Farfetch revenue will keep a high growing rate, having a constant growth rate of 50% during the next 5 years, since the company showed a growth rate of over 50% in the previous years.

The more realistic scenario attempts to forecast the revenues considering the inputs of both the company and its market. In this scenario it is expected that Farfetch's revenues will grow at the same growth rate of its market after the next 5 years, this means that, after 2018 until 2022 the growth rate will gradually decrease, from its current level (55%) and reach the growth rate of the market after 2022 (18.38%), declining approximately 7.33% year after year.

Revenue	2015	2016	2017	2018 (E)	2019 (E)	2020 (E)	2021 (E)	2022 (E)
Total Revenue - Scenario1	142.305	242.116	385.966	598.299	708.263	838.439	992.540	1.174.964
Total Revenue - Scenario2	142.305	242.116	385.966	598.299	883.607	1.240.228	1.649.914	2.074.045
Total Revenue - Scenario3	142.305	242.116	385.966	598.299	897.448	1.346.172	2.019.258	3.028.887

Figure 24 – Projection of revenue, in $ thousands, 2015-2022

Revenue (%)	2015	2016	2017	2018 (E)	2019 (E)	2020 (E)	2021 (E)	2022 (E)
Total Revenue - Scenario1	N/A	70,14%	59,41%	55,01%	18,38%	18,38%	18,38%	18,38%
Total Revenue - Scenario2	N/A	70,14%	59,41%	55,01%	47,69%	40,36%	33,03%	25,71%
Total Revenue - Scenario3	N/A	70,14%	59,41%	55,01%	50,00%	50,00%	50,00%	50,00%

Figure 25 – Projection of revenue growth, 2015-2022

5.2.2. Results Forecast

In this section it will be made several assumptions regarding each input of the statement of operations and afterwards it will be made the results forecast, exception made to the revenues since it have been previously forecasted.

Starting with the estimation of the cost of revenue, it is safe to presume that the cost of revenue will depend on the total revenue value. Therefore, it will be calculated the average of the cost of revenue in percentage of the total revenues of the last 3 years and assumed that it will always be equal. The average cost of revenue of the previous 3 years was 48.36%, meaning that this cost will always be 48.36% of the total revenues, regardless of the year and the scenario.

The selling, general, and administrative expenses (except depreciations and amortizations) and the share of profits items will be forecasted using the Excel function "Forecast", that takes into consideration the items' results of the previous 3 years and from those values it infers the future values that are most likely to be. These items will be forecasted using these formula, since there isn't any reasonable assumption that could be made to properly estimate its values.

Regarding the depreciation and amortization items, it is expected that these variables will depend on the growth of the firm's business, this is, as the company keeps growing and expanding its business, its cost with depreciation and amortization will also increase. Hence, it will be presumed that these items will increase proportionally to the revenue growth rate,

meaning that this value will vary depending on the scenario and the year under analysis, growing at the same rate of the revenue.

Taking into account that it was previously assumed that the company would be valued as an all-equity financed firm, that means that the D/E ratio will be zero and that therefore the interest results will always be equal to zero, regardless of the year and the scenario under analysis.

According to the registration statement, produced by Farfetch, the tax rate is known, being 19% in 2018 and 2019 and 17% for 2020. The tax rate after this year is unknow, as so it will be assumed that the tax rate after 2020 will remain equal, always being 17%. In the years that present negative results before taxes, it will be assumed that the company will experience a tax benefit of 50% of the appropriate tax rate. Since the losses in the present could be used to deduct in future profits, the company will benefit from a tax deduction, and this effect should be taking into consideration. In the years that the company presents positive results before taxes, the full tax will be applied.

Taking into consideration the above assumptions, it is possible to estimate the Net Income for each year and for each scenario.

(in thousands of $)	2015	2016	2017	2018	2019	2020	2021	2022
Net Income - 1	(61.107)	(81.459)	(112.275)	(66.933)	(91.353)	(108.027)	(113.010)	(105.348)
Net Income - 2	(61.107)	(81.459)	(112.275)	(66.933)	(13.921)	64.733	163.724	268.566
Net Income - 3	(61.107)	(81.459)	(112.275)	(66.933)	(7.809)	107.640	313.309	655.277

Figure 26 – Projection of Net Income, in $ thousands, 2015-2022

Analyzing the above figure 26, it is possible to observe that in the first scenario, the net income will be negative for the next five years, resulting from a low revenues growth rate inherent to this scenario.

In the third scenario, the high growth rate applied explains the fact that a company that currently has a negative net income of 112 million of USD, will have a positive net income of over 650 million of USD, which is quite unrealistic.

Thus, the above figure helps to explain the main reasons on why the second scenario is the one that could be more likely accurate and the one that is, probably, closest to the reality, since in the other two scenarios, the assumptions made were taken to the extreme on the negative and the positive perspectives.

5.2.3. Investment in CAPEX Forecast

Regarding the investment in capital expenditures, it will be assumed that this value will vary accordingly to the variations of the depreciations and amortizations, meaning that the investment made in each year will be equal to difference between the year's depreciations and amortizations value and the value of the previous year. This assumption is safe to use because it implies that the investment made in the capital expenditures will be made in order to renew and to replace the cost of using the firm's tangible and intangible assets.

Taking into account the fact that the depreciations and amortizations are varying according to the firm's revenue growth rate, that suggests that this investment will also vary according to the firm's growth rate, meaning that this value will differ in each scenario and over the years.

Inv. CAPEX	2015	2016	2017	2018	2019	2020	2021	2022
Depreciation and Amortization	3.104	6.897	10.980	17.020	20.149	23.852	28.236	33.425
Revenue Growh	N/A	70,14%	59,41%	55,01%	18,38%	18,38%	18,38%	18,38%
Scenario 1	N/A	N/A	N/A	6.040	3.128	3.703	4.384	5.190
Depreciation and Amortization	3.104	6.897	10.980	17.020	25.137	35.282	46.937	59.003
Revenue Growh	N/A	70,14%	59,41%	55,01%	47,69%	40,36%	33,03%	25,71%
Scenario 2	N/A	N/A	N/A	6.040	8.116	10.145	11.655	12.066
Depreciation and Amortization	3.104	6.897	10.980	17.020	25.531	38.296	57.444	86.166
Revenue Growh	N/A	70,14%	59,41%	55,01%	50,00%	50,00%	50,00%	50,00%
Scenario 3	N/A	N/A	N/A	6.040	8.510	12.765	19.148	28.722

Figure 27 – Projection of Investment in CAPEX, in $ thousands, 2015-2022

5.2.4. Working Capital Forecast

In order to compute the working capital variation, it will be necessary to compute the working capital for the years of 2016 and 2017, and after that it will be assumed that the working capital will grow at the same rate of the firm's revenues growth rate, thus being different in each scenario.

Bearing in mind that the working capital will be the difference between the current assets and the current liabilities used to conduct the company's operations, it becomes imperative to distinguish the current assets and liabilities that will be considered as operating and non-operating. Among the current assets, the items that will be considered as operating are the inventories, other receivables and sales taxes. In the current liabilities, the item trade and other payables will be the only item to be considered as operating.

WC Variation	2015	2016	2017	2018	2019	2020	2021	2022
Working Capital	N/A	(58.988)	(75.533)	(117.086)	(138.606)	(164.081)	(194.239)	(229.939)
Revenue Growh	N/A	70,14%	59,41%	55,01%	18,38%	18,38%	18,38%	18,38%
Scenario 1	N/A	N/A	(16.545)	(41.553)	(21.520)	(25.475)	(30.157)	(35.700)
Working Capital	N/A	(58.988)	(75.533)	(117.086)	(170.776)	(233.445)	(297.730)	(352.452)
Revenue Growh	N/A	70,14%	59,41%	55,01%	45,85%	36,70%	27,54%	18,38%
Scenario 2	N/A	N/A	(16.545)	(41.553)	(53.690)	(62.669)	(64.286)	(54.721)
Working Capital	N/A	(58.988)	(75.533)	(117.086)	(175.629)	(263.444)	(395.166)	(592.749)
Revenue Growh	N/A	70,14%	59,41%	55,01%	50,00%	50,00%	50,00%	50,00%
Scenario 3	N/A	N/A	(16.545)	(41.553)	(58.543)	(87.815)	(131.722)	(197.583)

Figure 28 – Projection of Variation of Working Capital, in $ thousands, 2015-2022

After the segregation between operating and non-operating items is made, the formula (5) will be used to compute the working capital for each year, reaching the above working capital variation for each scenario and in each year.

6. Company Valuation

6.1.DCF Valuation

Once the forecasting of the company's results and the total investments made in capital expenditures and in working capital are computed, and the discount rate to be used in each valuation model is established, all the relevant data to undertake the valuation exercise is available.

It is important to remember that the forecasts previously obtained were explicitly computed taking into consideration the assumptions made, for the next 5 years, from 2018 until 2022. After this initial period, the evolution of the cash flows will follow the different scenarios previously identified and associated assumptions.

6.1.1. FCFF Valuation

Analyzing figure 29, where it shows the results obtained for each different scenario, it is possible to observe that the cash flows obtained for the first one have always been negative, meaning that the cash flows for the second period of time for this valuation scenario are expected to also present negative values, since the cash flows for the next period will depend on the cash flows obtained in the first period. The cash flows computed for the third scenario are growing at a very high rate, thus contributing to the generation of a high value for Farfetch.

FCFF	2018	2019	2020	2021	2022
NOPLAT	(59.907)	(81.763)	(97.992)	(102.512)	(95.562)
Depreciation and Amortization	17.020	20.149	23.852	28.236	33.425
OPERATIONAL CASHFLOW	(42.887)	(61.614)	(74.140)	(74.276)	(62.136)
Investment in CAPEX	6.040	3.128	3.703	4.384	5.190
WC Variation	(41.553)	(21.520)	(25.475)	(30.157)	(35.700)
Cash Flow - Scenario 1	(90.480)	(86.262)	(103.318)	(108.818)	(103.026)
Cash Flow - Scenario 2	(90.480)	(49.129)	27.201	134.720	260.782
Cash Flow - Scenario 3	(90.480)	(48.512)	45.356	219.883	515.138

Figure 29 – Projection of FCFF, in $ thousands, 2018-2022

Regarding the second period of time, the assumptions made will be transversal to each scenario. In this period the assumptions will be applied to all of the scenarios, since the conditions assumed will be made based on the evolution of the online luxury fashion market and not on the company itself.

As it was computed in the previous section, the CAGR of the online luxury fashion segment is expected to be approximately 18.38% between the years of 2018 until 2025, and the annual

CAGR for the personal goods luxury market is expected to be 4.5% between 2018 and 2020 and starting 2021 to be constantly 4%.

However, it isn't reasonable to presume that a growth rate as high as this one, will remain at this level on a perpetual basis. It is also unrealistic to believe that the annual growth rate of a segment of the market will continue to outperform the market itself for a long period of time. This signals that over time it should be expected that the growth rate of the online segment will start to slowly decrease, and that it should be at the same level than the growth rate of the market.

On the other hand, it isn't reasonable to assume that the terminal value should be calculated using the CAGR of the personal goods luxury market, because that suggests that the cash flows obtained right after the initial period would be underestimated, since it would be considered that for those years the cash flows would be growing at a lower rate than the one that actually makes more sense.

This means that the estimation of the cash flows for the second period of time should be divided into different periods of time.

It will be expected that the cash flows will firstly grow at the same rate of the online luxury segment, thus it will be assumed that between 2023 and 2025, the cash flows will grow at 18.38%, since this is the annual growth rate expected to be in place between the years of 2018 and 2025.

After the year of 2025, it is expected that the high growth rate of the online segment will start to slowly decrease and to be at the same level of the rate of the luxury market. However, it isn't reasonable to expect that the growth of the cash flows will instantly drop, from one year to the other, from over 18% to 4%, which is the expected growth rate of the personal goods luxury market. Therefore, it shall be assumed a period of time where the growth rate of the online luxury segment will slightly decrease over the years so that after that period it becomes equal to the rate of the luxury market.

Hence, it will be assumed that the period of time for the growth rate of the online segment to become equal to the luxury market will be between 2026 and 2028. The company's cash flows growth rate will decrease approximately 3.6% in each of those years, achieving a constant growth rate of 4% in 2029 and onwards.

FCFF	2023	2024	2025	2026	2027	2028	2029
NOPLAT	(113.125)	(133.917)	(158.531)	(181.969)	(202.331)	(217.698)	(226.405)
Depreciation and Amortization	39.569	46.842	55.451	63.649	70.771	76.146	79.192
OPERATIONAL CASHFLOW	(73.556)	(87.076)	(103.080)	(118.320)	(131.560)	(141.551)	(147.213)
Investment in CAPEX	6.143	7.273	8.609	9.882	10.988	11.822	12.295
WC Variation	(42.262)	(50.029)	(59.224)	(67.980)	(75.587)	(81.328)	(84.581)
Cash Flow - Scenario 1	(121.962)	(144.378)	(170.913)	(196.182)	(218.135)	(234.702)	(244.090)
Cash Flow - Scenario 2	308.712	365.452	432.621	496.582	552.148	594.083	617.847
Cash Flow - Scenario 3	609.818	721.900	854.582	980.929	1.090.693	1.173.530	1.220.471

Figure 30 – Projection of FCFF, in $ thousands, 2023-2029

The year of 2029 will be defined as the cruise year for the computation of the terminal value, since starting this year the cash flows will start to grow at the same growth rate of the luxury market. Therefore, it will be used formula (9) in order to compute the terminal value for each scenario, thus concluding the estimation of the cash flows, for the FCFF valuation model.

FCFF	2029 - Scenario 1	2029 - Scenario 2	2029 - Scenario 3
NOPLAT	(226.405)	636.290	1.552.489
Depreciation and Amortization	79.192	139.790	204.146
OPERATIONAL CASHFLOW	(147.213)	776.080	1.756.635
Investment in CAPEX	12.295	28.586	68.049
WC Variation	(84.581)	(129.647)	(468.115)
FCFF	(244.090)	617.847	1.220.471
Terminal Value	**(4.595.931)**	**11.633.340**	**22.980.059**

Figure 31 – Projection of Terminal Value, in $ thousands, 2029

Once the cash flows and the terminal value, are computed, it will be possible to move on to the next stage of the FCFF valuation model by using formula (12), where it is necessary to discount the cash flows and the terminal value that were previously obtained, using the WACC as the discount rate.

It is important to recall that these estimations were made based upon the values that were available right before the IPO of Farfetch. This is, these estimations rely on the results presented by the company for the end of the first semester of 2018, therefore it is necessary to be cautious regarding the time period that each cash flow will be discounted.

Since these valuation are being made based upon the results of the first semester of 2018, it only makes sense for the cash flows to be discounted for this specific period of time, meaning that the first cash flow (2018) will be discounted using half a year (0.5y), and so on for each year of the valuation, being the terminal value (2029) discounted for 10 and a half years, as exhibited in figure 32.

FCFF	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
NOPLAT	(59.907)	(81.763)	(97.992)	(102.512)	(95.562)	(113.125)	(133.917)	(158.531)	(181.969)	(202.331)	(217.698)	(226.405)
Depreciation and Amortization	17.020	20.149	23.852	28.236	33.425	39.569	46.842	55.451	63.649	70.771	76.146	79.192
OPERATIONAL CASHFLOW	(42.887)	(61.614)	(74.140)	(74.276)	(62.136)	(73.556)	(87.076)	(103.080)	(118.320)	(131.560)	(141.551)	(147.213)
Investment in CAPEX	6.040	3.128	3.703	4.384	5.190	6.143	7.273	8.609	9.882	10.988	11.822	12.295
WC Variation	(41.553)	(21.520)	(25.475)	(30.157)	(35.700)	(42.262)	(50.029)	(59.224)	(67.980)	(75.587)	(81.328)	(84.581)
FCFF	(90.480)	(86.262)	(103.318)	(108.818)	(103.026)	(121.962)	(144.378)	(170.913)	(196.182)	(218.135)	(234.702)	(244.090)
Terminal Value												**(4.595.931)**
Discounted CF - Scenario 1	(86.541)	(75.479)	(82.702)	(79.685)	(69.017)	(74.743)	(80.944)	(87.659)	(92.049)	(93.631)	(92.161)	(1.804.691)
Enterprise Value - Scenario 1	**(2.719.302)**											
Discounted CF - Scenario 2	(86.541)	(42.988)	21.774	98.653	174.699	189.192	204.887	221.885	232.996	237.000	233.280	4.568.081
Enterprise Value - Scenario 2	**6.052.918**											
Discounted CF - Scenario 3	(86.541)	(42.448)	36.306	161.016	345.093	373.723	404.727	438.303	460.251	468.162	460.812	9.023.614
Enterprise Value - Scenario 3	**12.043.017**											

Figure 32 – Projection of Enterprise Value, in $ thousands

The enterprise value represents the value of the company's business; therefore, it should be estimated the firm value, which is the total company's value for debt and equity holders, through the formula (13).

The non-operating assets are the assets that aren't considered to be essential to the normal conduct of the company's operations, this is, the assets that are unnecessary in the production of the firm's cash flows. Taking into consideration the firm's balance sheet, the items of "investments"; "investments in associates"; "prepayments and accrued income"; "derivative financial assets" and "cash and cash equivalents" will be considered as part of the non-operating assets of Farfetch.

Subtracting the debt to the firm value it will generate the firm's total value for equity holders, the equity value, using formula (14). In the debt value it shouldn't be considered the operational debt, since it is included in the concept of the WC.

The price per share is the indicator that will be used to compare the value of the firm throughout each scenario and each valuation model. The price per share will be obtained dividing the equity value obtained in each scenario, by the total number of shares outstanding. According to the NASDAQ stock exchange website, Farfetch had, upon the IPO's date, a total of 250,001,015

outstanding shares, thus producing the following equity values and correspondent price per share, presented in figure 33.

FCFF	Scenario1	Scenario2	Scenario3
Equity Value	(2.357.231)	6.414.989	12.405.088
Outstanding Shares	250.001	250.001	250.001
Price per share	**$ -**	**$ 25,66**	**$ 49,62**

Figure 33 – Projection of the price per share, through FCFF model

Even though the equity value is negative in scenario 1, the price per share, shouldn't be negative, but it will be zero instead, since that is the lowest possible value for a share.

The results obtained throughout this valuation model will be analyzed further ahead in this thesis, where these values will also be compared with the ones obtained from the other valuation models.

6.1.2. Sensitivity Analysis

The sensitivity analysis studies the way different input variables will have on the final value obtained, under different assumptions, this is, it reveals the variation that each variable used will have on the final value, if different assumptions were taken into consideration in its place.

In this analysis, the variables that are most uncertain and critical are the perpetual growth rate assumed and the discount rate calculated, so the sensitivity analysis will cover these 2 variables.

Due to simplifications reasons, the sensitivity analysis will only be made for the FCFF valuation model, and it will only be considered the scenario 2, since this is the central scenario.

		Growth Rate						
		-1,00%	- 0,50%	- 0,10%	Base	+ 0,10%	+ 0,50%	+ 1,00%
WACC	-1,00%	$ 27,47	$ 29,78	$ 32,01	$ 32,63	$ 33,28	$ 36,22	$ 40,90
	- 0,50%	$ 24,71	$ 26,55	$ 28,29	$ 28,77	$ 29,28	$ 31,52	$ 34,98
	- 0,10%	$ 22,82	$ 24,38	$ 25,83	$ 26,23	$ 26,65	$ 28,48	$ 31,27
	Base	$ 22,39	$ 23,88	$ 25,28	**$ 25,66**	$ 26,06	$ 27,80	$ 30,45
	+ 0,10%	$ 21,97	$ 23,41	$ 24,74	$ 25,11	$ 25,49	$ 27,16	$ 29,67
	+ 0,50%	$ 20,42	$ 21,65	$ 22,79	$ 23,09	$ 23,41	$ 24,81	$ 26,87
	+ 1,00%	$ 18,74	$ 19,76	$ 20,70	$ 20,95	$ 21,21	$ 22,34	$ 23,99

Figure 34 – Price per share variation, in $

		Growth Rate						
		-1,00%	- 0,50%	- 0,10%	Base	+ 0,10%	+ 0,50%	+ 1,00%
WACC	-1,00%	7,1%	16,1%	24,7%	27,2%	29,7%	41,2%	59,4%
	- 0,50%	(3,7%)	3,5%	10,3%	12,1%	14,1%	22,8%	36,3%
	- 0,10%	(11,1%)	(5,0%)	0,7%	2,2%	3,9%	11,0%	21,8%
	Base	(12,7%)	(6,9%)	(1,5%)	0,0%	1,5%	8,4%	18,7%
	+ 0,10%	(14,4%)	(8,8%)	(3,6%)	(2,2%)	(0,7%)	5,8%	15,6%
	+ 0,50%	(20,4%)	(15,6%)	(11,2%)	(10,0%)	(8,8%)	(3,3%)	4,7%
	+ 1,00%	(27,0%)	(23,0%)	(19,3%)	(18,4%)	(17,3%)	(12,9%)	(6,5%)

Figure 35 – Price per share variation, in %

Observing the results of the sensitivity analysis, it reveals the high level of sensitivity that both variables have and the impact that might cause to the final price, oscillating from $18.74 to $40.90, thus having a variation between -27% and +59.40%.

It is possible to deduce from the observation of both figures 34 and 35, that the discount rate (WACC) is the variable most sensible to the fluctuations, since it can deeply impact the final price per share. If the WACC decrease in just 1%, it will raise the final price per share in over 27%, while the increase in 1% of the perpetual growth rate, will positively affect the final price in almost 19%.

6.1.3. FCFE Valuation

Similarly to what occurred in the FCFF model, the cash flows will be explicitly computed for the initial period, and afterwards the cash flows for the second period will be estimated considering the assumptions made regarding the evolution of the future cash flows.

The variables that will be used to compute the cash flows through this model are the net income, depreciation and amortization, investment in CAPEX and working capital variation, and their values have already been estimated in the previous section.

Therefore, there is only one variable left to estimate so that formula (15) can be used to estimate the cash flows for each year and scenario: the debt variation. It is important to keep in mind that it has been assumed that Farfetch will become an all equity financed firm, thus indicating that in the future the value of debt will be equal to zero.

At the end of the first semester of 2018, the company registered a total financial debt value of almost 12 million of USD. Since it is being assumed a zero debt onwards, the debt variation value in 2018 will be the 12 million of USD. In the next years, this variable will always register a value of 0.

FCFE	2018	2019	2020	2021	2022
Net Income	(66.933)	(91.353)	(108.027)	(113.010)	(105.348)
Depreciation and Amortization	17.020	20.149	23.852	28.236	33.425
Investment in CAPEX	6.040	3.128	3.703	4.384	5.190
WC Variation	(41.553)	(21.520)	(25.475)	(30.157)	(35.700)
Debt Variation	(11.968)	0	0	0	0
Cash Flow - Scenario 1	(85.538)	(95.852)	(113.354)	(119.316)	(112.812)
Cash Flow - Scenario 2	(85.538)	(50.591)	27.201	134.720	260.782
Cash Flow - Scenario 3	(85.538)	(49.332)	45.356	219.883	515.138

Figure 36 – Projection of FCFE, in $ thousands, 2018-2022

Regarding the estimations of the cash flows for the second period of time, all of the assumptions that were previously assumed in the FCFF valuation model, will also be valid in the FCFE model, since the assumptions were made taking into consideration the conditions and the evolution of the firm's market. The assumptions made regarding the terminal value in the FCFF model, will be valid as well, thus, the cash flows for the second period of time and the terminal value for each scenario will be the ones presented on figure 36.

FCFE	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Net Income	(66.933)	(91.353)	(108.027)	(113.010)	(105.348)	(124.710)	(147.632)	(174.766)	(200.604)	(223.051)	(239.992)	(249.592)
Depreciation and Amortization	17.020	20.149	23.852	28.236	33.425	39.569	46.842	55.451	63.649	70.771	76.146	79.192
Investment in CAPEX	6.040	3.128	3.703	4.384	5.190	6.143	7.273	8.609	9.882	10.988	11.822	12.295
WC Variation	(41.553)	(21.520)	(25.475)	(30.157)	(35.700)	(42.262)	(50.029)	(59.224)	(67.980)	(75.587)	(81.328)	(84.581)
Debt Variation	(11.968)	0	0	0	0	0	0	0	0	0	0	0
FCFE	(85.538)	(95.852)	(113.354)	(119.316)	(112.812)	(133.547)	(158.092)	(187.149)	(214.818)	(238.855)	(256.996)	(267.276)
Terminal Value												**(5.032.499)**
Discounted CF - 1	(81.814)	(83.870)	(90.735)	(87.372)	(75.573)	(81.843)	(88.633)	(95.986)	(100.792)	(102.525)	(100.915)	(1.976.119)
Equity Value - 1	**(2.966.178)**											
Discounted CF - 2	(81.814)	(44.266)	21.774	98.653	174.699	189.192	204.887	221.885	232.996	237.000	233.280	4.568.081
Equity Value - 2	**6.056.366**											
Discounted CF - 3	(81.814)	(43.165)	36.306	161.016	345.093	373.723	404.727	438.303	460.251	468.162	460.812	9.023.614
Equity Value - 3	**12.047.027**											

Figure 37 – Projection of FCFE, in $ thousands, 2023-2029

FCFE	2023	2024	2025	2026	2027	2028	2029
Net Income	(124.710)	(147.632)	(174.766)	(200.604)	(223.051)	(239.992)	(249.592)
Depreciation and Amortization	39.569	46.842	55.451	63.649	70.771	76.146	79.192
Investment in CAPEX	6.143	7.273	8.609	9.882	10.988	11.822	12.295
WC Variation	(42.262)	(50.029)	(59.224)	(67.980)	(75.587)	(81.328)	(84.581)
Debt Variation	0	0	0	0	0	0	0
Cash Flow - 1	(133.547)	(158.092)	(187.149)	(214.818)	(238.855)	(256.996)	(267.276)
Terminal Value - 1							**(5.032.499)**
Cash Flow - 2	308.712	365.452	432.621	496.582	552.148	594.083	617.847
Terminal Value - 2							**11.633.340**
Cash Flow - 3	609.818	721.900	854.582	980.929	1.090.693	1.173.530	1.220.471
Terminal Value - 3							**22.980.059**

Figure 38 – Projection of Equity Value, in $ thousands, 2018-2029

It is important to bear in mind that these cash flows have been estimated taking into account the value of the end of the first semester of 2018. Therefore, the approach that was taken for the FCFF model, will also be used in this valuation model.

Having calculated the terminal value and the cash flows for each year the calculation of the equity value through the FCFE model, will follow equation (17), discounting each cash flow, including the terminal value, at the required rate of return for equity.

The price per share for each scenario will be the ones presented in the figure 39.

FCFE	Scenario1	Scenario2	Scenario3
Equity Value	(2.966.178)	6.056.366	12.047.027
Outstanding Shares	250.001	250.001	250.001
Price per share	**$ -**	**$ 24,23**	**$ 48,19**

Figure 39 – Projection of the price per share, through FCFE model

6.2.Dividends Valuation

Regarding the dividend valuation model, it is indispensable to take into consideration the dividend policy of the firm.

Taking a look at the dividend policy regarding the distribution of possible future dividends, Farfetch advises in advance that it isn't expected to have any cash distribution in a predictable future. Farfetch has the intention to retain all of the available funds, in order to reinvest it in the company so that it can carry on its development and expansion plan.

Since it isn't expected to have a distribution of dividends in the next few years, unless Farfetch's encounters itself in an extraordinary situation, it isn't possible to use the dividends valuation model.

6.3.Multiples Valuation

In the multiples valuation model, the first step to be taken is the identification of the firm's industry and the companies that are part of that industry. After this step, it is necessary to choose the peer group, that is, the group of companies that have similar characteristics and that can be considered as comparable with the firm.

Considering that Farfetch is part of the luxury fashion market, more specific the online segment, the companies to be selected to compose the peer group, will be companies that have their business in this area. However, this is an extremely restrict area, and the companies who have its mains business in this specific market are just a few and offer very limited information. As so, it will also be considered to be part of the peer group, companies that are part of the sector of "retail online", that is the sector that was assumed previously, when computing the betas, that the company would better fit.

The peer group will be composed of the companies Asos, Zalando, Ebay, Amazon, JingDong (JD.com), and the Alibaba Group.

Once the peer group is selected, it is possible to move on to the next step and decide the multiples that will be used to value the firm., considering the available data of Farfetch and the data of each company that makes part of the peer group.

In the most recent data available from the company, Farfetch has always presented a negative net income and EBITDA. Therefore, the multiples that rely on these two indicators will be disregarded, since the values obtained through these multiples would misrepresent the actual value of Farfetch. Therefore, the multiples that will be used to estimate the value of the company

will be the ones that are based on the sales of the company, specifically the price to sales ratio and the enterprise value to sales ratio.

The values of these two multiples, for the companies that make part of the peer group, will be computed based on the most recent available data before Farfetch's IPO date. The values to be used in the multiples valuation will be the market capitalization, the enterprise value and the value of total revenue of the fiscal year prior to the Farfetch's IPO date. The formulas (32) and (35) will be used in order to compute the multiples for each company of the peer group.

Taking into account the results presented by Farfetch for the last fiscal year of 2017, the sales registered a value close to 386 million of USD, the financial debt a value near 12 million of USD, and the non-operating assets ascended to 374 million of USD . Therefore, it will be computed the equity value, through each multiple, making the necessary adjustments, and after that it will be obtained the price per share.

	P/S	EV/S
Asos	2,05	2,26
Zalando	2,70	2,78
Ebay	3,70	5,35
Amazon	4,01	4,48
JD.com	1,28	1,57
Alibaba	11,63	11,95
Average	4,23	4,73
Median	3,20	3,63
Farfetch EV		$ 1.402.018.864,83
Farfetch EQV	$ 1.234.540.025,54	$ 1.764.089.864,83
Farfetch Price	**$ 4,94**	**$ 7,06**

Figure 40 – Projection of the price per share, in $

It is possible to observe that, taking into consideration the peer group previously defined, the P/S ratio and the EV/S ratio will produce and average result of 4.23 and 4.73 and the medians will be of 3.20 and 3.63 respectively.

The price per share values obtained through each multiple, were of 4.94 USD and 7.06 USD, which are rather low when compared to the results obtained through the previous valuations models.

However, it should be taken into account that Farfetch is still at a very young stage, when compared with the companies of the peer group. As so, it should be taken into account that if this company is compared with the rest of its "normal" peer group of companies that compose the industry, the values obtained will likely be significantly biased.

Consequently, the multiple valuation will be made taking into consideration other companies that were considered to be unicorns, at some point of their lifespan, such as Alibaba; Facebook; Workday and Twitter, thus producing the following results.

	P/S	EV/S
Alibaba	11,63	11,95
Facebook	11,03	11,08
Workday	9,58	10,62
Twitter	8,12	8,42
Average	10,09	10,52
Median	10,30	10,85
Farfetch EV		$ 4.188.139.098,32
Farfetch EQV	$ 3.977.123.327,64	$ 4.550.210.098,32
Farfetch Price	**$ 15,91**	**$ 18,20**

Figure 41 – Projection of the price per share, in $

It is noticeable that the results obtained through the multiples, using a peer group completely composed of companies that are or were considered as a unicorn company, are fairly higher than the results obtained using the peer group constituted of companies that belong to the same industry.

7. Discussion of Results

In the process of valuation of a firm, it is important to take into consideration the several results obtained through each valuation model used and to bear in mind that the price of the Farfetch's IPO is 20 USD per share. Then, the results will be compared with the price of the IPO and between each model and it will be made a critical analysis in order to elaborate the main conclusions of the research and the recommendations regarding Farfetch.

DCF	Scenario1	Scenario2	Scenario3	Average
FCFF	$ -	$ 25,66	$ 49,62	$ 25,09
FCFE	$ -	$ 24,23	$ 48,19	$ 24,14

Figure 42 – Price per share estimated through DCF models, in $

Multiples	P/S	EV/S	Average
Industry Group	$ 4,94	$ 7,06	$ 6,00
Unicorn Group	$ 15,91	$ 18,20	$ 17,05

Figure 43 – Price per share estimated through multiples models, in $

Looking at the figures 42 and 43, the results obtained through the DCF models surpass the price of Farfetch's IPO in scenarios 2, 3 and also the average of the 3 scenarios. The FCFF model presents the bigger value of the average of the 3 scenarios, presenting a value of $25.09, which is 25% higher than the IPO's share price, being that FCFE approach is only 20% above it.

The results obtained, through the multiples approach, are below the IPO's price, especially the ones obtained using the peer group of Farfetch's industry, registering values between 5 and 7 USD per share.

Even though the results achieved using the peer group composed by unicorn companies were lower than the price of the IPO, these results (with a range between 16 and 18 USD) are closer to the IPO value.

The figure 44exhibits the valuation of Farfetch obtained through each valuation model and through each scenario. It shows that the average price per share, considering all the models used, is $19.38 per share, which is lower than the IPO's price per share. As so, it seems that the price of Farfetch's IPO is a little bit overpriced and that the logic option should be to not buy the share at $20.

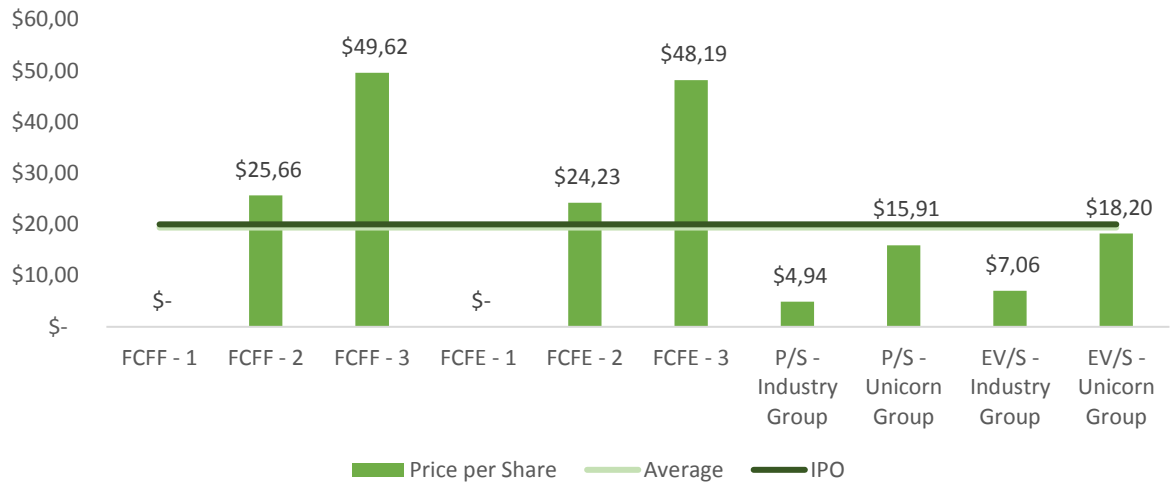

Figure 44 –Price per share estimated through each valuation model, in $

As it has been previously discussed in the review of literature section, the most used and reliable valuation models are the DCF models, since these take into consideration the time value of money effect and measure the ability of a firm to generate cash flows in the future and to grow its business. The multiples valuation approach is a more simplistic method that is static within a certain period of time, and it should be used as a complementary element to the DCF valuation models, since it provides summarized and valuable information concerning the firm's operations and financial condition.

Therefore, taking into consideration results obtained in the DCF models, especially the scenario 2 (since this is the most reasonable scenario), the results obtained through the FCFF and the FCFE have a higher value than the IPO's price. This information points towards the option to buy the shares of Farfetch on the IPO's date at a cost of $20 per share, since the valuation performed on Farfetch indicates that the fair value for the price per share of the company is higher than the IPO's price.

Considering all the models used, with exception of the multiples model using the peer group composed by companies of the same industry, it will produce an average price per share of $22.73 and a median of $21.21. This information points to the decision to buy the shares of Farfetch at the price of $20.

8. Conclusion

The primary objective of this the thesis, is the application of the several valuation models to a real company. The selected company was Farfetch. This choice was based on its condition of being a unicorn company who, despite the fact that keeps declaring negative results, year over year, it sees that its value keeps increasing. Therefore, it was computed the fair value of Farfetch through several valuation models, and compared the values obtained with the company's IPO price per share of $20.

The DCF models suggest that the price is underestimated, since the results point to a fair price higher than the one stipulated for the IPO, in which the price obtained through the FCFF was $26.07 and $20.18 through the FCFE model. However, if the multiples models are taken into consideration alone, they point out that the price might be overestimated, since the values presented are lower than $18 per share. In fact, the multiples valuation models estimated a very low price per share when used a peer group of companies of the firm's industry, between $5 and $7 per share, but a closer value to the IPO's price, between $16 and $18 per share, when used companies that were considered unicorn.

It was also carried out a sensitivity analysis on FCFF model, observing that the most sensitive variables, the perpetual growth rate and the WACC, will significantly impact Farfetch's fair value. This indicates that a variation of just 1% in each variable could make the price per share fluctuate between -27% and +59.4% of the price estimated.

Therefore, this indicates that the assumptions made during the forecasting of the results and the estimation of the discount rates is a critical point that could deeply influence the final fair price per share, making the whole project worthless if the assumption took into consideration is wrongly assumed.

Consequently, it is possible to acknowledge that the main constraints of this project rely on the fact that the Fafetch's valuation is made based upon projections that were forecasted taking into consideration assumptions that might be reasonable today, but in the future might be erroneous, therefore leading to an underestimate or overestimate of the fair price.

A possible way to overcome these constrains would be to have access to the company's expected projections for the future years, regarding the main financial variables, such as the revenues, costs of revenue, future capital structure and the selling, general and administrative expenses.

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10. Annexes

A. Revenue per type of service, in $ thousands and in %

Revenue	2015	2016	2017	1S - 2017	1S - 2018
Platform Services Revenue	106.794	180.937	296.350	131.480	209.766
Platform Fulfilment Revenue	28.617	48.511	74.182	33.760	50.551
In-Store Revenue	6.894	12.668	15.434	7.331	7.191
Total Revenue	142.305	242.116	385.966	172.571	267.508
Platform Services Revenue	75,05%	74,73%	76,78%	76,19%	78,41%
Platform Fulfilment Revenue	20,11%	20,04%	19,22%	19,56%	18,90%
In-Store Revenue	4,84%	5,23%	4,00%	4,25%	2,69%
Total Revenue	100,00%	100,00%	100,00%	100,00%	100,00%

B. Revenue per region, in $ thousands and in %

Revenue	2015	2016	2017	1S - 2017	1S - 2018
Americas	46.318	70.371	97.528	46.389	54.412
Europe, Middle East and Africa	50.503	92.420	155.676	69.948	134.272
Asia Pacific	45.484	79.325	132.762	56.234	78.824
Total Revenue	142.305	242.116	385.966	172.571	267.508
Americas	32,55%	29,06%	25,27%	26,88%	20,34%
Europe, Middle East and Africa	35,49%	38,17%	40,33%	40,53%	50,19%
Asia Pacific	31,96%	32,76%	34,40%	32,59%	29,47%
Total Revenue	100,00%	100,00%	100,00%	100,00%	100,00%

C. Selling, general and administrative expenses, in $ thousands

Expenses	2015	2016	2017	1S - 2017	1S - 2018
Demanding Generation Expense	34.158	48.381	69.202	29.123	41.258
Technology Expense	6.741	12.269	31.611	11.128	31.031
Depreciation and Amortization	3.104	6.897	10.980	5.019	10.338
Share Based Payments	6.505	19.848	21.486	8.600	12.523
General and Administrative	79.565	118.163	165.981	71.892	113.651
Total	130.073	205.558	299.260	125.762	208.801

D. Income Statement, in $ thousands

	2015	2016	2017	1S - 2017	1S - 2018
Revenue	142.305	242.116	385.966	172.571	267.508
Cost of Revenue	(69.702)	(125.238)	(181.200)	(78.223)	(130.643)
Gross Profit	72.603	116.878	204.766	94.348	136.865
Selling, General and Administrative Expenses (except D&A)	(126.969)	(198.661)	(288.280)	(120.743)	(198.463)
Share of Profits of Associates	0	18	31	15	24
EBITDA	(54.366)	(81.765)	(83.483)	(26.380)	(61.574)
Depreciation and Amortization	(3.104)	(6.897)	(10.980)	(5.019)	(10.338)
Operating Result (EBIT)	(57.470)	(88.662)	(94.463)	(31.399)	(71.912)
Interest Results	(4.265)	7.402	(17.642)	1.690	4.218
Result before Tax (EBT)	(61.735)	(81.260)	(112.105)	(29.709)	(67.694)
Taxes	628	(199)	(170)	429	(714)
Net Income	**(61.107)**	**(81.459)**	**(112.275)**	**(29.280)**	**(68.408)**

E. Projection of selling, general and administrative expenses, in $ thousnads

Expenses	2018	2019	2020	2021	2022
Demanding Generation Expense	85.624	103.146	120.668	138.190	155.712
Technology Expense	41.744	54.179	66.614	79.049	91.484
Depreciation and Amortization	14.870	18.808	22.746	26.684	30.622
Share Based Payments	30.927	38.418	45.908	53.399	60.889
General and Administrative	207.652	250.860	294.068	337.276	380.484
Total	380.817	465.411	550.004	634.598	719.191

F. Projection of Income Statement for each scenarios, in $ thousands

Scenario1

Scenario 1	2018	2019	2020	2021	2022
Revenue	598.299	708.263	838.439	992.540	1.174.964
Cost of Revenue	(289.337)	(342.516)	(405.469)	(479.992)	(568.213)
Gross Profit	308.961	365.747	432.970	512.548	606.751
Selling, General and Administrative Expenses (except D&A)	(365.948)	(446.603)	(527.259)	(607.914)	(688.570)
Share of Profits of Associates	47	63	78	94	109
EBITDA	(56.939)	(80.793)	(94.211)	(95.273)	(81.709)
Depreciation and Amortization	(17.020)	(20.149)	(23.852)	(28.236)	(33.425)
Operating Result (EBIT)	(73.959)	(100.942)	(118.063)	(123.509)	(115.134)
Interest Results	0	0	0	0	0
Result before Tax (EBT)	(73.959)	(100.942)	(118.063)	(123.509)	(115.134)
Taxes	7.026	9.589	10.035	10.498	9.786
Net Income - 1	**(66.933)**	**(91.353)**	**(108.027)**	**(113.010)**	**(105.348)**

Scenario 2

Scenario 2	2018	2019	2020	2021	2022
Revenue	598.299	883.607	1.240.228	1.649.914	2.074.045
Cost of Revenue	(289.337)	(427.312)	(599.774)	(797.898)	(1.003.008)
Gross Profit	308.961	456.294	640.454	852.015	1.071.037
Selling, General and Administrative Expenses (except D&A)	(365.948)	(446.603)	(527.259)	(607.914)	(688.570)
Share of Profits of Associates	47	63	78	94	109
EBITDA	(56.939)	9.754	113.274	244.195	382.577
Depreciation and Amortization	(17.020)	(25.137)	(35.282)	(46.937)	(59.003)
Operating Result (EBIT)	(73.959)	(15.383)	77.991	197.258	323.574
Interest Results	0	0	0	0	0
Result before Tax (EBT)	(73.959)	(15.383)	77.991	197.258	323.574
Taxes	7.026	1.461	(13.259)	(33.534)	(55.008)
Net Income - 2	**(66.933)**	**(13.921)**	**64.733**	**163.724**	**268.566**

Scenario 3

Scenario 3	2018	2019	2020	2021	2022
Revenue	598.299	897.448	1.346.172	2.019.258	3.028.887
Cost of Revenue	(289.337)	(434.006)	(651.009)	(976.513)	(1.464.770)
Gross Profit	308.961	463.442	695.163	1.042.745	1.564.117
Selling, General and Administrative Expenses (except D&A)	(365.948)	(446.603)	(527.259)	(607.914)	(688.570)
Share of Profits of Associates	47	63	78	94	109
EBITDA	(56.939)	16.902	167.983	434.924	875.657
Depreciation and Amortization	(17.020)	(25.531)	(38.296)	(57.444)	(86.166)
Operating Result (EBIT)	(73.959)	(8.629)	129.687	377.480	789.491
Interest Results	0	0	0	0	0
Result before Tax (EBT)	(73.959)	(8.629)	129.687	377.480	789.491
Taxes	7.026	820	(22.047)	(64.172)	(134.213)
Net Income - 3	**(66.933)**	**(7.809)**	**107.640**	**313.309**	**655.277**

G. Balance Sheet, in $ thousands

	2016	2017	1S - 2018
Trade and other receivables	5.367	9.193	9.916
Intangible assets	42.943	74.041	83.908
Property, plant and equipment	15.795	26.696	33.783
Investments	0	278	272
Investments in associates	23	58	79
Total Non-Current Assets	64.128	110.266	127.958
Inventories	13.591	50.610	55.633
Other receivables	10.094	5.294	33.448
Sales Taxes	1.715	5.307	9.778
Prepayments and accrued income	5.277	7.394	36.284
Derivative Financial assets	195	185	422
Cash and Cash Equivalents	150.032	384.002	336.982
Total Current Assets	180.904	452.792	472.547
Total Assets	**245.032**	**563.058**	**600.505**
Share Capital	6.192	7.086	7.374
Share Premium	342.640	679.886	782.177
Foreign Exchange Reserve	(32.871)	633	(8.501)
Other Reserves	19.857	38.475	49.073
Accumulated losses	(216.901)	(329.177)	(397.585)
Non-Controlling interests	(1)	0	0
Total Equity	118.916	396.903	432.538
Deferred Tax Liabilities	0	0	0
Interest-Bearing Loans and Borrowings	17.340	0	0
Provisions	3.935	5.142	6.314
Other Liabilities	15.416	5.123	5.654
Total Non-Current Liabilities	36.691	10.265	11.968
Trade and other payables	84.388	136.744	155.999
Interest-Bearing Loans and Borrowings	2.673	0	0
Other Liabilities	2.364	19.146	0
Total Current Liabilities	89.425	155.890	155.999
Total Liabilities	126.116	166.155	167.967
Total Equity and Liabilities	**245.032**	**563.058**	**600.505**

H. FCFF valuation in each scenario, in $ thousands

Scenario 1

Scenario 1	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
NOPLAT	(59.907)	(81.763)	(97.992)	(102.512)	(95.562)	(113.125)	(133.917)	(158.531)	(181.969)	(202.331)	(217.698)	(226.405)
Depreciation and Amortization	17.020	20.149	23.852	28.236	33.425	39.569	46.842	55.451	63.649	70.771	76.146	79.192
OPERATIONAL CASHFLOW	(42.887)	(61.614)	(74.140)	(74.276)	(62.136)	(73.556)	(87.076)	(103.080)	(118.320)	(131.560)	(141.551)	(147.213)
Investment in CAPEX	6.040	3.128	3.703	4.384	5.190	6.143	7.273	8.609	9.882	10.988	11.822	12.295
WC Variation	(41.553)	(21.520)	(25.475)	(30.157)	(35.700)	(42.262)	(50.029)	(59.224)	(67.980)	(75.587)	(81.328)	(84.581)
FCFF	(90.480)	(86.262)	(103.318)	(108.818)	(103.026)	(121.962)	(144.378)	(170.913)	(196.182)	(218.135)	(234.702)	(244.090)
Terminal Value												**(4.595.931)**
Discounted Cash Flows	(86.541)	(75.479)	(82.702)	(79.685)	(69.017)	(74.743)	(80.944)	(87.659)	(92.049)	(93.631)	(92.161)	(1.804.691)

Enterprise Value	**(2.719.302)**
Non-Operating Assets	374.039
Financial Debt and Equivalents	11.968
Equity Value	**(2.357.231)**
Outstanding Shares	250.001
Price per share	**$ -9,43**

Scenario 2

Scenario 2	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
EBIT	(73.959)	(15.383)	77.991	197.258	323.574	383.045	453.447	536.789	616.151	685.097	737.129	766.614
NOPLAT	(59.907)	(12.460)	64.733	163.724	268.566	317.928	376.361	445.535	511.405	568.630	611.817	636.290
Depreciation and Amortization	17.020	25.137	35.282	46.937	59.003	69.847	82.685	97.882	112.353	124.925	134.413	139.790
OPERATIONAL CASHFLOW	(42.887)	12.677	100.015	210.661	327.569	387.775	459.046	543.416	623.759	693.556	746.230	776.080
Investment in CAPEX	6.040	8.116	10.145	11.655	12.066	14.283	16.909	20.016	22.976	25.547	27.487	28.586
WC Variation	(41.553)	(53.690)	(62.669)	(64.286)	(54.721)	(64.779)	(76.685)	(90.779)	(104.201)	(115.861)	(124.660)	(129.647)
FCFF	(90.480)	(49.129)	27.201	134.720	260.782	308.712	365.452	432.621	496.582	552.148	594.083	617.847
Terminal Value												**11.633.340**
Discounted Cash Flows	(86.541)	(42.988)	21.774	98.653	174.699	189.192	204.887	221.885	232.996	237.000	233.280	4.568.081

Enterprise Value	**6.052.918**
Non-Operating Assets	374.039
Financial Debt and Equivalents	11.968
Equity Value	**6.414.989**
Outstanding Shares	250.001
Price per share	**$ 25,66**

Scenario 3

Scenario 3	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
EBIT	(73.959)	(8.629)	129.687	377.480	789.491	934.595	1.106.370	1.309.715	1.503.352	1.671.574	1.798.528	1.870.469
NOPLAT	(59.907)	(6.989)	107.640	313.309	655.277	775.714	918.287	1.087.064	1.247.782	1.387.406	1.492.778	1.552.489
Depreciation and Amortization	17.020	25.531	38.296	57.444	86.166	102.003	120.751	142.944	164.078	182.438	196.294	204.146
OPERATIONAL CASHFLOW	(42.887)	18.541	145.936	370.753	741.443	877.717	1.039.038	1.230.008	1.411.860	1.569.844	1.689.072	1.756.635
Investment in CAPEX	6.040	8.510	12.765	19.148	28.722	34.001	40.250	47.648	54.693	60.813	65.431	68.049
WC Variation	(41.553)	(58.543)	(87.815)	(131.722)	(197.583)	(233.898)	(276.887)	(327.778)	(376.238)	(418.339)	(450.111)	(468.115)
FCFF	(90.480)	(48.512)	45.356	219.883	515.138	609.818	721.900	854.582	980.929	1.090.693	1.173.530	1.220.471
Terminal Value												**22.980.059**
Discounted Cash Flows	(86.541)	(42.448)	36.306	161.016	345.093	373.723	404.727	438.303	460.251	468.162	460.812	9.023.614

Enterprise Value	**12.043.017**
Non-Operating Assets	374.039
Financial Debt and Equivalents	11.968
Equity Value	**12.405.088**
Outstanding Shares	250.001
Price per share	**$ 49,62**

I. FCFE valuation in each scenario, in $ thousands

Scenario 1

Scenario 1	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Net Income	(66.933)	(91.353)	(108.027)	(113.010)	(105.348)	(124.710)	(147.632)	(174.766)	(200.604)	(223.051)	(239.992)	(249.592)
Depreciation and Amortization	17.020	20.149	23.852	28.236	33.425	39.569	46.842	55.451	63.649	70.771	76.146	79.192
Investment in CAPEX	6.040	3.128	3.703	4.384	5.190	6.143	7.273	8.609	9.882	10.988	11.822	12.295
WC Variation	(41.553)	(21.520)	(25.475)	(30.157)	(35.700)	(42.262)	(50.029)	(59.224)	(67.980)	(75.587)	(81.328)	(84.581)
Debt Variation	(11.968)	0	0	0	0	0	0	0	0	0	0	0
FCFE	(85.538)	(95.852)	(113.354)	(119.316)	(112.812)	(133.547)	(158.092)	(187.149)	(214.818)	(238.855)	(256.996)	(267.276)
Terminal Value												**(5.032.499)**
Discounted Cash Flows	(81.814)	(83.870)	(90.735)	(87.372)	(75.573)	(81.843)	(88.633)	(95.986)	(100.792)	(102.525)	(100.915)	(1.976.119)
Equity Value	**(2.966.178)**											
Outstanding Shares	250.001											
Price per share	**$ -11,86**											

Scenario 2

Scenario 2	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Net Income	(66.933)	(13.921)	64.733	163.724	268.566	317.928	376.361	445.535	511.405	568.630	611.817	636.290
Depreciation and Amortization	17.020	25.137	35.282	46.937	59.003	69.847	82.685	97.882	112.353	124.925	134.413	139.790
Investment in CAPEX	6.040	8.116	10.145	11.655	12.066	14.283	16.909	20.016	22.976	25.547	27.487	28.586
WC Variation	(41.553)	(53.690)	(62.669)	(64.286)	(54.721)	(64.779)	(76.685)	(90.779)	(104.201)	(115.861)	(124.660)	(129.647)
Debt Variation	(11.968)	0	0	0	0	0	0	0	0	0	0	0
FCFE	(85.538)	(50.591)	27.201	134.720	260.782	308.712	365.452	432.621	496.582	552.148	594.083	617.847
Terminal Value												**11.633.340**
Discounted Cash Flows	(81.814)	(44.266)	21.774	98.653	174.699	189.192	204.887	221.885	232.996	237.000	233.280	4.568.081
Equity Value	**6.056.366**											
Outstanding Shares	250.001											
Price per share	**$ 24,23**											

Scenario 3

Scenario 3	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
Net Income	(66.933)	(7.809)	107.640	313.309	655.277	775.714	918.287	1.087.064	1.247.782	1.387.406	1.492.778	1.552.489
Depreciation and Amortization	17.020	25.531	38.296	57.444	86.166	102.003	120.751	142.944	164.078	182.438	196.294	204.146
Investment in CAPEX	6.040	8.510	12.765	19.148	28.722	34.001	40.250	47.648	54.693	60.813	65.431	68.049
WC Variation	(41.553)	(58.543)	(87.815)	(131.722)	(197.583)	(233.898)	(276.887)	(327.778)	(376.238)	(418.339)	(450.111)	(468.115)
Debt Variation	(11.968)	0	0	0	0	0	0	0	0	0	0	0
FCFE	(85.538)	(49.332)	45.356	219.883	515.138	609.818	721.900	854.582	980.929	1.090.693	1.173.530	1.220.471
Terminal Value												**22.980.059**
Discounted Cash Flows	(81.814)	(43.165)	36.306	161.016	345.093	373.723	404.727	438.303	460.251	468.162	460.812	9.023.614
Equity Value	**12.047.027**											
Outstanding Shares	250.001											
Price per share	**$ 48,19**											

J. Damodaran synthetic rating estimation

If interest coverage ratio is						
>	*≤ to*	*Rating is*	*Spread 2018*	*Spread: 2017*	*Spread: 2016*	*Spread: 2015*
-100000	0,199999	Aaa/AAA	0,54%	0,60%	0,75%	0,40%
0,2	0,649999	Aa2/AA	0,72%	0,80%	1,00%	0,70%
0,65	0,799999	A1/A+	0,90%	1,00%	1,10%	0,90%
0,8	1,249999	A2/A	0,99%	1,10%	1,25%	1,00%
1,25	1,499999	A3/A-	1,13%	1,25%	1,75%	1,20%
1,5	1,749999	Baa2/BBB	1,27%	1,60%	2,25%	1,75%
1,75	1,999999	Ba1/BB+	1,98%	2,50%	3,25%	2,75%
2	2,2499999	Ba2/BB	2,38%	3,00%	4,25%	3,25%
2,25	2,49999	B1/B+	2,98%	3,75%	5,50%	4,00%
2,5	2,999999	B2/B	3,57%	4,50%	6,50%	5,00%
3	4,249999	B3/B-	4,37%	5,50%	7,50%	6,00%
4,25	5,499999	Caa/CCC	8,64%	6,50%	9,00%	7,00%
5,5	6,499999	Ca2/CC	10,63%	8,00%	12,00%	8,00%
6,5	8,499999	C2/C	13,95%	10,50%	16,00%	10,00%
8,50	100000	D2/D	18,60%	14,00%	20,00%	12,00%