Universidad Pública de Navarra
Nafarroako Unibertsitate Publikoa

school of economics
and business administration
facultad de ciencias
económicas y empresariales
ekonomia eta enpresa
zientzien fakultatea

Facultad de Ciencias Económicas y Empresariales

TRABAJO FIN DE GRADO EN

Programa Internacional del Doble Grado en Administración y Dirección de Empresas y en Economía.

VALUATION OF UNLISTED COMPANIES: PIKOLINO'S INTERCONTINENTAL S.A.

Javier Salinas González

Pamplona-Iruña a 4 de Mayo de 2023

Módulo: Entorno empresarial

NOMBRE DIRECTOR/A:
ANA GONZALEZ URTEAGA

ABSTRACT

The objective of this thesis in economics is to value the unlisted company Pikolino's Intercontinental S.A. The company is located in Elche, Alicante and it is registered under the CNAE 2009 code of 4642, belonging to companies whose main activity is the wholesale trade of clothing and footwear. The method used is the discounted free cash flow method, which requires the prediction of future cash flows for the next 5 years and the residual value of the company in the last projected year, to subsequently discount them to the present using the weighted average cost of capital as the discount rate. The value obtained is €4,469,756,248. Subsequently, a sensitivity analysis was carried out and we analyzed how the change in some of the intermediate variables affected the value of the company. We observe that both the growth rate (g) and the costs of equity (Ke) and debt (Kd), which determine the weighted average cost of capital (WACC), are the variables whose estimation requires the most attention.

KEY WORDS: Free cash flow, discount rate, sensitivity analysis, CNAE code.

RESUMEN

El objetivo de este trabajo de fin de grado en economía es valorar la empresa no cotizada Pikolino's Intercontinental S.A. La empresa está ubicada en Elche, Alicante y está inscrita dentro del código CNAE 2009 de 4642, perteneciente a empresas cuya actividad principal es el comercio al por mayor de prendas de vestir y calzado. El método utilizado es el de los flujos de caja libres descontados, que requiere la predicción de los flujos de caja futuros de los próximos 5 años y el valor residual de la empresa en el último año proyectado, para posteriormente descontarlos al presente utilizando como tasa de actualización el coste medio ponderado del capital. El valor obtenido es de 4.469.756.248€. Posteriormente, se realizó un análisis de sensibilidad y se analizó cómo afectaba el cambio de algunas de las variables intermedias al valor de la empresa. Observamos que tanto la tasa de crecimiento (g) como los costes de los fondos propios (Ke) y ajenos (Kd), que determinan el coste ponderado medio del capital (WACC), son las tres variables cuya estimación requiere mayor atención.

PALABRAS CLAVE: Flujo de caja libre, tasa de actualización, análisis de sensibilidad, código CNAE.

INDEX

LIST OF FIGURES

LIST OF TABLES

1- INTRODUCTION

The aim of this thesis on the bachelor in economics is to assess the value of the non-listed company Pikolino's Intercontinental SA, which is located in Elche in the Spanish region of Alicante. The main activity of the business is the wholesale trade of clothing and footwear. To value the company, the method I used is the Discounted Free Cash Flow method (DFCF). All the accounting and financial information needed was obtained from SABI, which is a database containing information about all the companies located in Portugal and Spain.

Before following this introduction is important to remember the difference between price and value. Price is the amount paid for an asset in the market, whereas, value is the real long-term benefit or worth it provides to its owner (Leszinski & V. Marn, 1997). The price of an asset (in this case a company) is objective whereas the value is subjective. This is the reason why the estimation of a company's value changes when modifying either the valuation method or the assumptions made.

Pikolino's is a successful business on its maturity stage as shown by its constant turnover over the last decade of around 100 million €. Last year, according to net turnover, it was classified as the 25th biggest company in the sector (Provincias, 2018). The volume of sales of the clothing and footwear sector in Spain is pretty significative and it is totally dominated by the group "Inditex", which accounts for almost two thirds of the total sales of the sector.

In this paper, as mentioned, the method used is the discounted free cash flow method. Nowadays, it is the most used method and it is recognized as the reference approach to forecasting the value of a firm. Amongst other alternative methods for evaluating a company, we can distinguish between those based on equity, cost-effectiveness-based methods, and hybrid methods. All the data needed in those equity-based methods is obtained from the balance sheet of the company, and its main problem is that only data from the past is taken into account. The hybrid methods also consider the goodwill of the company but they still do not consider the present and future of the company. This problem is solved by those methods based on cost-effectiveness, in which the DFCF method is included. Here, not only past or present information from the balance sheet and the income statement respectively is considered, but also future forecasts (De Toro Cabello, 2014).

The DFCF approach can be summarized in the following steps: first, the prediction of several future free cash flows and the residual value at the time of the last predicted cash flow. It should be noted that depending on the type of company being valued and its stage of development, a longer or shorter time horizon might be set. Mature businesses with stable CF generation facilitate the projection of results and the setting of a near time horizon of about 5 years. On the other hand, newly created businesses with increasing cash generation, which may not yet have reached the break-event point need a more distant horizon where a phase of greater stability is aimed at (10-15 years approx.). Therefore, I decided that given the maturity stage of the business the appropriate time horizon was 5 years, and hence the number of forecasted future cash flows was 5. Thus, given that the last year with available data in SABI is 2021, we will work with past data from 2017-2021 and project free cash flows for 2022-2026, the residual value will be calculated in 2026, and finally, the enterprise value will be calculated at the beginning of 2022.

For estimating the residual value of the company, I used the method of Gordon-Shapiro. This approach assumes a constant growth rate (g) for the discounted free cash flows of the company, and that's why it is a very popular system to forecast the value of mature companies like the one we analyze in this paper.

Then, we discounted those free cash flows and the residual value by the weighted average cost of capital (WACC), in which the proportion of internal and external resources are proportionally weighted to arrive at the cost of borrowing. To arrive to the cost of internal resources (also called the cost of equity), we need the β of the company. For that sake, we take the β of the sector, or in this case the β of Inditex as a proxy for the β of the sector, and we apply Hamada's formula.

The forecasted cash flows are all positive and show an increasing trend, from 8,490,898 in 2022 to 12,678,271 in 2026. Moreover, we found that the cost of equity (ke=2.02%) and the cost of debt (kd=0.725%) are unusually low, which made the average cost of funding (WACC=1.516%) really low. Before arriving to the cost of internal financing we reached that both the β of Inditex and Pikolino's were very similar and low (β_{ind}=0.175, β_{Pik}=0.176) due to both having a very similar capital structure. Before obtaining the residual value of the firm, we needed to obtain the growth rate of the company which was g=1.246%. As we can observed it is quite high for the present period and close to the weighted average cost of capital, and this, as predicted, resulted in a very high residual

value (4,764,981,038). After having computed all the intermediate steps we arrive at the value of the company which is (4,469,756,248). We can observe how the residual value is the most part of it, representing 98.88% of the forecasted value of the firm. This is explained by a very low WACC, and a high growth rate, which made both percentages almost equal. These factors skyrocketed the residual value of the firm and thus, its forecasted value, which I find it to be excessively high.

As already stated we are working with future magnitudes, and although there are projected from real past data, these are inaccurate and uncertain. This is the reason why a main part of this paper is the sensitivity analysis performed by changing some assumptions made in the beginning, and observing how the prediction of the value of the firm shifts.

We started by changing the tax rate of Inditex from 25% to 15%, which caused a moderate increase in the forecasted value of 11.70%. Then, we increased both the cost of internal (cost of equity) and external financing (cost of debt) to different values and observed how an increase in the WACC from near 1.5% to between 4% and 6% approximately, decreased the value of the company between 90% and 95% despite still being positive. For concluding this section, we changed the growth rate of Pikolino from g=1.246% to g=0.5% and realized the value of the company followed the same direction and diminished 72.85% to around 1,200,000,000€.

In conclusion, despite the size and profitability of this grown business, I find the initial forecasted value too high. As I thought, the predictions of the cost of equity and cost of debt were very low, which resulted in a poor WACC which increased heavily the forecasted value. Furthermore, by increasing either the cost of financing or decreasing the growth rate of the firm, which I believed was excessive given the current economic conditions, we arrive to a much more reasonable value of the company of around 1,200,000,000€.

The most valuable insight I get from this thesis is what I learned about the subject "Dirección Financiera" which I did not have the opportunity to study it due to the programming of the international program of the bachelor, and I consider it really useful. Furthermore, I used the database SABI, during all the paper which I learned how to use it during the course strategic management. Also, more indirectly, the concepts acquired in accounting or finance courses were also applied during this work.

The paper is structured the following way. Section 2 describes the company and analyzes it mainly from a historical, accounting, and financial point of view, while also overviewing the sector it belongs to. Subsequently, Section 3 contains the main section of the paper, the valuation of the company using the DFCF method indicated. Then, a sensitivity analysis is performed in Section 4, while Section 5 concludes.

2- DESCRIPTION OF THE COMPANY AND THE SECTOR

2.1 Pikolino's Intercontinental SA

Pikolino's Intercontinental SA was founded in Elche, in the Spanish region of Alicante, in the year 1997 by Juan Peran Ramos, which has been the only owner of the business up to this date. However, the origins of the company date back to 1984, when the company Pikolino's SLU was created by Juan. Years later the company was absorbed by the company under analysis in this paper. Therefore, we can state that next year the company will celebrate its 40th Anniversary.

The company's operating activity is the purchase and sale, marketing, distribution, export, and import of all types of footwear. It is enrolled inside the CNAE 2009 code of 4642, belonging to companies whose main activity is the wholesale trade of clothing and footwear. The CNAE 2009 or "Clasificación Nacional de Actividades Económicas" is a mandatory 4-digit code, used to identify the activity and the sector of all the companies not only in Spain but also in Europe (INE - Instituto Nacional de Estadística, 2020).

The company has always positioned itself as a company that manufactures its products in a handcrafted manner, and it is highly committed to leading the "fashion-comfort" segment in the market. In addition, over the last 10 to 15 years, the company has stepped up as one of the most sustainable companies in the country (García Cartagena, 2022). The best example of this is the label "Pikolinos Solidarity" which encompasses all the social projects carried out by the firm. Moreover, the firm launches special collections in collaboration with communities at risk of social exclusion and people with special needs, in order to support their sustainability and integration into society.

The headquarters of Pikolino are still located in Elche and it is estimated that nearly 20% of the global production of the business takes place here. Nevertheless, this footwear company has other several factories in Spain, Morocco, and Asia. Moreover, the firm

operates in more than 60 markets. Europe is the most important continent, with Spain leading the way, accounting for 35% of total sales, followed by France and Germany. Furthermore, it has 136 points of sale in China, six franchises in Mexico, and another 42 shops in Europe (37 in Spain), among other markets. In the last years, the corporation's total sales have been around 100 million € per year. This makes Pikolino's the most successful company in terms of sales in the sector in the region of Alicante, and also one of the sector's leading companies at a country level. Looking at this data is more than clear that we are about to evaluate a big business with a lot of international presence.

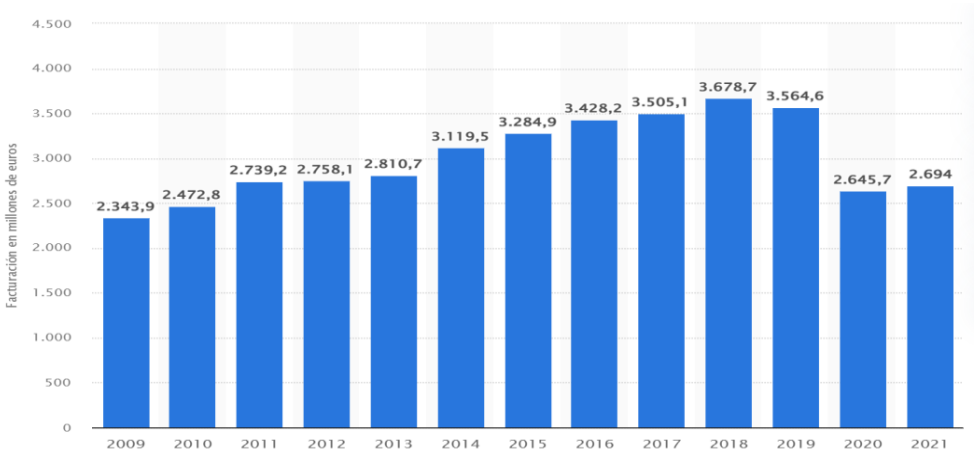
By the end of the year 2021, the firm had 116 full-time employees. This number was affected by the covid-19 pandemic since at the end of 2019, the number of workers was 139. Out of the 116 employees, 61% (71) were men and the remaining 39% (45) were women. In the last decade, these percentages have evened out considerably (SABI).

In the last few years, the company has introduced some changes regarding its corporate structure. During the first months of 2019, the company absorbed one of its subsidiaries: Pikolino's SLU, which was precisely the original firm of the group, created in 1984. Moreover, the firm recently transferred the whole online business part of business to Pikostore, the group's subsidiary in charge of operating the brand's physical shops (Martínez, 2019). With this move, the company wanted to merge all the consumer-directed activities of the group into one single entity. This action boosted the electronic sales channel, which is becoming increasingly important for fashion product companies in the face of new consumer trends.

2.2 Structure of the sector

The footwear industry have increased its importance in Spain over the last decade. As we can observe in Figure 1 throughout the 2010s total turnover of the firms in this sector have increased from near 2,500 million € to over 3,500 million € (Statista, 2023). I attributed the step back suffered by the sector in the first two years of the 2020s to the covid-19 pandemic.

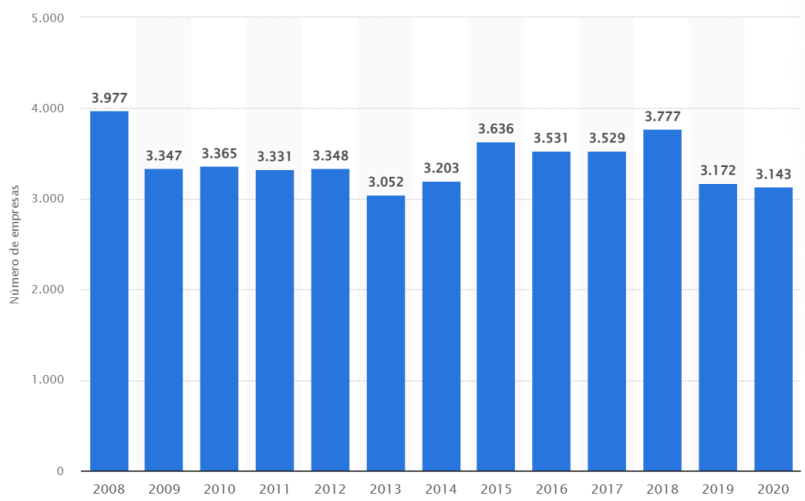
Figure 1. Total turnover of Spanish footwear sector firms



Source: Statista.

Despite the significant increase in the total turnover of the sector, the number of Spanish firms with the same CNAE code as Pikolino has maintained constant or slightly decreased over the last years. Figure 2 shows that the number of firms has been over 3000 and below 4000 during this time. This means that the average size of the companies in the sector has increased during the last decade. As shown in Table 1, among all the business with the same CNAE code that were active in 2021 (3015), Pikolino lies on the 25th place according to net turnover (SABI).

Figure 2. Total firms in the footwear sector in Spain.



Source: Statista.

In order to finish the analysis of the sector in Spain, I looked for the biggest companies in the sector. The results were quite surprising, as we can observe in Table 1, because the 5 biggest firms according to net turnover, belong ultimately to the same owner. The

largest firm is the parent company of the group, which in one of the following sections of the paper will be used as representative for the sector CNAE 4642: Industria de diseño textil SA (Inditex). The companies in positions from 2 to 5 (Bershka, Tempe, Pull & Bear, and Massimo Dutti) are also part of the group Inditex. This give us insights of the magnitude of this group, its importance and influence not only in this sector but also in the Spanish market overall.

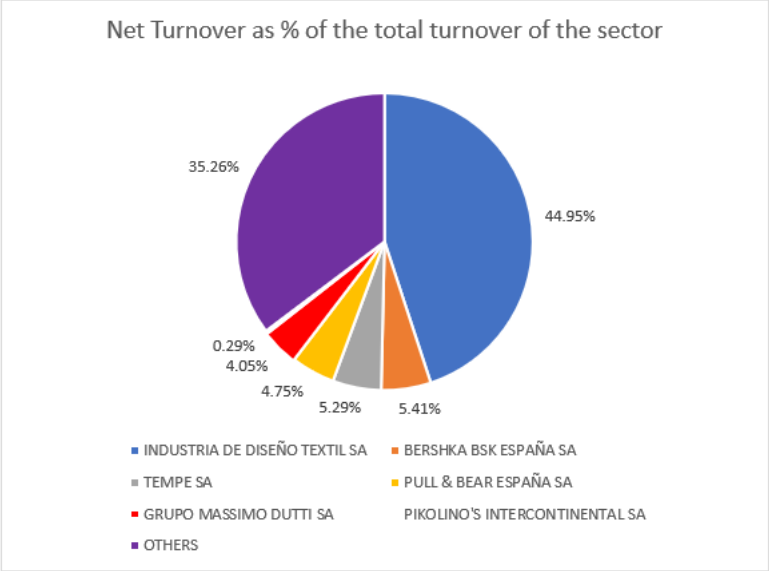
Table 1. Biggest companies belonging to the sector CNAE 4642 in Spain.

	Name	Net turnover in Million € (last available year)
1.	INDUSTRIA DE DISEÑO TEXTIL SA	11,351,000
2.	BERSHKA BSK ESPAÑA SA	1,366,000
3.	TEMPE SA	1,336,116
4.	PULL & BEAR ESPAÑA SA	1,198,442
5.	GRUPO MASSIMO DUTTI SA	1,023,144
6.	ZARA HOME ESPAÑA SA	555,293
7.	LOEWE SA	508,161
8.	ADIDAS ESPAÑA SAU	465,886
9.	FASHION RETAIL SAU	450,732
10.	NIKOLE SA	390,787
23.	HUGO BOSS BENELUX B V Y CIA SOCIEDAD COLECTIVA	84,367
24.	XTI FOOTWEAR SL	75,118
25.	PIKOLINO'S INTERCONTINENTAL SA	74,359
26.	PANAMA JACK SLU	72,644
27.	INTERSPORT CCS SA	70,345

Source: SABI.

Concerning the concentration of the sector at a national level, Inditex alone accounts for the 45% of total net turnover of the sector. If we add to that number the net turnover of the other companies on its group the percentage grows to two thirds of the total turnover of the sector (67%). Pikolino is ranked as the 25th biggest company in the sector according to Net turnover, and accounts for the 0.29 % of the sales of the sector. Figure 3 shows the importance of the group “Inditex” in the sector, and the size of Pikolino.

Figure 3. Net turnover as % of total turnover among the companies in the sector.



Source: Own elaboration. Data was obtained from SABI.

Furthermore, the company lies in the place 267 amongst the biggest firms in the autonomous community of Valencia and the 13th largest business in the province of Alicante. Moreover, it is the second biggest company of this province belonging to the footwear and apparel sector (SABI).

2.3 Economic and financial analysis of the company

In the following sub-sections we will carry out a financial and economic analysis of Pikolino in order to assess its health, and for getting some insights to do the valuation of the company that will be done in the next section. All the accounting data needed will be taken from SABI.

2.3.1 Capital Structure

In order to evaluate the capital structure of Pikolino, we will directly take the data from the balance sheet of the company from 2017 to 2021. Table 2 illustrates the most important accounting information of the firm.

Table 2. Capital structure of Pikolino

	2017	2018	2019	2020	2021
Non-current assets	10,249,713	12,416,490	11,065,562	10,799,762	19,221,768
Current assets	54,563,585	54,720,020	59,083,981	76,134,875	49,039,859
Total assets	**64,813,298**	**67,136,509**	**70,149,543**	**86,934,637**	**68,261,627**
Equity	44,125,210	39,916,074	41,059,697	36,974,286	32,535,114
Long-term liabilitites	941,055	4,994,316	3,538,978	12,658,280	10,793,205
Short-term liabilities	19,747,033	22,226,120	25,550,868	37,302,071	24,933,308
Total equity+liabilities	**64,813,298**	**67,136,509**	**70,149,543**	**86,934,637**	**68,261,627**

Source: Own elaboration. Data was taken from SABI.

As we can observe, the company has a solid capital structure. Total assets increased yearly until the year of the irruption of the covid-19 pandemic (2020). Moreover, equity has remained high and close to liabilities throughout the years meaning that the business relies on both internal and external financing sources on a similar proportion.

Table 3 shows the net working capital and the net working capital ratio of Pikolino during this time. Net working capital is a key indicator of short-term health defined as the difference between current assets and current liabilities. It is crucial for a company to have positive net working capital because this means that the business can face its short-term obligations. As we can observe the company has great short-term financial health, as shown by its solid net working capital year by year. The formulas for net working capital and the net working capital ratio are the following:

$$Net\ working\ capital = Current\ Assets - Current\ Liabilities$$

$$Net\ working\ capital\ ratio = \frac{Net\ working\ capital}{Total\ assets}$$

Table 3. Net working capital of the business

	2017	2018	2019	2020	2021
Net working capital	34,816,552	32,493,900	33,533,113	38,832,804	24,106,551
Net working capital ratio	0.537	0.484	0.478	0.447	0.353

Source: Own elaboration. Data was obtained from SABI.

As observed in Table 3, Pikolino's current assets exceeded its current liabilities by far during this period. However, as in most of the other indicators, the net working capital of the company also suffered the effects of the pandemic, and went from almost 39 million € in 2020 to "just" 24 million € one year later.

2.3.2 Liquidity Analysis

Liquidity is defined as the ability to convert assets into cash quickly. Liquidity ratios are widely used for determining the ability of businesses to turn current assets into cash or cash equivalents in order to pay their short term obligations without looking at external financing sources, which often represent in a higher cost for the company. Here, to

measure Pikolino's liquidity we will analyze two ratios: liquidity ratio and quick liquidity ratio. For both of them, the higher the ratio the greater the liquidity of the company.

First, let's take a look at the two formulas:

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

$$Quick\ liquidity\ ratio = \frac{Cashable\ assets}{Current\ liabilities}$$

Table 4 shows the results in these ratios for the company during the last half-decade.

Table 4. Liquidity Ratios of Pikolino.

	2017	2018	2019	2020	2021
Liquidity Ratio	2.763	2.462	2.312	2.041	1.967
Quick liquidity ratio	0.395	0.297	0.180	0.478	0.392

Source: Own elaboration. Data was taken from SABI.

Despite obtaining great scores in both rates, we can notice the downward tendency during this period, especially in the liquidity ratio. Regarding the quick liquidity ratio, there was a clear downward tendency in the years before the pandemic (2017 to 2019) that was completely reversed with the irruption of covid-19. This makes complete sense, since in times of extreme unpredictability like a war or a pandemic, solid companies tend to increment their "emergency" cushion by increasing their cashable assets.

2.3.3 Debt analysis

In this sub-section, we will analyze the proportion of debt in the capital structure of the company. The debt ratio is obtained by dividing total liabilities by equity. There is not an undisputed perfect number for this ratio, but having a very high number or even negative (that means that total liabilities are bigger than total assets) is normally a bad sign. Overall, obtaining a ratio somewhere near 1 or below is usually a positive sign.

$$Debt\ ratio = \frac{Total\ liabilities}{Equity}$$

Table 5 shows the results for the debt ratio.

Table 5. Debt ratio for the period 2017-2021.

	2017	2018	2019	2020	2021
Debt Ratio	0.469	0.682	0.708	1.351	1.098

Source: Own elaboration. Data was taken from SABI.

As observed in Table 5, the debt ratio has increased considerably during these years. While the debt ratio was just 0.47 in 2017, it almost tripled in 2020 (1.35). However, overall the situation was almost perfect regarding debt during these years.

2.3.4 Profitability analysis

Profitability ratios are very useful when assessing how well the company is operating. Probably the two most used ratios are return on assets (ROA) and return on equity (ROE) (Palepu et al., 2020). ROA measures the effectiveness of the business employing its assets to generate sales and ultimately profits, whereas ROE measures the ability of the firm to obtain profits from its equity investments. Both formulas are shown below:

$$ROA = \frac{Net\ income}{Total\ assets}$$

$$ROE = \frac{Net\ income}{Equity}$$

Table 6 shows the profitability ratios of the company.

Table 6. ROA and ROE of Pikolino.

	2017	2018	2019	2020	2021
Return on assets **ROA** (%)	10.97%	12.68%	11.74%	7.29%	4.85%
Return on Equity **ROE** (%)	16.62%	24.10%	20.37%	16.79%	8.95%

Source: Own elaboration. Data was taken from SABI.

We can clearly observe the downward tendency in the last couple of years in both rates. The ability of the company to turn its assets and its equity investment into profits decreased significantly during the pandemic. ROA went from 11.74% in 2019 to just 4.85% in 2021, and ROE also more than halved from 20.37% in 2019 to 8.95% in 2021. We expect this tendency to be temporary.

2.3.5 Income statement analysis

Table 7 shows the values for the most important variables in the income statement: net turnover and net income. We can perceive how the net turnover was constant until it took a considerable hit in 2021 due to the pandemic. The net income during these years followed a similar pattern. There are no other remarkable changes in the other variables, which is the reason why we are just showing their evolution over the last 5 years. This is

another insight that Pikolino is a well-established consolidated company, on its maturity stage.

Table 7. Income statement from 2017 to 2021.

Income Statement	2021	2020	2019	2018	2017
Net turnover	74,139,004	110,760,209	114,778,604	110,649,516	104,939,286
Net income	2,178,141	4,399,820	6,381,538	7,633,397	5,853,628

Source: SABI.

3- PIKOLINO'S INTERCONTINENTAL SA VALUATION

As mentioned before, the method we are going to apply in order to calculate our company's value is the discounted free cash flow method (DFCF). The first step is to forecast the future values of the variables that are needed for making the prediction of the future free cash flows (FCF). The accounting information needed to calculate them was obtained from the income statements and the balance sheets available in SABI, being 2021 the last year there is accounting data available of Pikolino in SABI. Following a process that will be explained in detail later, we will be able to forecast the free cash flows (FCFs) from the next 5 periods (2022-2026). We therefore set a time horizon of 5 years, which is the standard in practice for companies at this maturity stage.

Once those predicted future cash flows are obtained, and to come into the valuation of the company, we have to get its residual value, due to the assumption that the company will continue with its operating activities after the 5 year time horizon. This residual value is calculated at the end of the last forecasted period (2026), making the supposition that the life of the company in the future will be unlimited. Then, both the future cash flows and the residual value of the firm must be discounted to the beginning of the year 2022. This date is used because the last accounting information available utilized for predicting the FCFs is from 2021, and the first foresighted FCF is from 2022. Accordingly, the valuation is made at the beginning of 2022. For discounting the FCFs the Weighted average cost of capital (WACC) is used. All the calculations and decisions that have been taken in order to reach the value of the corporation will be explained in detail in the following sub-sections.

3.1 Future Free Cash Flows

The FCFs represent the ability of a business to repay cash to its creditors and interests and dividends to its shareholders (De Toro Cabello, 2014). It is also used as an indicator to assess the financial health of companies. As indicated in this paper the FCFs of the next years are predicted (from 2022 to 2026). Figure 4 shows the steps I followed to reach them.

Figure 4. Free cash flow method

(+) Net turnover
(-) Supplies
(+) Other turnover
(-) Personnel expenses
(-) Other operating costs
(-) Amortization and depreciation
(+) Other results
EARNINGS BEFORE INTERESTS AND TAXES (EBIT)
(-) Taxes
EARNINGS AFTER TAXES (EAT)
(+) Allocation for amortization and depreciation
(-) Net working capital increase
(-) Net investments in fixed assets
FREE CASH FLOW

Source: Own elaboration.

For the sake of forecasting the amounts of those intermediate variables for the next 5 years, we had to take the values of a number of past seasons and analyze their recent trends. The methodology used is the average yearly variation method. Initially, I considered taking the last 5 periods (2017-2021), setting the same time horizon of past data as the one set for projections. However, when taking a closer look at the accounting data from the year 2021, I observe that it has been especially bad for the company, surely due to the covid-19 pandemic. For Pikolino's Intercontinental S.A. as for most companies worldwide, 2020 and 2021 turned out to be really hard years. Hence, the negative data observed from 2021 distorts the tendency of the company over the last years in a way that I do not consider representative of the performance of the business over the last periods. That is why I decided to not include 2021, in order to calculate the average yearly variation of the variables in Figure 4. As computing the average yearly variation of the

last four periods seemed a bit scarce to me I decided to include another three past periods, hence from 2014 to 2016.

So, as a general norm, the average yearly variation of these intermediate accounts was reached by taking the data from the stretch from 2014 to 2020. For the first prediction (the year 2022) we multiplied the value of the last available year (2021) by the average yearly variation of that variable over the period 2014 to 2020 and for further years (2023-2026) we multiplied this very same variation by the prediction of the immediately prior year. However, as we will observe in the following tables, there are a couple of variables (other turnover and other results) that needed an alternative treatment, due to the large shifts suffered during the last years.

Now, the calculation procedure followed to estimate the projections for each of the intermediate variables that make up the FCFs is explained.

- ***Net turnovers:*** Table 8 shows the predicted net turnover for the period (2022-2026), using the 8.05% average variation calculated from data from 2014 to 2020. As we can observe, the variation from the period 2020 to 2021 distorts significantly the average variation (changes from 8.05% to 2.17%).

Table 8. Prediction of future net turnovers (2022-2026).

Past data		Variation	Forecast	
2014	70,494,628		2022	**80,104,094**
2015	81,910,296	16.19%	2023	**86,549,125**
2016	94,318,846	15.15%	2024	**93,512,711**
2017	104,939,286	11.26%	2025	**101,036,574**
2018	110,649,516	5.44%	2026	**109,165,794**
2019	114,778,604	3.73%		
2020	110,760,209	-3.50%		
2021	74,139,004	-33.06%		
	Average (2014-2021)	2.17%		
	Average (2014-2020)	8.05%		

Source: Own elaboration. Data was obtained from SABI.

- ***Supplies:*** Table 9 shows the predicted supplies for the period (2022-2026). As we can observe, the variation from the period 2020 to 2021 distorts once again significantly the average variation (changes from 7.61%% to -0.27%).

Table 9. Prediction of Supplies (2022-2026)

Past data		Variation	Forecast	
2014	-49,928,634		2022	**-43,551,974**
2015	-53,791,201	7.74%	2023	**-46,866,615**
2016	-61,356,946	14.07%	2024	**-50,433,525**
2017	-65,177,978	6.23%	2025	**-54,271,905**
2018	-70,085,201	7.53%	2026	**-58,402,415**
2019	-69,700,504	-0.55%		
2020	-77,127,663	10.66%		
2021	-40,471,761	-47.53%		
	Average (2014-2021)	-0.27%		
	Average (2014-2020)	7.61%		

Source: Own elaboration. Data was obtained from SABI.

- ***Other turnover:*** In order to predict future values of other turnover I followed a different approach, since, as we can see in Table 10, there is a lot of dispersion in the annual variations from 2014 to 2020.

Table 10. Yearly variation and past values for the variable Other turnover from 2014 to 2021.

	2021	2020	2019	2018	2017	2016	2015	2014
Other turnover	220,199.90	400,746.15	840,664.45	291,784.51	438,510.86	433,833.47	739,800.43	748,699.72
Variation	-45.05%	-52.33%	188.11%	-33.46%	1.08%	-41.36%	-1.19%	

Source: Own elaboration. Data was taken from SABI.

As an alternative, we do the following. First, I calculated the average yearly proportion of this variable in relation to net turnover for the period 2014 to 2020. Afterwards, I multiplied the previously calculated forecasts of net turnover for the period 2022 to 2026 calculated in Table 8 by the average yearly proportion of 0.60% we just calculated. Table 11 summarizes this process.

Table 11. Other turnover forecast for the period 2022-2026.

Past data				Forecast		
Year	Net turnover **(1)**	Other turnover **(2)**	2/1 (%)	Year	Net turnover	Other turnover
2014	70,494,628	748,700	1.06%	2022	80,104,094	**480,742**
2015	81,910,296	739,800	0.90%	2023	86,549,125	**519,421**
2016	94,318,846	433,833	0.46%	2024	93,512,711	**561,213**
2017	104,939,286	438,511	0.42%	2025	101,036,574	**606,367**
2018	110,649,516	291,785	0.26%	2026	109,165,794	**655,154**
2019	114,778,604	840,664	0.73%			
2020	110,760,209	400,746	0.36%			
2021	74,139,004	220,200	0.30%			
Average (2014-2021)			0.56%			
Average (2014-2020)			0.60%			

Source: Own elaboration. Data was taken from SABI.

-***Personnel expenses:*** Table 12 shows the predicted personnel expenses for the period (2022-2026). As we can observe, although less than in previous variables the variation from the period 2020 to 2021 distorts once again significantly the average variation (changes from 6.09%% to 4.07%).

Table 12. Prediction of Personnel expenses (2022-2026)

Past data		Variation	Forecast	
2014	-3,871,715		2022	**-5,293,466**
2015	-3,836,459	-0.91%	2023	**-5,616,004**
2016	-4,561,040	18.89%	2024	**-5,958,196**
2017	-5,234,309	14.76%	2025	**-6,321,237**
2018	-5,505,134	5.17%	2026	**-6,706,399**
2019	-5,599,166	1.71%		
2020	-5,427,794	-3.06%		
2021	-4,989,451	-8.08%		
	Average(2014-2021)	4.07%		
	Average (2014-2020)	6.09%		

Source: Own elaboration. Data was obtained from SABI.

-***Other operating costs:*** Initially I applied the usual methodology of the average variation used in most of the previous variables. However, the yearly average variation (11.95%) was too high or this item compared to the average variation previously obtained for net turnover (8.05%) and supplies (7.61%), which would distort the forecast of the future free cash flows (see Table 13).

Table 13. Discarded forecast of other operating costs.

	2021	2020	2019	2018	2017	2016	2015	2014
Discarded other operating costs	-19,233,279	-29,427,143	-28,839,810	-28,378,011	-25,591,346	-22,365,955	-17,601,334	-15,215,074
Variation	-34.64%	2.04%	1.63%	10.89%	14.42%	27.07%	15.68%	

Source: Own elaboration. Data was taken from SABI.

Instead, I decided to calculate the average yearly proportion of this variable in relation to the item supplies for the period 2014 to 2020. Afterwards, I multiplied the previously calculated forecasts of supplies for the period 2022 to 2026 (reported in Table 9) by the average yearly proportion of 36.99% we just calculated. Table 14 summarizes this process.

Table 14. Prediction of other operating costs (2022-2026)

Past data				Forecast		
Year	Supplies **(1)**	Other operating costs **(2)**	2/1 (%)	Year	Supplies	Other operating costs
2014	-49,928,634	-15,215,074	30.47%	2022	-43,551,974	**-16,110,032**
2015	-53,791,201	-17,601,334	32.72%	2023	-46,866,615	**-17,336,130**
2016	-61,356,946	-22,365,955	36.45%	2024	-50,433,525	**-18,655,543**
2017	-65,177,978	-25,591,346	39.26%	2025	-54,271,905	**-20,075,373**
2018	-70,085,201	-28,378,011	40.49%	2026	-58,402,415	**-21,603,264**
2019	-69,700,504	-28,839,810	41.38%			
2020	-77,127,663	-29,427,143	38.15%			
2021	-40,471,761	-19,233,279	47.52%			
Average (2014-2021)			38.31%			
Average (2014-2020)			36.99%			

Source: Own elaboration. Data was obtained from SABI.

-Depreciation and amortization: Table 15 shows the predicted depreciation and amortization for the period (2022-2026). Although this time the variation from the last year does not influence the average variation much, I decided to leave it behind, in order to be consistent with previous items.

Table 15. Prediction of amortization and depreciation (2022-2026)

Past data		Variation	Forecast	
2014	-559,334		2022	**-1,088,158**
2015	-550,932	-1.50%	2023	**-1,177,580**
2016	-503,750	-8.56%	2024	**-1,274,352**
2017	-583,859	15.90%	2025	**-1,379,076**
2018	-768,737	31.66%	2026	**-1,492,406**
2019	-891,531	15.97%		
2020	-854,375	-4.17%		
2021	-1,005,525	17.69%		
	Average (2014-2021)	9.57%		
	Average (2014-2020)	8.22%		

Source: Own elaboration. Data was obtained from SABI.

Other results: The prediction of other results is done using the same methodology as in other turnover and other operating costs. As we can observe in Table 16, there is a lot of dispersion in the annual variations from 2014 to 2020.

Table 16. Yearly variation and past values for the variable Other results from 2014 to 2021.

	2021	2020	2019	2018	2017	2016	2015	2014
Other results	35,037.00	131,465.35	641,920.03	22,653.72	20,330.54	33,706.89	63,591.97	111,646.45
Variation	-73.35%	-79.52%	2733.62%	11.43%	-39.68%	-47.00%	-43.04%	

Source: Own elaboration. Data was taken from SABI.

As an alternative, once again we do the following. First, I calculated the average yearly proportion of this variable in relation to net turnover for the period 2014 to 2020. Afterwards, I multiplied the previously calculated forecasts of net turnover for the period 2022 to 2026 (reported in Table 8) by the average yearly proportion of 0.14% we just calculated. Table 17 summarizes this process.

Table 17. Forecast of other results for the period 2022-2026.

Past data				Forecast		
Year	Net turnover **(1)**	Other results **(2)**	2/1 (%)	Year	Net turnover	Other results
2014	70,494,628	111,646	0.16%	2022	80,104,094	**113,239**
2015	81,910,296	63,592	0.08%	2023	86,549,125	**122,351**
2016	94,318,846	33,707	0.04%	2024	93,512,711	**132,195**
2017	104,939,286	20,331	0.02%	2025	101,036,574	**142,831**
2018	110,649,516	22,654	0.02%	2026	109,165,794	**154,323**
2019	114,778,604	641,920	0.56%			
2020	110,760,209	131,465	0.12%			
2021	74,139,004	35,037	0.05%			
Average (2014-2021)			0.13%			
Average (2014-2020)			0.14%			

Source: Own elaboration. Data was taken from SABI.

- ***Earnings before interests and taxes (EBIT):*** After having computed previous predictions we arrived to the earnings before interests and taxes, which is a company's net income before tax and interest expenses. Table 18 shows the process just mentioned.

Table 18. Prediction of EBIT for the period 2022-2026

	2022	2023	2024	2025	2026
Net turnover	80,104,094	86,549,125	93,512,711	101,036,574	109,165,794
Supplies	-43,551,974	-46,866,615	-50,433,525	-54,271,905	-58,402,415
Other turnover	480,742	519,421	561,213	606,367	655,154
Personnel expenses	-5,293,466	-5,616,004	-5,958,196	-6,321,237	-6,706,399
Other operating costs	-16,110,032	-17,336,130	-18,655,543	-20,075,373	-21,603,264
Amortization and depreciation	-1,088,158	-1,177,580	-1,274,352	-1,379,076	-1,492,406
Other results	113,239	122,351	132,195	142,831	154,323
EBIT	**14,654,446**	**16,194,568**	**17,884,503**	**19,738,181**	**21,770,787**

Source: Own elaboration.

- ***Taxes:*** Once the variable EBIT has been estimated, we must calculate taxes, for which we need to determine the company's tax rate. Instead of automatically applying the Spanish tax rate for companies of this volume of operations, 25%, I decided to assess the effective rate paid by Pikolino's Intercontinental SA. For that, I divided the amount of taxes paid by the company by the earnings before taxes (EBT) of the respective year of the 7 year period from 2014 to 2020, and compute the average tax rate. This rate was

applied to predict the amount of taxes paid over future periods. Table 19 reflects the calculus of the effective tax rate (25.75%), which is very similar to the Spanish rate.

Table 19, Computation of the effective tax rate and future tax payments prediction.

Past data				Forecast		
Year	Earnings before taxes **(1)**	Taxes **(2)**	2/1 (%)	Year	EBIT	Taxes
2014	4,098,783	-1,131,344	-27.60%	2022	14,654,446	**-3,772,872**
2015	5,966,809	-1,783,078	-29.88%	2023	16,194,568	**-4,169,385**
2016	9,478,360	-2,753,288	-29.05%	2024	17,884,503	**-4,604,469**
2017	7,334,197	-1,480,569	-20.19%	2025	19,738,181	**-5,081,709**
2018	9,621,236	-1,987,839	-20.66%	2026	21,770,787	**-5,605,015**
2019	8,364,665	-1,983,128	-23.71%			
2020	6,208,219	-1,808,399	-29.13%			
2021	2,912,329	-734,188	-25.21%			
Average (2014-2021)			-25.68%			
Average (2014-2020)			**-25.75%**			

Source: Own elaboration. Data was taken from SABI.

- ***Earnings after taxes (EAT):*** Once taxes have been estimated, we proceed to calculate after-tax profits. Table 20 shows the results.

Table 20. Prediction of earnings after taxes.

	2022	2023	2024	2025	2026
Earnings before interests and taxes (EBIT)	14,654,446	16,194,568	17,884,503	19,738,181	21,770,787
Taxes	-3,772,872	-4,169,385	-4,604,469	-5,081,709	-5,605,015
Earnings after taxes (EAT)	**10,881,574**	**12,025,183**	**13,280,034**	**14,656,472**	**16,165,772**

Source: Own elaboration.

At this point, to obtain the projected FCFs following the scheme in Figure 4 we only have to calculate the projections of the net working capital increase.

- ***Net working capital (NWC):*** The net working capital is given by:

$$NWC = \text{Accounts receivable} + \text{Inventory} - \text{Accounts payable}.$$

It shows the difference between a company's current assets and current liabilities. It is a measure of a company's liquidity and financial health. Positive net working capital means that the company is able to fund its current activities and invest in future opportunities.

Below, the computation of each of the three items involved in the NWC, accounts receivable, inventory and accounts payable, is detailed. To calculate the average variation

and to be consistent with previous forecasts we left behind the variation of 2021 in the three variables just mentioned.

- *Accounts receivable:* Table 21 shows the forecast for the item accounts receivable for the period from 2022 to 2026.

Table 21. Prediction of accounts receivable for the period 2022-2026.

Past data		Variation	Forecast	
2014	14,200,835		2022	**16,284,553**
2015	14,886,603	4.83%	2023	**17,257,450**
2016	16,103,813	8.18%	2024	**18,288,472**
2017	18,085,837	12.31%	2025	**19,381,091**
2018	18,685,968	3.32%	2026	**20,538,987**
2019	21,638,005	15.80%		
2020	19,780,675	-8.58%		
2021	15,366,503	-22.32%		
	Average (2014-2021)	1.93%		
	Average (2014-2020)	5.97%		

Source: Own elaboration. Data was taken from SABI.

- *Inventory:* Table 22 shows the forecast for the item inventory for the period from 2022 to 2026.

Table 22. Prediction of inventory for the period 2022-2026.

Past data		Variation	Forecast	
2014	13,425,596		2022	**23,058,274**
2015	12,591,311	-6.21%	2023	**26,075,721**
2016	16,901,016	34.23%	2024	**29,488,038**
2017	16,735,331	-0.98%	2025	**33,346,896**
2018	19,803,147	18.33%	2026	**37,710,731**
2019	19,160,235	-3.25%		
2020	26,134,384	36.40%		
2021	20,390,001	-21.98%		
	Average (2014-2021)	8.08%		
	Average (2014-2020)	13.09%		

Source: Own elaboration. Data was taken from SABI.

- *Accounts payable:* Table 23 shows the forecast for the item accounts payable for the period from 2022 to 2026.

Table 23. Prediction of accounts payable for the period 2022-2026.

Past data		Variation	Forecast	
2014	4,594,912		2022	**9,610,516**
2015	4,779,099	4.01%	2023	**10,976,048**
2016	9,212,045	92.76%	2024	**12,535,606**
2017	10,095,604	9.59%	2025	**14,316,756**
2018	9,296,746	-7.91%	2026	**16,350,986**
2019	7,093,311	-23.70%		
2020	7,838,795	10.51%		
2021	8,414,870	7.35%		
	Average (2014-2021)	13.23%		
	Average (2014-2020)	14.21%		

Source: Own elaboration. Data was taken from SABI.

Finally, Table 24, shows the prediction of the net working capital and its increase for future periods.

Table 24. Prediction of net working capital and its increase for the period 2022-2026.

	Accounts receivable	Inventory	Accounts payable	Net working capital	**Net working capital increase**
2022	16,284,553	23,058,274	9,610,516	29,732,311	**2,390,676**
2023	17,257,450	26,075,721	10,976,048	32,357,123	**2,624,813**
2024	18,288,472	29,488,038	12,535,606	35,240,904	**2,883,781**
2025	19,381,091	33,346,896	14,316,756	38,411,231	**3,170,326**
2026	20,538,987	37,710,731	16,350,986	41,898,732	**3,487,502**

Source: Own elaboration.

- Increase in new investments/Allocation for amortization and depreciation: Finally, to obtain the predictions of future FCLs, we only need to include the net increase in fixed assets and the allocation for amortization and depreciation for the corresponding period. It should be remembered that we are assuming the principle that the company invests only to replace what has been depreciated or amortized. This means the business will maintain its current size over the next few years. So, the value of increase in new investments will be the same as the allocation for depreciation and amortization (previously estimated in Table 15) but with a negative sign.

Therefore, we have already forecasted the values of all intermediate accounts, so we are ready to obtain the prediction of the free cash flows for the years 2022 to 2026. Table 25 reports the values. As we can observe, the future FCFs represent approximately 10% of net turnover. Also, we can notice their upward tendency, increasing at a yearly rate of around 10%, being around 8.5 million € in 2022 and reaching almost 13 million € in 2026.

Table 25. Forecast of FCFs for the period 2022-2026.

	2022	2023	2024	2025	2026
Net turnover	80,104,094	86,549,125	93,512,711	101,036,574	109,165,794
Supplies	-43,551,974	-46,866,615	-50,433,525	-54,271,905	-58,402,415
Other turnover	480,742	519,421	561,213	606,367	655,154
Personnel expenses	-5,293,466	-5,616,004	-5,958,196	-6,321,237	-6,706,399
Other operating costs	-16,110,032	-17,336,130	-18,655,543	-20,075,373	-21,603,264
Amortization and depreciation	-1,088,158	-1,177,580	-1,274,352	-1,379,076	-1,492,406
Other results	113,239	122,351	132,195	142,831	154,323
EBIT	**14,654,446**	**16,194,568**	**17,884,503**	**19,738,181**	**21,770,787**
Taxes	-3,772,872	-4,169,385	-4,604,469	-5,081,709	-5,605,015
Earnings after taxes (EAT)	**10,881,574**	**12,025,183**	**13,280,034**	**14,656,472**	**16,165,772**
Allocation for amortization and depreciation	1,088,158	1,177,580	1,274,352	1,379,076	1,492,406
Net working capital increase	-2,390,676	-2,624,813	-2,883,781	-3,170,326	-3,487,502
Net investments in fixed assets	-1,088,158	-1,177,580	-1,274,352	-1,379,076	-1,492,406
Free cash flow	**8,490,898**	**9,400,370**	**10,396,254**	**11,486,146**	**12,678,271**

Source: Own elaboration

3.2 Weighted average cost of capital (WACC)

The weighted average cost of capital is used for discounting the future cash flows into the present. This method represents a firm's cost of capital where the different sources of financing (both internal and external) are proportionally weighted. To arrive at the WACC, first, we have to compute the proportion of debt and equity in the capital structure of the business. When calculating the debt, we will exclude the creditors and suppliers that do not have any extra costs associated with it. In theory, the cost of equity will be greater than the cost of external financing since shareholders will ask for at least the same rate of return as the interest paid for external debt. Below, the formula and the different components to arrive to the WACC are shown:

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

where:

E= Equity

D= Debt

ke= Cost of equity

kd= Cost of debt

t= Tax rate

The interests generated by the cost of debt (kd) are tax deductible and that's why it is multiplied by (1-t).

We then proceed to obtain each of the elements involved in the WACC formula.

- ***Capital structure of the company:*** First things first, we need to obtain the capital structure of the company. For that, we take a look at the balance sheet of the business over the last 5 periods (2017-2021) and compute the average proportion of debt and equity in the capital structure. Table 26 shows the process.

Table 26. Capital structure of the business

	2021	2020	2019	2018	2017	Average
Equity	32,514,174	36,836,034	40,946,214	40,133,956	43,936,719	
Debt (excluding creditors and suppliers)	24,421,646	40,416,773	18,894,281	15,015,603	8,079,647	
D+E	56,935,821	77,252,807	59,840,495	55,149,560	52,016,366	
D/E	0.75	1.10	0.46	0.37	0.18	0.574
E/(E+D)	**0.57**	**0.48**	**0.68**	**0.73**	**0.84**	**0.661**
D/(E+D)	**0.43**	**0.52**	**0.32**	**0.27**	**0.16**	**0.339**

Source: Own elaboration. Data was taken from SABI.

- ***The cost of debt:*** We computed the average yearly cost of debt for the period from 2014 to 2021, by dividing the interest expense by the debt of each year and then, compute the average (see Table 27). The value obtained is kd = 0.725%, which means the company paid on average an interest rate of 0.725% during the last 8 years to its external financing sources. As shown in Table 27, initially I calculated the average cost of debt taking data of the last 5 years (2017-2021). However, we considered the average rate (0.46%) to be too low. Taking into account more past years increases the cost of debt somewhat, although it remains low.

Table 27. Calculation of the average cost of debt

	2021	2020	2019	2018	2017	2016	2015	2014	Avg (2017-2021)	Avg (2014-2021)
Interest expense	-187,894	-141,982	-52,653	-29,583	-56,941	-75,084	-131,568	-176,742		
Debt (excluding cred./sup.)	24,421,646	40,416,773	18,894,281	15,015,603	8,079,647	13,146,860	10,382,387	10,662,039		
Kd	0.769%	0.351%	0.279%	0.197%	0.705%	0.571%	1.267%	1.658%	0.460%	**0.725%**

Source: Own elaboration.

- ***The cost of equity:***

The cost of equity is determined the following way:

$$Ke = Rf + (Rm - Rf) * \beta\text{Pikolino}$$

where:

Rf = Risk-free rate

Rm = Market rate

βPikolino = Proxy of the volatility of the shares of the company.

Risk-free rate

As can be seen, first we need to estimate the profitability offered by risk-free assets. We considered the Spanish 10 year government bond as a good representative for the rate offered by risk-free assets. For that, we looked in investing.com the annualized daily profitability offered by this bond during the last 5 years we have information from the annual accounts of Pikolino's Intercontinental SA, hence from the 01/01/2017 to 31/12/2021, and calculate the average of these daily returns. So, the rate obtained and that we will take as representative for the return offered by the risk-free assets is the following,

Rf = 0.89%

Market rate

For obtaining the average rate offered by the market, and in order to be consistent with the calculus of the risk-free rate, we used the annualized daily market return over the last 5 years there is accounting information for our company (01/01/2017 and 31/12/2021). We take the IBEX 35 index as the proxy for the Spanish equity market. The rate obtained will serve as representative for the return offered by the market:

Rm = 7.29%

Market risk premium

Once we have obtained the risk-free rate and the market-rate, we can compute the market risk premium. In finance, the risk premium of an asset is defined as the expected yield of an investment in that asset, in excess of the risk-free rate of return (Acharyya, 2001). The higher the risk of an asset, the higher its risk premium:

Market risk premium = market rate – risk free rate

Market risk premium = 7.29% - 0.89% = **6.40%**

The beta of the company

The β of a company measures the volatility of its stocks compared to the volatility of the market they trade in. A β score higher than 1.0 means that the price of the stocks is more volatile than the index they trade in and the other way around.

Since Pikolino's Intercontinental SA is not a public company and hence is not listed on the Spanish stock market to calculate its β we need to take further steps:

(1) *β sector:*

First, we have to reach the β of the sector our company belongs to. To do so, we look for the CNAE code of the business, which is 4642, belonging to the wholesale trade of clothing and footwear. Then, amongst the companies listed on the Spanish stock market, we look for those with the same CNAE code. It emerges that there is just one public company with that same code: Industria de Diseño Textil, S.A. more known as "Inditex".

So, we will take the β of Inditex as a proxy for the β of the sector, although making some adjustments. The formula to calculate the β is the following one:

$$\beta\ Sector = \frac{Cov\ (Rm, Rsector)}{Var(Rm)}$$

Now, for the purpose of calculating the covariance between the Ibex 35 index and the listed company (Inditex), we need to obtain the daily returns of Inditex. With that purpose, we go to the investing web-page and download the daily closing prices (adjusted for dividends and splits) of its shares, for the last 5 years there is accounting data for Pikolino (01/01/2017-31/12/2021), to be consistent with the time-frame used for calculating the risk-free rate and the market rate. Once the daily returns of Inditex have been calculated, we proceed to calculate the covariance of these returns with the returns of the Ibex 35 and the variance of the returns of the Ibex 35, in order to finally obtain the beta of Inditex. Table 28 shows the results. Inditex's beta takes a value equal to 0.175.

Table 28. Calculation of the β of Inditex.

Cov (Rm,Rsector)	Var (Rm)	β Sector
1.62	9.23	**0.175**

Source:Own elaboration. Data was taken from Investing.

(2) *Deleveraged β sector:*

The next step is to compute the sector's deleveraged beta, which measures the risk of Inditex (as a proxy for the risk of the sector) as if they do not have any degree of financial leverage. In this way we eliminate the leverage risk and are left with only the business

risk (financial risk). To that end, we use the Hamada expression given by (S. Hamada, 1972):

$$\text{Sector's deleveraged } \beta = \beta \text{ Sector} / \left(1 + (1 - t_{sector}) * \left(\frac{D}{E}\right)_{sector}\right)$$

As we can observe in the formula, we need to get information about the capital structure and the effective tax rate of Inditex. The data needed was taken once again from SABI, and the initial idea was to compute both "D/E" and "t" the very same way we did with Pikolino, however, the unusual low effective tax rate of Inditex made me introduce some changes. Table 29 shows the approach I later on discarded, to calculate the tax rate of Inditex, calculated as the average tax rate of Inditex during the last 5 accounting periods (from 2017 to 2021). As we can observe, the effective tax rate of Inditex using this methodology is extremely low (t=2.38%).

Table 29. Discarded approach to Inditex's tax rate.

	2021	2020	2019	2018	2017	Avg
EBIT	2,890	10,404	10,466	2,484	2,408	
Taxes	33	14	-85	-109	-192	
Tax rate	-1.14%	-0.13%	0.81%	4.39%	7.98%	**2.38%**

Source: Own elaboration. Data was obtained from SABI.

Instead, I decided to use the general tax rate applied in Spain to companies of this size. Therefore, $\mathbf{t_{sector}}$ **=25%.** Given that the decision of taking the general Spanish tax rate of 25% was made by me, in the following sections a sensitivity analysis will be made concerning this rate.

On the other hand, Table 30 shows that the debt to equity proportion of Inditex is 0.557, calculated as the average D/E ratio of the last 5 years available in SABI.

Table 30. Capital structure of Inditex

	2021	2020	2019	2018	2017	Avg
Equity	21,718	19,903	12,162	3,942	3,698	
ST debt	2,166	2,748	2,403	3,240	3,632	
LT debt	481	523	655	789	898	
Total debt	2,647	3,271	3,058	4,029	4,530	
D/E	0.12	0.16	0.25	1.02	1.22	**0.557**

Source: Own elaboration. Data was taken from SABI.

Thus, the sector's unleveraged beta is equal to:

$$Sector's\ deleveraged\ \beta\ = \frac{0.175}{(1 + (1 - 0.25) \times 0.557)} = \mathbf{0.124}$$

(3) *β Pikolino:*

Now, we can proceed and obtain the β of our business. To do so, we apply Hamada's expression again, adding in this case the effect of Pikolino's debt. The formula is the following one:

$$\beta\ \text{Pikolino} = \ \text{Sector's deleveraged}\ \beta\ \times (1 + (1 - \text{t}) \times (\text{D/E}))$$

$$\beta\ \text{Pikolino} = 0.124 \times \big(1 + (1 - 0.2575) \times (0.574)\big) = \mathbf{0.176}$$

It should be recalled that the data for the tax rate (25.75%) and D/E ratio (57.4%) were previously calculated and are shown in Tables 19 and 30 respectively. This means that if they were to trade in the Spanish equity market, the stocks of Pikolino would be far less volatile than the index. Since the values of both the D/E ratio and the tax rate t are very similar for the two companies, the beta obtained for the unlisted company is almost the same as that of the listed company.

Cost of equity:

We now have all the data to calculate the cost of equity of our unlisted company:

$$Ke = Rf + (Rm - Rf) \times \beta\text{Pikolino}$$

$$Ke = 0.0089 + (0.0729 - 0.0089) \times 0.176 = \ 0.0202 = \mathbf{2.02}\%$$

As mentioned, the result is quite logic since the rate asked by the shareholders (ke=2.02%) is bigger than the interests paid to the external financing sources (kd=0.725%). Both the cost of equity and the cost of debt are very low. In the following sections, a sensitivity analysis will be done regarding these rates.

Computation of the WACC

At this moment we have made all the intermediate steps for being able to compute the WACC. Going back to its formula,

$$WACC = Ke \times (E \div (E + D)) + Kd \times ((1 - t) \times D \div (E + D))$$

$$WACC = 0.0202 \times 0.661 + 0.00725 \times (1 - 0.2575) \times 0.339 = \mathbf{1.516}\%$$

The WACC is a percentage between both the cost of debt and the cost of equity. Providing that both of them are very low, the WACC, as expected, also turns to be quite little. This is very unlikely, since both creditors and especially shareholders can be expected to demand a higher return on their investment.

3.3 Residual Value

The residual value of Pikolino's Intercontinental S.A. is calculated as of the year 2026, assuming the infinite life of the business. The formula used is the following,

$$Residual\ Value = \big(FCFn \times (1 + g)\big) \div (WACC - g)$$

where,

FCFn = Free cash flow of the year 2026

g = Growth rate of the company

WACC = Weighted average cost of capital

The first step is to predict the growth rate of the company over the next years, which is calculated by the following formula:

g = (Net working capital increase + Net investment in fixed assets)$_{2026}$/Net assets$_{2026}$

Before, we made the assumption that the firm only invests to replace what has been depreciated or amortized. Hence, the net investment in fixed assets equals 0. So, the growth rate of the company will be equal to,

$$g = Net\ working\ capital\ increase / Net\ assets$$

where,

Net assets = total assets - costless debt

Net assets = 68,261,627 – 11,304,868 = <u>56,956,760</u>

In the case of the net working capital increase instead of taking the variation of the last available year (from 2020 to 2021), I decided to take the last 5 average yearly variation,

hence, period from 2016 to 2021. The reason behind it is that the variation of the former option was very negative. Table 31 shows this approach,

Table 31. Approach to the variation in the net working capital increase

	2020-2021	2019-2020	2018-2019	2017-2018	2016-2017	Avg (2017-2021)
Net working capital increase	-10,734,630	4,371,335	4,512,560	4,466,806	932,780	**709,770**

Source: Own elaboration.

Then, the growth rate of the company is;

$$g = 709{,}770 \div 56{,}956{,}760 = \underline{1.246\%}$$

The growth rate obtained (g=1.246%) is realistic. It is positive and a little bit lower than the weighted average cost of capital rate (WACC=1.516%), which enables us to have a proper residual value. In the next sections, we will perform another sensitivity analysis regarding the estimated growth rate of Pikolino (g).

The math of the residual value now is straightforward:

RV = 12,678,271*(1+1.246%)/(1.516% - 1.246%)=**4,764,981,038**

Then, after having forecasted the free cash flows for the next five years (2022 to 2026) and the residual value at the end of this same period, the next step is to bring up these values to the present time. For that, we will use the weighted average cost of capital we just obtained. Table 32 shows the discount of these values just mentioned.

Table 32. Discounted FCF and Residual value of the company

	2022	2023	2024	2025	2026	Residual Value
FCFs and Residual Value	**8,490,898**	**9,400,370**	**10,396,254**	**11,486,146**	**12,678,271**	**4,764,981,038**
Discounted FCFs and Residual Value	**8,364,136**	**9,121,786**	**9,937,548**	**10,815,439**	**11,759,729**	**4,419,757,611**

Source: Own elaboration.

3.4 Valuation of the company

The value of the Pikolino's Intercontinental S.A. at the beginning of 2021 is just to add both the discounted FCF predictions of the next 5 years and the discounted residual value;

$$Value\ of\ the\ company = \sum_{t=2022}^{2026} \frac{FCF_{t-2021}}{(1+WACC)^{t-2021}} + \frac{RV}{(1+WACC)^{2026-2021}}$$

= 8,364,136+9,121,786+9,937,548+10,815,439+11,759,729+4,419,757,611=

4,469,756,248

As we can perceive Pikolino is a high-value company, with an estimated value of 4,469,756,248 €. The residual value of the company represents most of the value of the company (98.88%) which is very common in companies that have been operating for a long period of time.

4- SENSITIVITY ANALYSIS

In the following section, we will perform a sensitivity analysis, by changing some predictions of the intermediate variables we used to arrive at the value of the company. In this way, we will analyze how the value of the business variates by changing the values of the intermediate variables. When conducting business or assessing the profitability of an investment, sensitivity analysis is very useful. It helps understand which are the main factors affecting the value of the asset being analyzed, reduces the uncertainty of the investment, and helps achieve the profit goals set for the transaction.

Here, we will complete a sensitivity analysis by making three modifications, one at a time. Throughout the paper, I mentioned which were the variables I am going to modify during this analysis: The tax rate of Inditex, the cost of debt and the cost of equity, and the growth rate of the company in this particular order. During the next sub-sections, I will also explain the reasoning behind these decisions.

4.1 Tax rate of Inditex

As we showed before in Table 29 the average effective tax rate of Inditex during the last years is extremely and unusually low, so, I decided to use the general Spanish tax rate for companies of this size (25%). Taking into account the disparity between the Spanish tax rate and the effective tax rate of Inditex, I reckon this variable deserves at least a sensitivity analysis to see how the changes in this rate affect the valuation of the company. Therefore, I will use an intermediate rate, of 15%, and see how this affects the value of the company. All the steps and formulas are the same as in the previous section.

First things first, neither the β or the capital structure of Inditex are altered by this change on its tax rate. On the contrary, by recalling the formula of the deleveraged β, we realized that it changes:

$$\text{Sector's deleveraged } \beta = \beta \text{ Sector} / \left(1 + (1 - t_{sector}) * \left(\frac{D}{E}\right)_{sector}\right)$$

$$Sector's\ deleveraged\ \beta\ = \frac{0.175}{(1 + (1 - 0.15) \times 0.557)} = \mathbf{0.119}$$

Therefore, we recall the formula of the β of Pikolino, which as we observe it is affected by the change of the sector's deleveraged β.

$$\text{B Pikolino} = \text{ Sector's deleveraged } \beta \times (1 + (1 - t) \times (D/E))$$

$$\beta \text{ Pikolino} = 0.119 \times \left(1 + (1 - 0.2575) \times (0.574)\right) = \mathbf{0.170}$$

As a consequence, the change in the β of the company will alter the cost of equity of Pikolino, and subsequently, this will adjust the weighted average cost of capital. Starting with the formula of the cost of equity (Ke):

$$Ke = Rf + (Rm - Rf) \times \beta\text{Pikolino}$$

$$Ke = 0.0089 + (0.0729 - 0.0089) \times 0.170 = \ 0.0197 = \mathbf{1.97}\%$$

And the decrease of the cost of equity itself decreases the WACC:

$$WACC = Ke \times (E \div (E + D)) + Kd \times ((1 - t) \times D \div (E + D))$$

$$WACC = 0.0197 \times 0.661 + 0.00725 \times (1 - 0.2575) \times 0.339 = \mathbf{1.487}\%$$

Looking at the formula of the residual value, we notice that the decrease we just computed in the WACC, will increase the residual value of the company. Recall,

$$Residual\ Value = \left(FCFn \times (1 + g)\right) \div (WACC - g)$$

RV = 12,678,271*(1+1.246%)/(1.487% - 1.246%)= **5,321,404,367**

The decrease just mentioned in the weighted average cost of capital rate (or discount rate) will not only increase the forecast of the value of the company by increasing its residual value, but also by decreasing the discount rate of the free cash flows and the residual value itself. Table 33 shows the discounted FCFs and the discounted residual value, assuming a tax rate of Inditex of 15%.

Table 33. Discounted FCF and Residual value of the company changing the tax rate of Inditex

	2022	2023	2024	2025	2026	Residual Value
FCFs and Residual Value	8,490,898	9,400,370	10,396,254	11,486,146	12,678,271	5,321,404,367
Discounted FCFs and Residual Value	8,366,458	9,126,850	9,945,825	10,827,451	11,776,057	4,942,721,610

Source: Own elaboration.

The value of the company, once again is just to add the discounted FCF's and discounted residual value:

$$Value\ of\ the\ company$$
$$= 8{,}336{,}458 + 9{,}126{,}850 + 9{,}945{,}825 + 10{,}827{,}451 + 11{,}776{,}057$$
$$+ 4{,}942{,}721{,}610 = \mathbf{4{,}992{,}764{,}251}$$

Thus, as a percentage the value of the company has increased the following:

$$\left((4{,}992{,}764{,}251 - 4{,}469{,}756{,}248) \div 4{,}469{,}756{,}248\right) = \mathbf{11.70}\%$$

We have shown how a 40% decrease in the tax rate of Inditex (from 25% to 15%) (as a proxy for the tax rate of the sector) has increased the value of the company by 11.70%. First, it lowered the sector's deleveraged β, which itself diminished the β of Pikolino. The change in the β of the company lessened the cost of equity (from 2.02% to 1.97%) and this was the reason why there was a cut in the weighted average cost of capital (from 1.516% to 1.487%). This, not only increased the value of the company by reducing its discount rate but by also augmenting the residual value of the business (from 4,764,981,038 to 5,321,404,367). In the end, the value of Pikolino increased 11.70% due to this adjustment. Table 34 summarizes these changes.

Table 34. Summary of the changes in the variables, with t=15%.

	Sector's Deleveraged β	β Pikolino	Ke	Wacc	Residual Value	Value of the company
t=15%	0.119	0.170	1.97%	1.487%	5,321,404,367	4,992,764,251
t=25%	0.124	0.176	2.02%	1.516%	4,764,981,038	4,469,756,248
% Change	**-3.78%**	**-3.78%**	**-2.11%**	**-1.86%**	**11.68%**	**11.70%**

Source: Own elaboration.

4.2 Change in the cost of equity and cost of debt

As I mentioned during the paper, both the cost of equity and the cost of debt seemed a little bit low despite both rates being positive and the rate asked by the shareholders

(ke=2.02%) was higher than the cost paid for external financing (kd=0.725%). Now, we are going to change simultaneously those rates by assigning three pairs of different values to each of them and check the effect in the value of the company. Therefore, we are going to increase the cost of equity and the cost of debt to ke=5% and kd=2%, then to ke=6% and kd=3%, and finally to ke=8% and kd=4%. With the aim of not repeating the same methodology three times the analysis of the rates will be performed concurrently.

First, we will start by measuring the consequences in the weighted average cost of capital of increasing the cost of equity and the cost of debt. We can observe how the weighted average cost of capital increases significantly as both rates increase. Table 35 shows the different values of the WACC. Recall the formula of the WACC,

$$WACC = Ke \times (E \div (E + D)) + Kd \times ((1 - t) \times D \div (E + D))$$

Table 35. The WACC for the different values of Ke and Kd.

	Ke=2.02%,kd=0.725%	Ke=5%,Kd=2%	Ke=6%,Kd=3%	Ke=8%,Kd=4%
WACC	**2.02%**	**3.808%**	**4.721%**	**6.294%**

Source: Own elaboration.

This raise in the weighted average of capital caused a massive drop in the residual value of Pikolino. This decline in the residual value is greater as the WACC increases, as we can observe by looking at the formula of the residual value. Table 36 shows the residual value for every alternative.

$$Residual\ Value = \big(FCFn \times (1 + g)\big) \div (WACC - g)$$

Source: Table 36. The Residual value for the different values of Ke and Kd

	Ke=2.02%,kd=0.725%	Ke=5%,Kd=2%	Ke=6%,Kd=3%	Ke=8%,Kd=4%
Residual Value	**4,764,981,038**	**501,036,575**	**369,428,664**	**254,273,071**

Source: Own elaboration.

Now we have obtained the discount rate (WACC) and the residual values for each different cost of equity and cost of debt, we can obtain easily the discounted free cash flows and discounted residual value for each casuistic. Table 37 summarizes the process,

Table 37. Discounted FCFs and Residual Value for the different rates.

		2022	2023	2024	2025	2026	Residual Value
Ke=5%, Kd=2%	FCFs and Residual Value	8,490,898	9,400,370	10,396,254	11,486,146	12,678,271	501,036,575
	Discounted FCFs and Residual Value	**8,179,418**	**8,723,334**	**9,293,583**	**9,891,210**	**10,517,290**	**415,636,114**
Ke=6%,Kd=3%	FCFs and Residual Value	8,490,898	9,400,370	10,396,254	11,486,146	12,678,271	369,428,664
	Discounted FCFs and Residual Value	**8,108,131**	**8,571,942**	**9,052,702**	**9,550,868**	**10,066,898**	**293,336,575**
Ke=8%,Kd=4%	FCFs and Residual Value	8,490,898	9,400,370	10,396,254	11,486,146	12,678,271	254,273,071
	Discounted FCFs and Residual Value	**7,988,097**	**8,320,020**	**8,656,573**	**8,997,735**	**9,343,479**	**187,391,094**

Source: Own elaboration.

With these values now the computation of the value of the company is pretty straightforward for each option. Table 38 summarizes the different values of the company and the % change with respect to the original valuation. Recalling the formula for obtaining the forecasted value of a company,

$$Value\ of\ the\ company = \sum_{t=2022}^{2026} \frac{FCF_{t-2021}}{(1+WACC)^{t-2021}} + \frac{RV}{(1+WACC)^{2026-2021}}$$

Table 38. Summary of the company values according to their Ke and Kd rates.

	Ke=2.02%,kd=0.725%	Ke=5%,Kd=2%	Ke=6%,Kd=3%	Ke=8%,Kd=4%
Value of the company	**4,469,756,248**	**462,240,949**	**338,687,115**	**230,696,999**
% Change		-89.66%	-92.42%	-94.84%

Source: Own elaboration.

Now, we sum up the consequences increasing the cost of external and internal financing sources has on the value of the company. We noticed how the effects of increasing both rates augment as the rates are higher. Initially, the weighted average cost of capital augmented significantly, and then, this diminished the residual value of Pikolino completely. The increase in the WACC also reduced the discounted FCFs and the discounted residual value of the company. Eventually, we have shown how the value of the company is affected tremendously, with a decrease in its forecast of about 90 to 95%. Table 39, is a summary of all the changes that took place due to the different changes incurred in the cost of equity and cost of debt.

Table 39. Summary of changes for the different rates of Ke and Kd

	Ke=2.02%,kd=0.725%	Ke=5%,Kd=2%	Ke=6%,Kd=3%	Ke=8%,Kd=4%
WACC	**2.02%**	**3.808%**	**4.721%**	**6.294%**
Residual Value	**4,764,981,038**	**501,036,575**	**369,428,664**	**254,273,071**
Value of the company	**4,469,756,248**	**462,240,949**	**338,687,115**	**230,696,999**
% Change		-89.66%	-92.42%	-94.84%

Source: Own elaboration.

4.3 Growth rate of Pikolino

The second change we are going to try is changing the growth rate of the company. A reminder that the growth rate of the company obtained in the previous section was g=1.246%. Taking into account the current situation of the economy which is still suffering the results of the covid-19 pandemic and the ongoing war between Ukraine and Russia and considering the unfavorable forecasts for the next couple of years, I considered that rate to be too optimistic. Hence, we are going to check how lowering the growth rate to 0.5% affects the valuation of the company. The first variable that changes when modifying the growth rate is the residual value of Pikolino.

Recalling again the formula of the residual value,

$$Residual\ Value = \big(FCFn \times (1+g)\big) \div (WACC - g)$$

RV = 12,678,271*(1+0.5%)/(1.516% - 0.5%)=**1,254,664,111**

Table 40 shows how the discounted free cash flows remain unchanged but the discounted residual value decreases significantly.

Table 40. Discounted FCF and Residual value of the company changing the growth rate.

	2022	2023	2024	2025	2026	Residual Value
FCFs and Residual Value	**8,490,898**	**9,400,370**	**10,396,254**	**11,486,146**	**12,678,271**	**1,254,664,111**
Discounted FCFs and Residual Value	**8,364,136**	**9,121,786**	**9,937,548**	**10,815,439**	**11,759,729**	**1,163,763,551**

Source: Own elaboration.

Therefore, this new residual value will affect the valuation of the company. The value of the company once again is to add the discounted free cash flows and the discounted residual value.

Value of the company=

8,364,136+9,121,786+9,937,548+10,815,439+11,759,729+1,163,763,551=

1,213,762,188.

Thus, as a % the value of the company has changed the following:

$$\left((1{,}213{,}762{,}188 - 4{,}469{,}756{,}248) \div 4{,}469{,}756{,}248\right) = \mathbf{-72.85}\%$$

The value of the company diminished a 72.85%.

Decreasing the growth rate of the company decreases the residual value of the company, just the same way as increasing the cost of equity and the cost of debt. Therefore, the value of Pikolino also diminished.

4.4 Summary of sensitivity analysis

Table 41 summarizes the effect of the different changes we analyzed in the final prediction of the value of the company.

Table 41. Summary of the effects of the sensitivity analysis

	Original forecast	g=0.5%	T_{ind}=15%	Ke=5%, Kd=2%	Ke=6%, Kd=3%	Ke=8%, Kd=4%
Value	4,469,756,248	1,213,762,188	4,992,764,251	462,240,949	338,687,115	230,696,999
Change (%)		**-72.85%**	**11.70%**	**-89.66%**	**-92.42%**	**-94.84%**

Source: Own elaboration.

As we can observe in Table 41, the most relevant changes in the forecast of the value of Pikolino are changing the expected growth rate of the company and its cost of equity and the cost of debt. On the other hand, altering the tax rate of Inditex (used as a representative of the sector) is shown to cause a minor increase in the predicted value of the corporation.

As demonstrated, decreasing the expected growth rate from 1.246% to 0.5% lessened the value of the company by 72.45%. This happens basically due to the relevant influence the growth rate has in the residual value of the company, and subsequently, the influence the later has in the valuation of the business.

Furthermore, we checked how the most influential intermediate variables are the cost of equity and the cost of debt. By increasing simultaneously those from ke=2.02% and kd=0.725% to Ke=5%, 6%, and 8% and Kd=2%, 3%, and 4% respectively, first the

weighted average cost of capital escalated, which caused the residual value to decrease very heavily. In the end, the forecasted value of the company decreased between a 90% and 95%.

In short, we observe that both the growth rate (g) and the costs of equity (Ke) and borrowed funds (Kd), which determine the cost of capital WACC, are the three variables whose estimation requires greater attention. The estimated enterprise value is very sensitive to variations in these variables. When considering different scenarios, using alternative reasonable values for these variables, we observe that although the final value of the company remains positive, it decreases dramatically.

5- CONCLUSIONS

In this paper we have valuated the private company Pikolino's Intercontinental SA, using what I believe is the most appropriate approach, the discounted free cash flow method. First, the history of the company was overviewed, and then the sector it belongs to. It is important to mention the influence of the group "Inditex" on it, accounting for 67% of the total sales of the sector. Despite that, our company had a respectable market share of 0.29%. Afterward, we analyzed the economic and financial situation of the business, in which the company gave signs of outstanding health on every metric.

Subsequently, we proceeded to value the business. Here, by making several assumptions the value of the company is forecasted. The forecasted value of Pikolino's was 4,469,756,248 €. Then we analyzed how changes in the tax rate of Inditex, the cost of equity and the cost of debt, and the growth rate of the company could affect this valuation. We showed how by changing some of those assumptions, the predicted value is altered significantly.

First, we lowered the tax rate of Inditex from 25% to 15% as a proxy for the taxes paid by the companies in the sector. This comes from the need to check a more reasonable tax rate for Inditex due to the huge difference between the effective tax rate of Inditex, that as we mentioned was unusually low (2.38%), and the general tax rate paid by Spanish companies of this size (25%). We noticed how by decreasing a 40% the taxes paid by firms in the sector the value of Pikolino increased an 11.70%.

Then, given that the estimated values for the cost of debt, Kd = 0.725%, and for the cost of equity, Ke = 2.02%, are extremely low, resulting an unreasonably low WACC. We increased simultaneously both of them to ke=5% and kd=2%, then to ke=6% and kd=3%, and finally to ke=8% and kd=4% and obtained different and more reasonable rates. The WACC increased from near 1.5% to between approximately 4% and 6% with this changes. As a consequence, the forecasted values (between around 250,000,000€ and 500,000,000€) diminished between 90% and 95%. Finally, given the current economic situation and disappointing forecasts for the next couple years, we decreased the growth rate of the company from g=1.246% to g=0.5% and checked how the predicted value decreased a 72.45%. to around 1,200,000,000€.

To sum up, despite the size and profitability of this grown business, I find the initial forecasted value too high. As I thought, the predictions of the cost of equity and cost of debt were very low, which resulted in a poor WACC, which increased heavily the forecasted value. Furthermore, by increasing either the cost of financing or decreasing the growth rate of the firm, which I believed was excessive given the current economic conditions, we arrive to a much more reasonable value of the company, with values ranging around from 250,000,000€ to 1,200,000,000€.

6- BIBLIOGRAPHY

-De Toro Cabello, J. M. R. (2014). *La valoración de los negocios : una guía teórico y práctica para valorar empresas*.

-García Cartagena, R. (2022). La imagen social de empresas Gioseppo y el Grupo Pikolinos en la red social Twitter. *Dublin Core*. http://dspace.umh.es/bitstream/11000/28666/1/TFG-Garc%C3%ADa%20Cartagena%2C%20Roc%C3%ADo.pdf

-INE - Instituto Nacional de Estadística. (s. f.). *INEbase / Clasificaciones estadísticas /Clasificaciones nacionales /Clasificación Nacional de Actividades Económicas. CNAE / Últimos datos*. INE. https://ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736177032&menu=ultiDatos&idp=1254735976614

-Leszinski, R., & V. Marn, M. (1997). Setting value, not price. *McKinsey quarterly*.

-Martínez, D. (2019, 21 marzo). Pikolinos sigue poniendo orden en el grupo y fusiona las dos firmas industriales. *Alicanteplaza*. https://alicanteplaza.es/pikolinos-sigue-poniendo-orden-en-el-grupo-y-fusiona-las-dos-firmas-industriales

-Palepu, K. G., Healy, P. M., Wright, S., Bradbury, M., & Coulton, J. (2020). *Business Analysis and Valuation: Using Financial Statements*. Cengage AU.

-Provincias, L. (2018, 14 enero). *PIKOLINO'S INTERCONTINENTAL SA*. Ranking de empresas de la Comunidad Valenciana. https://ranking-empresas.lasprovincias.es/comunidad-valenciana/empresas-alicante/elche/pikolinos-intercontinental-sa?ref=https://www.bing.com/

-Rajat Acharyya. (2001). Exchange Rate Policy and Black Market Premium on Foreign Exchange: Theory and Evidence. *Economic and Political Weekly*, *36*(22), 1984–1990. http://www.jstor.org/stable/4410695

-S. Hamada, R. (1972). The Effect of the Firm's Capital Structure on the Systematic Risk of Common stocks. *The journal of finance*, *27*. https://d1wqtxts1xzle7.cloudfront.net/30529743/2007-00008_ag_set_1-098_%283%29_attachment-libre.pdf?1391763216=&response-content-disposition=inline%3B+filename%3DThe_effect_of_the_firms_capital_structur.pdf&Expires=1682867448&Signature=gDYfHLi78lzvHwMkA1~oI2431WmpZJ~8mOXi3yZ

BewM9xPv2TcRMDgcE~nVi4cEv5YYaLWkI-AuZ8~clqecLh-2J4J-dnakBfDVEmBPC4K3Cccmoq7G06I3zdYXtriq3FKnN60EQqvdBzroALV0EPAajAQvXWmRU39RqRUtnk9odRdh9u3hrJYm8CqXvoyQKiHXd4sFXU6aZWZWSKoEsc99mAuhUNnwhv~gi0LdXRvTByPIFvFC3e5CgxHHNJveRq2XQTRP2Uo-j4a5NQzBxFpSjhrAtH7JadpBpn4EkIWxSy9WVkBOCi4cYDVT-~c4KP1u1YkelQCvzTFgRLY0NNg__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA

-Statista. (2023, 23 enero). *Número de fabricantes de calzado en España 2008-2020*. https://es.statista.com/estadisticas/477300/numero-de-empresas-fabricantes-de-calzado-en-espana/#:~:text=Esta%20estad%C3%ADstica%20muestra%20la%20evoluci%C3%B3n%20anual%20del%20n%C3%BAmero,3.145%20empresas%20dentro%20de%20este%20sector%20en%20Espa%C3%B1a.