

**DISCOUNTED CASH FLOW VALUATION OF
TIFFANY & CO.**



**A THEMATIC PAPER SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR
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entitled
**DISCOUNTED CASH FLOW VALUATION OF
TIFFANY & CO.**

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JA MUN AWN

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ABSTRACT

This thematic paper demonstrates how to value the stock price of Tiffany & Co. using the discounted cash flow to the firm model, by creating a free cash flow forecast and calculating a reasonable valuation of the firm's share price and at the end deciding whether to buy/hold/sell the company's stock. Tiffany & Co. is a USD-based company engaged in the design, manufacture, and marketing of high-end jewelry. It offers the following product categories: engagement and designer jewelry, jewelry collection, watches, home and accessories products, and fragrances.

The company had a very impressive growth rate during the past 5 years. Moreover, the company is planning to merge with LVMH and enforce its new product mix and expand its digital and social media market. This merger is expected to support its high-end jewelry product position while reducing gross margin. The result from this paper shows the value of the TIF share price is expected to be 27% lower than the current share price. This leads to my recommendation of "Sell" regardless of the potential growth and their strong business model.

KEYWORDS: TIFFANY & CO. / Discounted Cash flow/luxury jewelry industry

51 pages

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CHAPTER I

INTRODUCTION

Tiffany & Co., a jewelry company with a 182-year history, was founded by Charles Lewis Tiffany in 1837. It was incorporated as Tiffany in New York in 1868. Tiffany was acquired by the Registrant in 1984 and completed the initial public offering of Common Stock in 1987. The Registrant, through its subsidiaries, sells jewelry and other items that it manufactures or has made by others to its specifications.

Tiffany has a strong position within the high-end of the jewelry market. Moreover, its sales in the Americas represented 43% of worldwide net sales in 2019, while sales in the United States ("U.S.") represented 86% of net sales in the Americas. Sales are transacted through the following channels: retail (in the U.S., Canada, and Latin America), Internet and catalog (in the U.S. and Canada), business-to-business (in the U.S.), and wholesale distribution (in Latin America and the Caribbean). (Tiffany annual report, 2019)

The share price is estimated by the discounted cash flow method resulting in a target price of 95.7 USD per share based on the projection period of cash flow in 2021-2023, followed by constant growth at 3.07% per year afterward. The constant growth, 3.07% is under the assumption that the company will operate perpetually, expand its business continuously through reopening the stores and new stores, and reinforce sales through digital and social media channels.

The company's financial status indicates that it is in a good position, expecting higher revenue in 2022. The removal of travel restrictions and the reopening of global tourism can drive the revenue to increase. It is expected to pass the breakeven point and increase the cash flow of the firm. Thus, the recommendation derived from the Discounted Cash Flow method is to "Sell" because the market price is 27% higher than the present value of the firm. However, the investors should also consider the fact of the potential acquisition from LVMH and the potential improvement of revenue in the last quarter of 2020.

In this report, all references to years relate to fiscal years that end on January 31 of the following calendar year.



CHAPTER II

BUSINESS DESCRIPTION

2.1 Business

Tiffany & co. was formed in 1837 by Charles Lewis Tiffany. Since 1968, Tiffany has been headquartered in New York. In 1987, Tiffany & co. completed the initial public offering (IPO) in New York Stock Exchange (NYSE) as TIF. Tiffany & co. registered as a holding company that operated through the “Tiffany and Company” brand in the jewelry industry.

2.1.1 Service (or Product, or Brand)

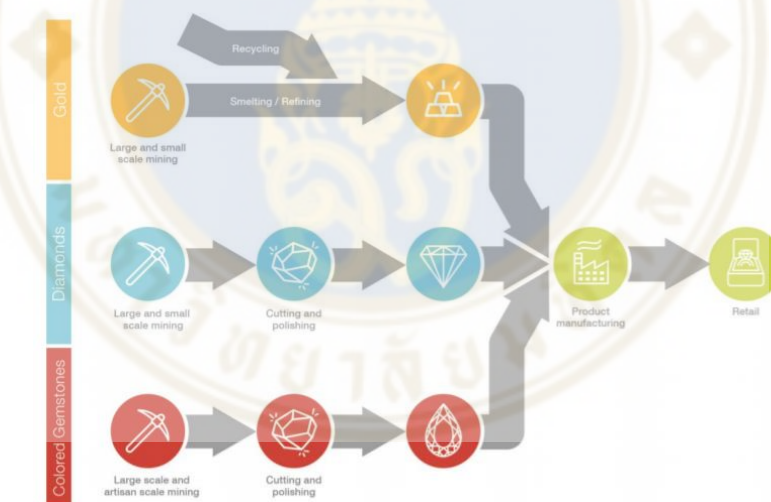


Figure 2.1 The Jewelry Supply Chain

Source: Chichestes, Pluess, & Momaya (2018)

Tiffany provides many product categories which are jewelry collection, engagement jewelry, designer jewelry, and others. Tiffany has its designers, manufacturers, and retail jewelry. Even though they mainly focus on jewelry products that represent 92% of worldwide net sales in 2019, they also sell watches, leather goods, silver, crystal, stationery, perfume, and accessories which represent 7% of worldwide

net sales in 2019. In the part of jewelry products, they separated product categories into 3 types which are jewelry collections, engagement jewelry, and designer jewelry.

In 2019, Tiffany had 94 stores in the U.S. and 326 stores worldwide. The company headquarters is in New York. They separated geographic segments into the Americas, Europe, Asia-Pacific, Japan, and others. The Americas segment includes the United States, Mexico, Canada, Chile, and Brazil. Asia-Pacific includes Australia, Hong Kong, China, Macau, Taiwan, Korea, New Zealand, Malaysia, Singapore, and Thailand. The Europe segment includes Austria, the Czech Republic, Belgium, Germany, Denmark, France, Ireland, Spain, Italy, the Netherlands, Switzerland, Russia, and the United Kingdom. The other segment is the United Arab Emirates.

Table 2.1 Number of Tiffany Store in Each Geographic Segment

The following chart details the number of TIFFANY & CO. retail locations operated by the Company since 2015:

Year:	Americas		Asia-Pacific	Japan	Europe	Emerging Markets	Total
	U.S.	Canada & Latin America					
2015	95	29	81	56	41	5	307
2016	95	30	85	55	43	5	313
2017	94	30	87	54	46	4	315
2018	93	31	90	55	47	5	321
2019	94	30	91	58	48	5	326

Source: Tiffany Annual Report 2019-2020 (2020)

2.1.2 Sources of Revenue and Growth

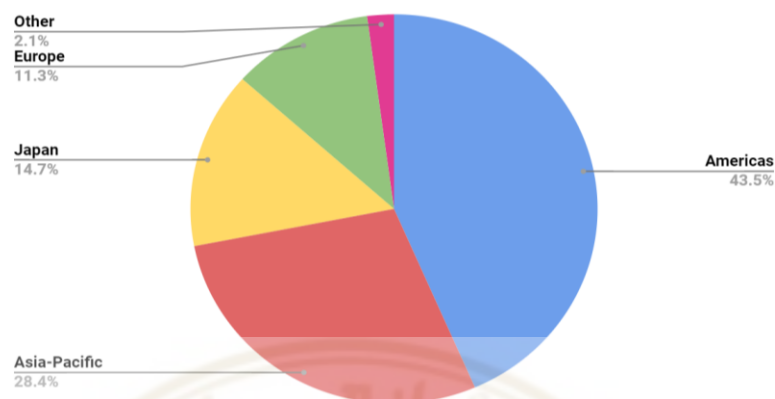


Figure 2.2 Tiffany's Revenue in Each Geographic Segment in 2019

Source: Calculated Based on The Data from Thomson Reuters

Table 2.2 Net Sales Breakdown by Product Segments for Past Three Years

Sales by Reportable Segment of TIFFANY & CO. Jewelry by Category

	% of total Americas Sales	% of total Asia-Pacific Sales	% of total Japan Sales	% of total Europe Sales	% of total Reportable Segment Sales
2019					
Jewelry collections ^a	55%	63%	38%	60%	55%
Engagement jewelry ^b	21%	29%	38%	24%	26%
Designer jewelry ^c	14%	6%	17%	12%	12%
2018					
Jewelry collections ^a	53%	61%	37%	60%	54%
Engagement jewelry ^b	21%	31%	37%	23%	26%
Designer jewelry ^c	14%	7%	18%	12%	12%
2017					
Jewelry collections ^a	53%	59%	30%	60%	52%
Engagement jewelry ^b	22%	31%	39%	25%	27%
Designer jewelry ^c	14%	8%	22%	12%	13%

Source: Tiffany Annual Report 2019 - 2020 (2020)

Based on geographic segmentation, the Americas segment is the biggest market which is 43% of worldwide net sales followed by 28% in Asia-Pacific, 15% in Japan, 11% in Europe, and 2% in others. In 2019, the growth of the Americas segment decreased by 2% from lower tourism expenses. The growth of Asia-Pacific increased

by 2% from both selling as supplier and retailer. The local customers tend to spend more which offsets the lower foreign expense. Tiffany's sale in China is good enough to cover the pain of a 30% decrease in net sales in Hong Kong from protests. In Japan, the net sale is stable with a 1% increase. For Europe, the changing of local and tourism expenses resulted in a decrease of 1% growth in net sales. Then in other segments, the growth is decreased by 1% from lower demand of wholesaler of the diamond (Tiffany Annual Report 2019 - 2020, 2020).

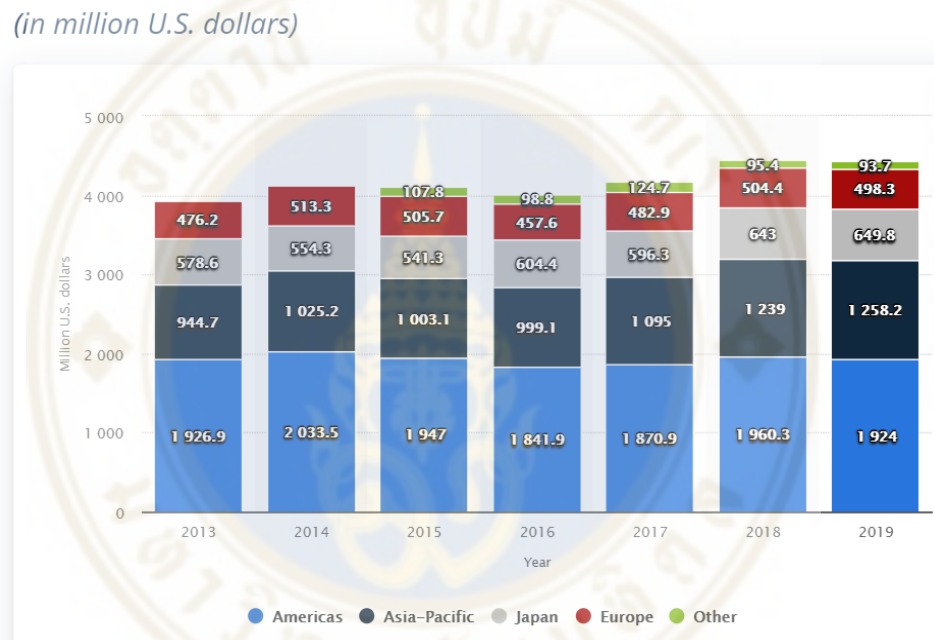


Figure 2.3 Net Sales Breakdown by Geographic Segments for Past Seven Years

Source: Statista Research Department (2020).

Table 2.3 Net Sales Growth by Geographic Segments for Past Three Years

<i>(in millions)</i>	2019	% of Total Net Sales	2018	% of Total Net Sales	2017	% of Total Net Sales	2019 vs 2018 % Change in Net Sales	2018 vs 2017 % Change in Net Sales
Americas	\$ 1,924.0	43%	\$ 1,960.3	44%	\$ 1,870.9	45%	(2)%	5%
Asia-Pacific	1,258.2	28	1,239.0	28	1,095.0	26	2	13
Japan	649.8	15	643.0	15	596.3	14	1	8
Europe	498.3	11	504.4	11	489.0	12	(1)	3
Other	93.7	2	95.4	2	118.6	3	(2)	(20)
	<u>\$ 4,424.0</u>		<u>\$ 4,442.1</u>		<u>\$ 4,169.8</u>		<u>— %</u>	<u>7%</u>

Source: Tiffany Annual Report 2019 - 2020 (2020)

Last quarter's net income of Tiffany is quarter 2 in July 2020. The total revenue is 747.1 million dollars. It decreased by 28.75 % from 1048.5 million dollars in quarter 2, 2019. The reason for the decrease in revenue is protest and Covid-19. The protests happened in France and Hongkong during 2019 about political issues. Moreover, with the outbreak of Covid-19, most retail stores need to close or reduce operating time. Tiffany's challenge to manage the company from lower operating time from 54 retail trading days to 30 retail trading days. Tiffany is a significant effect of Covid-19. The number of customers who shop in retail stores also decreases because of quarantine and a lower number of tourists.

2.2 Strategies

Tiffany's strategy is to increase the average price per jewelry unit by focusing more on high-end jewelry such as gold and diamond jewelry within the jewelry collections category which affects the number of units sold.

Table 2.4 Average Price Per Unit Sold

	As Reported	Impact of Currency Translation	Number of Units Sold
Change in Jewelry Sales			
Americas	10%	—%	(12)%
Asia-Pacific	8	(3)	(7)
Japan	3	1	(4)
Europe	10	(3)	(10)

Source: Tiffany Annual Report 2019-2020 (2020)

They use product strategy by creating a new design for customers. In 2019, the company spent 8.6% of net sales on advertising. The pricing competition among jewelry industries creates limited make-up prices on products. The pricing strategy that Tiffany uses is based on product input cost, market conditions, and currency.

**Figure 2.4 SWOT Analysis**

2.3 Management and Governance

The Vision of Tiffany, originally by Charles Lewis Tiffany, is “high-quality work with the originality of design to the widest possible audience holds in what Tiffany & Co. has done, is doing and will continue to do in the luxury jewelry category. Makers of beauty, Creators of joy” (Tiffany Annual Report 2019-2020, 2020). The mission of Tiffany is to focus on quality and sustainability. The objective of the company is to improve the area that the company operates in and sell products, while also focusing on the environment and sustainability. In accordance with its business strategy, Tiffany provides high-quality products at relatively high prices. The company protects the interest of shareholders and responsible for making decisions.

Table 2.5 Tiffany & Co. Directors and Officers

EXECUTIVE OFFICERS OF THE COMPANY			
The executive officers of the Company are:			
Name	Age	Position	Year Joined Tiffany
Alessandro Bogliolo	55	Chief Executive Officer	2017
Mark J. Erceg	51	Executive Vice President–Chief Financial Officer	2016
Philippe Galtie	59	Executive Vice President–Global Sales	2015
Daniella Vitale	58	Executive Vice President–Chief Brand Officer	2019
Andrea C. Davey	51	Senior Vice President–Global Marketing	2013
Leigh M. Harlan	43	Senior Vice President–Secretary & General Counsel	2012
Andrew W. Hart	52	Senior Vice President–Diamond & Jewelry Supply	1999
Gretchen Koback-Pursel	47	Senior Vice President–Chief Human Resources Officer	1997

Source: Tiffany Annual Report 2019-2020 (2020)

CHAPTER III

ANALYSIS OF MACROECONOMY, INDUSTRY, AND COMPETITORS

3.1 Macro-Economic Analysis

The global economy in 2020 is in a bad situation due to the Covid-19 pandemic. Consequently, the expected real GDP growth rate readjusted to -4.3% in 2020 which was originally expected to be 3 to 4%. The main factors are restrictions in travel, group gathering and opening of shopping malls, and increasing unemployment lay-off rate.

In 2019, the branded market is 20% and the unbranded market is 80% of the overall jewelry market. Within the branded market, there are 60% of the watch market. In 2020, the expected branded market will increase to between 30 to 40%.

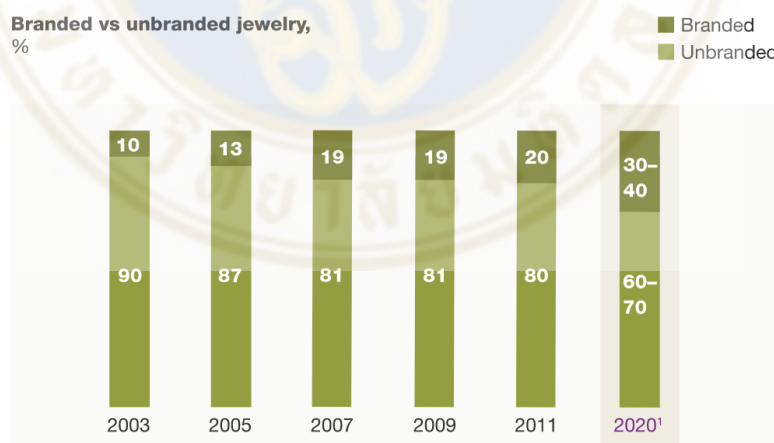


Figure 3.1 Branded and Unbranded Jewelry % in the Jewelry Market

Source: McKinsey and Company

3.1.1 Emerging Markets

In Asia-Pacific, changes to the western lifestyle and the demand for new and varieties of designs has increased in the gems and jewelry market; therefore, the gems and jewelry manufacturers develop new designs to meet with the requirement from customers. Technology such as computer-aided design (CAD) and rapid prototyping (RP) help jewelry designers to print 3D jewelry designs. The increasing income per capita has driven an increase in sales of jewelry, especially in India and China. Consequently, it is expected to lead to increased jewelry market share and performance of the jewelry market.

3.1.2 E-Commerce, Digital/Social Media, and Millennials

The global gems and jewelry market have high competition with the big players who got most of the market share, such as LVMH, Buccellati, Richemont, and Signet. In order to expand geographical and customer base, most of the companies focused on online rather than offline channels for marketing and branding. Leading manufacturers in the gems and jewelry market try to leverage the opportunity to get opportunities in Asia-Pacific such as China and India because of the rising income levels and their religious traditions.

The digital media platforms help jewelry companies to communicate, shape brands and create customer relationships. A McKinsey survey said that one-third to two-thirds of luxury shoppers gain information from social media while two-thirds take part in online research before doing the in-store purchase.

Offline shops are improving to gain traffic from customers. The mono-brand stores used to gain more market share from the mail-order market and department-store sales. Jewelry manufacturers might focus on mono-brand retail to get more control over their brand image, relationship with consumers, and higher margin potential. Rather than a multi-brand jeweler with a global scale operation, they provide more uniqueness in products and customer experience.

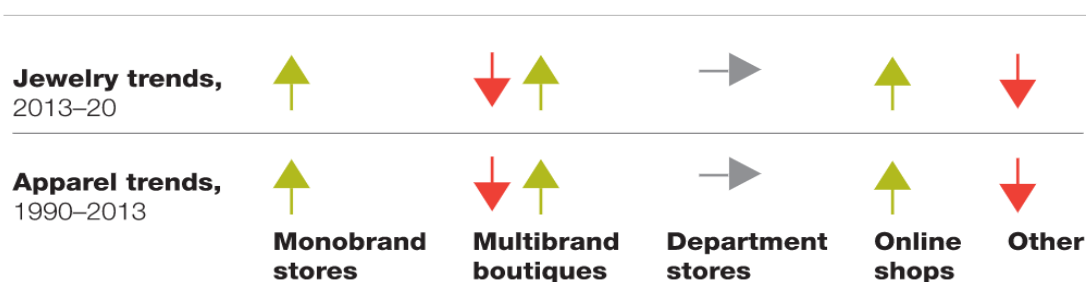


Figure 3.2 Jewelry Trends 2013-2020

Source: McKinsey and Company

3.2 Industry analysis

Meanwhile, the jewelry industry is expected to have 5% to 6% growth per year with the fast-growing dynamic industry. Consequential changes are happening under the restriction caused by Covid-19, not only consumer behavior but also the industry itself to respond and follow the market developments.

3.2.1 Profitability and Growth

From forecasting a CAGR of 7.8%, the jewelry market is estimated to reach 59.7 billion dollars by 2027 which was valued at 32.9 billion dollars in 2019. By gender segment, the male segment is expected to grow the fastest, a forecast CAGR of 8.20%. In 2019, China was the most attractive market in the Asia-Pacific region and is expected to grow at a significant CAGR. North America was the dominant zone by owning more than one-third of the global jewelry market share in 2019.

3.2.2 Developed Markets Trend analysis - Top Category Trends

3.2.2.1. High-End Fashion Jewelry

High-end fashion jewelry is one of the fastest-growing divisions so many fashion companies want to enter the market such as Giorgio Armani Privé, Prada, Gucci, and Hermès that establish their first high-end jewelry collections in 2019. LVMH entered the fine jewelry market in 2012 by owning Bulgari and Richemont's Cartier. Most high-end fashion companies have brand power on hand; however, they lack experience in the high-end jewelry market.

3.2.2.2. Crystal Clear Production

The main raw materials in the jewelry industry are diamonds, precious stones, pearls, platinum, gold, white gold, pink gold, and silver. The retail price of products is standard price such as gold price per ounce and price per carat of diamond.



Figure 3.3 The Diamond Quality on 4Cs (Carat, Color, Clarity, and Cut)

Source: GIA (2020)

The precious stone international guarantee is from GIA, HRD, IGI, and others. GIA is the international major authority on diamonds, precious stones, and pearls.

The platinum, gold, white gold, pink gold, and silver price depend on the percentage purity of the material. Platinum is the most expensive material because it is extremely durable and strong.

Table 3.1 Percentage of Raw Materials

	18k Yellow Gold	18k White Gold	18k Rose Gold
% Gold	75%	75%	75%
% Silver	10-20%	18.50%	2.75%
% Copper	5-15%	1%	25.25%
% Zinc	0%	5.50%	0%

Source: Wit Sudjaiampun (2020)

The jewelry companies are not focused only on the quality of the products, but they also focus on sustainability by reusing some materials to create new pieces of jewelry, as well as verify human rights in the production process. This shows more transparency in the high-end jewelry market.

3.2.2.3. Sustainability

Mintel (UK news) reported that sustainability and ethics are a priority for 55% of UK jewelry buyers so many jewelers have been using mainly recycled raw materials such as gold, diamond, precious stone, etc. Kering (the French company that owns Gucci and many brands) announced in 2019, it can track 88% of raw materials to verify environmental impacts and sustainability.

3.2.2.4. Uniqueness

The recycled diamond with its history is popular among customers who are seeking a meaningful piece. Moreover, some brands provide a unique design since the diamond is from mining. For example, LVMH bought rough stones after noticing a high unique creation demand, and customers can directly design their final forms of jewelry by themselves. Besides, brands also want to offer diamonds unique designs. LVMH even patented two proprietary diamond cuts, a flower, and a star monogram form.

3.2.2.5. All-Gender Pieces

A revolution in gender, LGBTQ+, racial, and age equality, are impacting the industry. Therefore, the boundaries are being broken in jewelry trends for example there are more unisex watches and wedding rings comparing to the past decades. While male jewelry is a rapid growth segment, unisex designs are becoming more popular. For example, Gucci's first jewelry collection is targeted at unisex. Most of the buyers of all genders are buying for themselves not only on special occasions. As Generation Z are particularly wary of classifications or labels, it becomes a good chance for brands to aim at all types of products, individuals, relationships, or occasions.

3.3 Competition Analysis

Tiffany & Co. mainly focuses on products related to diamonds. However, many public diamond mining companies were delisted from 2014 to 2015 due to the inability to meet the listing requirements and failure to comply (Resource World., 2016). Consequently, Tiffany & Co. became one of the largest companies in the jewelry market which produces diamond products. Currently, Tiffany & Co., competes against Signet, Louis Vuitton, Pandora, Vaibhav, and Rajesh.

Signet Jewelers Ltd, the world's largest diamond retailer, operates 3,300 stores in the USA, UK, and Canada under the brand names Kay Jewelers, Zales, Jared The Galleria Of Jewelry, H.Samuel, Ernest Jones, Peoples, Piercing Pagoda, and JamesAllen.com in 2019. Signet reported total revenue of 6.25 billion dollars and saved the net cost of 85 million dollars mainly from engagement, wedding, and anniversary purchases. (Signet Annual report 2019)

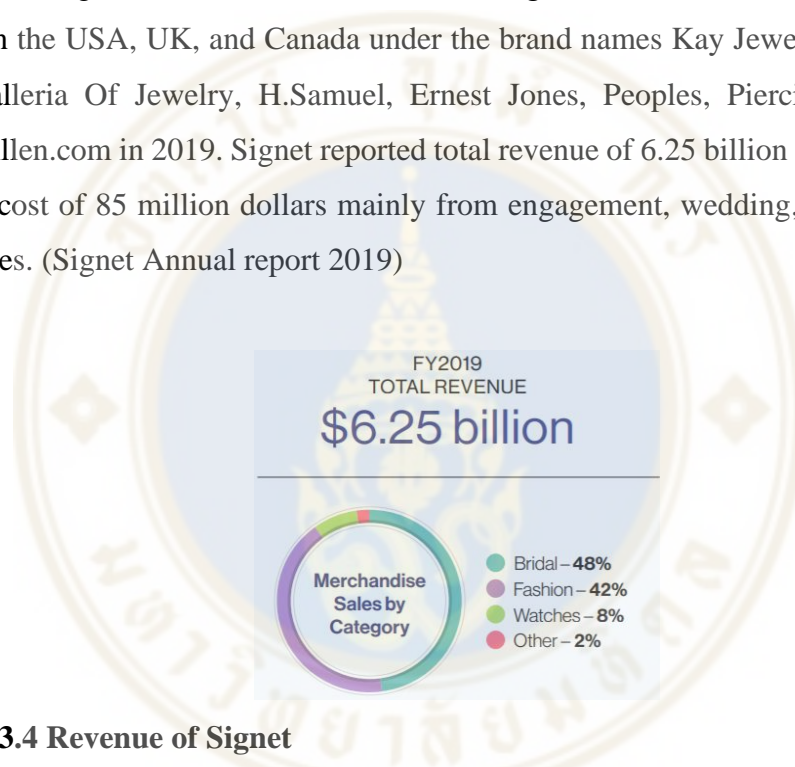


Figure 3.4 Revenue of Signet

Source: Signet Annual Report 2019-2020 (2020)

Moët Hennessy Louis Vuitton, LVMH, a well-known luxury conglomerate from France operates 4,910 stores around the world and owns 75 prestigious brands such as Louis Vuitton, Christian Dior, and Bulgari. LVMH generated total revenue of 53.7 billion Euros in 2019 which is 14.62% higher than the previous year. Moreover, the net profit increased by 11.33% compared to 2018 which is 7,782 million Euros.

Table 3.2 Income Statement of LVMH

In millions of euros

	2017	2018	2019
Revenue	42,636	46,826	53,670
Gross margin	27,853	31,201	35,547
<i>in % of revenue</i>	65%	67%	66 %
Profit from recurring operations	8,293	10,003	11,504
<i>in % of revenue</i>	19.5%	21.4%	21.4%
Net profit	5,840	6,990	7,782

Source: LVMH Annual Report 2019 (2019)

Pandora, a Danish jewelry manufacturing company, distributes in 100 countries worldwide directly with 7,400 sale points and over 2,700 concept stores. In 2019, Pandora was branded as the number one jewelry brand which sold 96 million pieces of jewelry in the world. However, there was a slight decline in revenue from approximately 3.4 million dollars in 2018 to 21 approximately 3.3 million dollars in 2019. The affordable hand-finished personalized jewelry is the collaboration of traditional craftsmanship and state-of-the-art innovation with high-quality material. (Pandora group Annual report 2019)

Table 3.3 Financial Statement of Pandora

OTHER FINANCIAL HIGHLIGHTS (DKK million)	2019 ¹	2018 ²	2017 ^{1,2}	2016 ^{1,2}	2015 ^{1,2}
Consolidated income statement					
Revenue	21,868	22,806	22,781	20,281	16,737
Gross profit	15,903	16,942	16,966	15,223	12,193
Gross margin, %	72.7%	74.3%	74.5%	75.1%	72.9%

Source: Pandora Group Annual Report 2019 (2019)

Vaibhav Global Limited (VGL), is defined as a Company that markets fashion jewelry, accessories, lifestyle, and essential products to consumers. Their product mix was transforming according to customers' preferences within the product

categories. It acquires resources from over 20 countries around the world including the USA, UK, and China. The total revenue for the fiscal year 2019-2020 was reported to be 1,986 crore rupees (approximately 270 million USD) which increased by 9.5% from 2018-2019 (Vaibhav annual report 2019-2020, 2020).

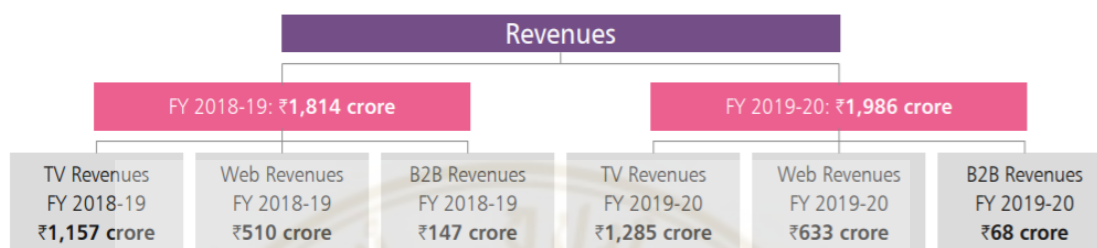


Figure 3.5 Revenue Structure of Vaibhav 2018-2020

Source: Vaibhav Annual Report 2019-2020 (2020)

Rajesh Exports Limited is one of the largest businesses in the global gold business with the aim of making available gold globally to retail customers with the finest quality and design at the best prices. Its revenue in 2018-2019 was 1,758,306 million rupees (approximately 24 billion USD) that decreased slightly by 6.3% compared to the previous fiscal year. (Rajesh annual report 2019)

Table 3.4 Revenue Structure of Rajesh 2018-2020

	(Rs. in Million)	
	2018-2019	2017-2018
Operating Revenue	1,757,631.23	1,876,861.04
Other Income	675.38	62.01
Total Revenue	1,758,306.61	1,877,481.05

Source: Rajesh Annual Report 2019-2020 (2020)

3.3.1 Five Forces Analysis

3.3.1.1. Threat of Entry: High - Opposed to Tiffany

Hard to enter the market as a worldwide company, however local new entrants compete easily with the same standard quality and lower price.

3.3.1.2. Power of Suppliers: Low - Favorable to Tiffany

Tiffany has many suppliers and buys in large quantities. Moreover, Tiffany has a good relationship with suppliers through sustainable projects.

3.3.1.3. Power of Buyers: Moderate - Favorable to Tiffany

Customers have no switching cost but less choice for international luxury jewelry brands.

3.3.1.4. Threat of Substitutes: Moderate - Favorable to Tiffany

The new technology of science makes lab-created diamonds as a substitute product. However, world culture still needs a real diamond as a symbol of prestige, love, and marriage.

3.3.1.5. Rivalry Among Competitors: Very high - Opposed to Tiffany

There are many famous high-end jewelry brands around the world and most of their customers are high-income people. It is different from Tiffany who targets mass customers. It is the reason why Tiffany tries to increase the price per unit sale.

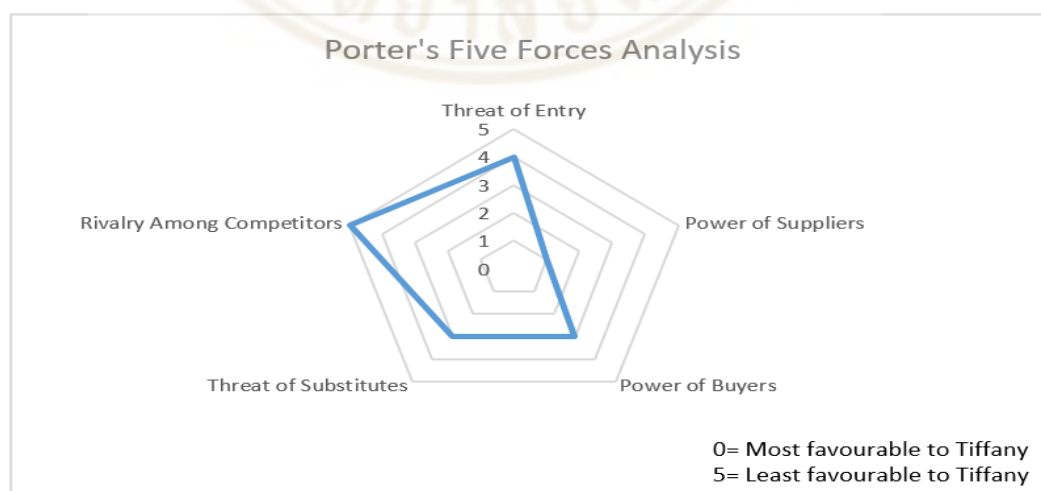


Figure 3.6 Porter's Five Forces Analysis

Source: Own calculation

CHAPTER IV

VALUATION

4.1 Financial Analysis

Financial analysis involves using financial data to assess a company's performance and make recommendations about how it can improve going forward. It is to analyze historical data and make projections of how the company will perform in the future. (corporatefinanceinstitute, 2020)

Therefore, the company's financial data is analyzed to assess the company's performance and then compare it with its competitors. Among the 5 competitors we mentioned in section 3.3, Pandora is more relevant because both companies are in the luxury jewelry market that produces accessories with silver. Hence, the comparison of financial data for Tiffany & Co., and Pandora is as follows.

4.1.1 Dupont analysis

Tiffany's ROE (return on equity) fluctuates slightly over the past 5 years; ROE was 25.33% in 2015 and decreased gradually to 20.93% in 2017. Tiffany manages it to recover in 2018 until it reaches 24.40%. However, it declines to 22.38% in 2019 which is caused by return on assets (ROA) which vary a lot during 2015-2019. The profit margin is stable at around 0.17 over the past 5 years but financial leverage was between 1.69 and 1.71 during 2015 and 2018. In 2019, financial leverage suddenly jumps to 2 from 1.71 because of total assets that increase 24.88% in 2019. The increment in total assets is caused by the operating lease right-of-use assets (1,102.7 million USD) that are the new asset of Tiffany in 2019.

Meanwhile, Pandora's ROE increases from 59.85% (2015) to 88.68% (2016). However, it decreases gradually till it reaches 56.11% in 2019 which is caused by ROA (return on assets) because the ROA trend is aligned with ROE over the past 5 years.

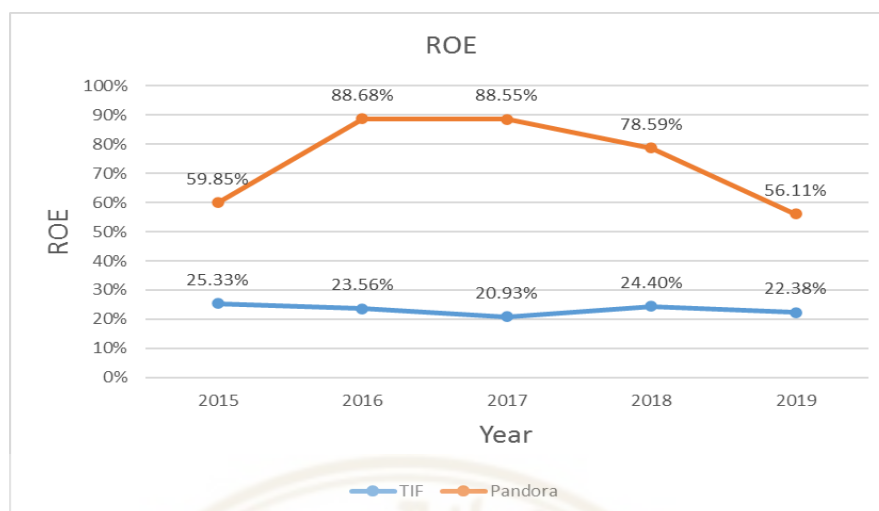


Figure 4.1 ROE trend of TIF and Pandora

Source: Own calculation

Table 4.1 Dupont analysis

Dupont analysis										
	Tiffany (Million USD)					Pandora (Million DKK)				
Year	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Net income	463.90	446.10	516.30	570.50	541.10	3,674.00	6,025.00	5,768.00	5,045.00	2,945.00
Revenue	4,104.90	4,001.80	4,169.80	4,442.10	4,424.00	16,737.00	20,281.00	22,781.00	22,806.00	21,868.00
Profit Margin	0.11	0.11	0.12	0.13	0.12	0.22	0.30	0.25	0.22	0.13
Revenue	4,104.90	4,001.80	4,169.80	4,442.10	4,424.00	16,737.00	20,281.00	22,781.00	22,806.00	21,868.00
Total Assets	5,121.60	5,097.60	5,468.10	5,333.00	6,660.10	13,311.00	15,085.00	17,428.00	19,244.00	21,571.00
ROA	80.15%	78.50%	76.26%	83.29%	66.43%	125.74%	134.44%	130.71%	118.51%	101.38%
Total Assets	5,121.60	5,097.60	5,468.10	5,333.00	6,660.10	13,311.00	15,085.00	17,428.00	19,244.00	21,571.00
Total Equity	2,911.40	3,013.50	3,233.40	3,117.40	3,322.90	6,139.00	6,794.00	6,514.00	6,419.00	5,249.00
Financial Leverage	1.76	1.69	1.69	1.71	2.00	2.17	2.22	2.68	3.00	4.11
ROE	15.93%	14.80%	15.97%	18.30%	16.28%	59.85%	88.68%	88.55%	78.59%	56.11%

Source: Own calculation

4.1.2 Growth analysis

In 2019, the revenue of Tiffany declined to 4,424 in 2019 from 4,442 in 2018. However, it increased steadily over the past 3 years (2016-2018) although it decreased slightly from 4,104.90 in 2015 to 4,001.80 in 2016. For Pandora revenue, its revenue increased steadily from 2015 (DKK 16,737 million) to 2017 (DKK 22,781 million) but decreased during 2018 and 2019 till 21,868.

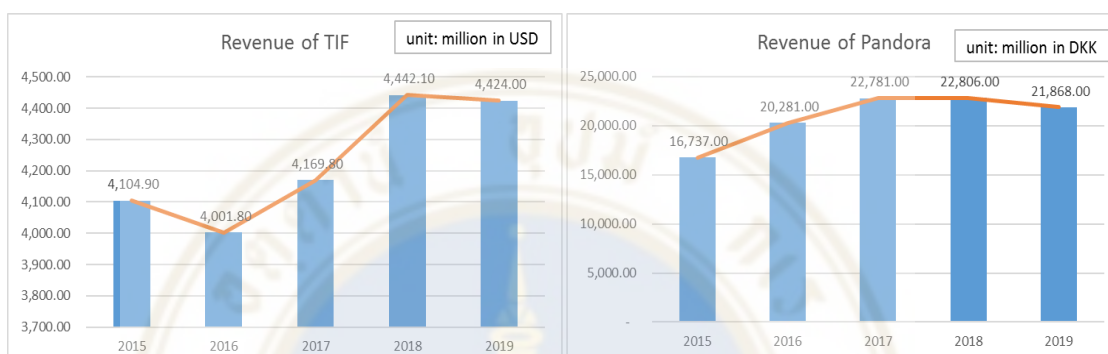


Figure 4.2 Revenue of TIF and Pandora

Source: Own calculation

For the cost of goods sold, Tiffany and Pandora have the opposite trend because there is a sharp dip for Tiffany in 2016 and increases till it reaches 1,662.10 million USD in 2019. While Pandora's cost of goods sold increased between 2015-2018 from 4,544 million DKK to 5,864 million DKK and then decreased in 2019 (4,950 million DKK).

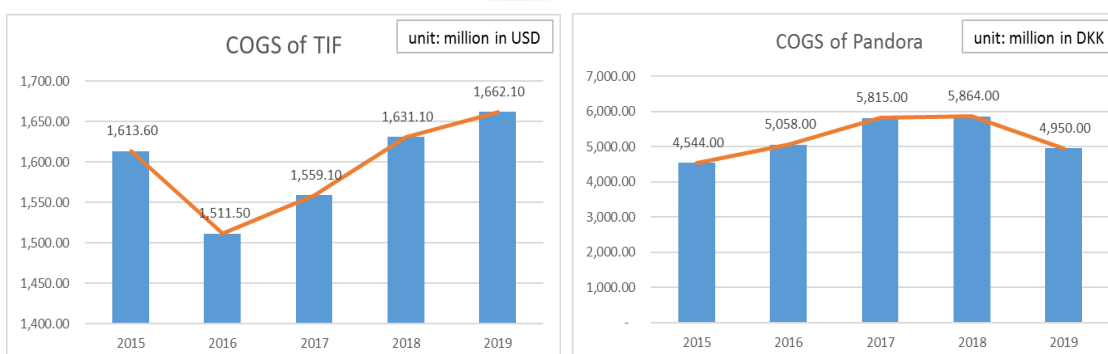


Figure 4.3 Cost of Goods Sold of TIF and Pandora

Source: Own calculation

Tiffany got a sharp dip in 2016 both revenue and cost of good sales, but the net income of 2016 is not affected much. However, Pandora's net income decreased sharply from 6,025 to 2,945 between 2016 and 2019 although revenue and cost of goods sold did not fluctuate much during those years.

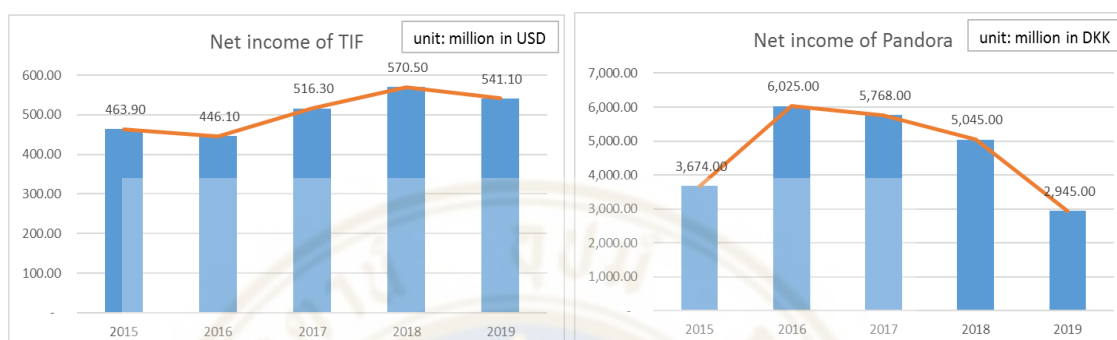


Figure 4.4 Net income of TIF and Pandora

Source: Own calculation

Based on figure 4.5, the EPS of Pandora moved along with net income while Tiffany's net income did not change much during these 5 years.

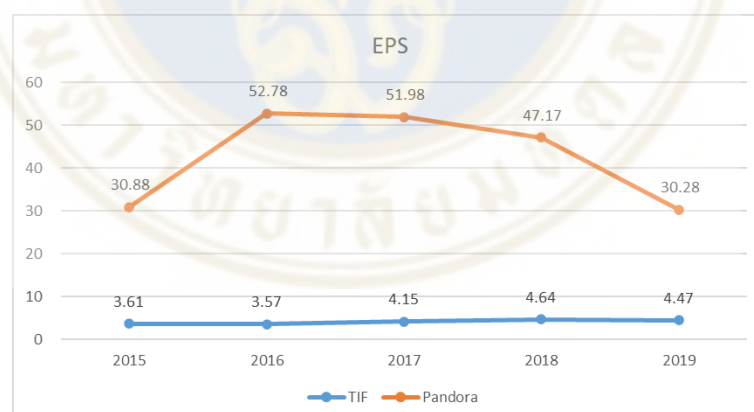


Figure 4.5 EPS of TIF and Pandora

Source: Own calculation

4.1.3 Revenue driver: marriage rate

The marriage rate can be used to estimate the revenue of companies in the jewelry industry. For Tiffany and Co., they have three jewelry product segment categories: 55% Jewelry collection, 26% Engagement jewelry, and 12% Design jewelry

in 2019. The marriage rate directly affects engagement jewelry. The world marriage rate tends to decrease (Ospina, E. and Roser, M., 2018). This is a reason that the percentage of sales of the engagement jewelry product segment is slowly decreasing.

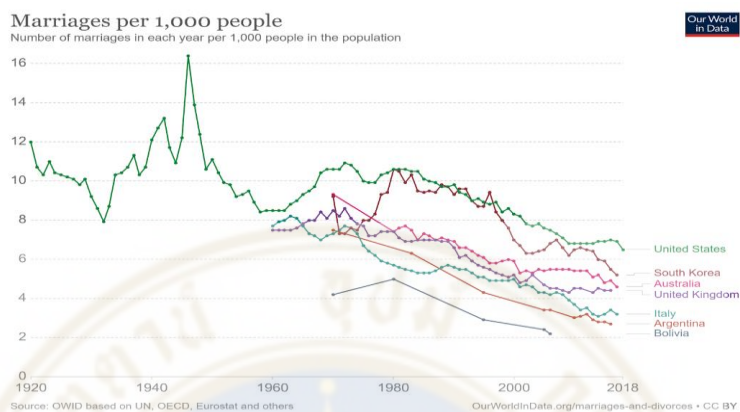


Figure 4.6 Number of Marriages in Each Year Per 1,000 People in The Population

Source: Ospina, E. and Roser, M., 2018

4.2 Discounted Cash Flow Valuation

The DCF formula is used to determine the value of a business or security. It represents the value an investor would be willing to pay for an investment, given a required rate of return on their investment, the discount rate (corporatefinanceinstitute, 2020).

In this valuation report, we used the discounted free cash flow (DCF) to the firm method by dividing it into two parts. The first part is about how we project future cash flows and calculate discounted cash flow models of Tiffany and find the value of the company. After obtaining the outcome, the conclusion is in the second part. The conclusion will be about what is the most appropriate value of the company and what the investor should consider before investing in this company.

4.2.1 The first part of valuation: Discounted cash flow model

For the first part of the discounted cash flow valuation report, the following assumption has been made-

- (i) Tiffany has an unusual fiscal year which ended on January 31 of the following calendar year. Therefore, all reference years related to fiscal years are meant from February of the reference year and ended on January 31 of the following year.
- (ii) For 2020, the data for the first 3 quarters are available and we use the actual data. For the last quarter, we compare with 2019 last quarter and assume the domestic sale will be 800 million USD and the export sale will be 680 million USD.

In the quarter-3 report of 2020, Tiffany reported “the Company's business is seasonal nature, with the fourth quarter typically representing approximately one-third of annual net sales and a higher percentage of annual net earnings. Therefore, the results of its operations for the three and nine months ended October 31, 2020, and 2019 are not necessarily indicative of the results of the entire fiscal year.” (Tiffany quarterly report, 2020)

- (iii) The forecasted sale figures are based on the luxury jewelry market size and number of marriages. There are two main product segments

in Tiffany, engagement products, and other luxury products. Thus, we assume that the engagement products will move with the number of marriages. The data on the number of marriages and the luxury jewelry market size is from the Euro monitor.

Then, we analyze the trend and growth of financial statements over the past 5 years (2015-2020) and forecast the cash flows 3 years forward. We analyze the company's financial position (Profit and Loss) statement to know the present cash inflow and outflow of the firm. According to the nature of jewelry companies, Tiffany requires a large sum of capital either to run the company or make new investments. Therefore, it can consequently affect the company's debt to equity ratio that is the company's financial leverage whenever the company wants to make a large new investment. Additionally, there is no published information regarding the company's payment schedule which may cause a problem in estimating the most appropriate debt to equity ratio, the most important fact in estimating free cash flow (FCF).

On the other hand, the DCF method requires many factors such as growth rate, risk-free rate, period-of-time, and WACC. Moreover, this method considers the long-term perspective and time value of money. To evaluate Tiffany, the DCF method is suitable because Tiffany's cash flow is quite stable and predictable according to the marriage rate and fashion trends.

To calculate the DCF, the first thing is to analyze and forecast the operating assets which are the required assets for the firm in generating revenue. The core business of the company is forecasted line by line in detail between 2021 and 2023. The Covid-19 effect is huge in 2020, which damages the bottom line of the business. We assume the forecast data for 2021 is based on the country's luxury jewelry market size, rate of marriage, and population. However, we assume the jewelry market will have a gradual positive trend from 2021 onwards.

4.2.1.1. Valuation of operating assets

The two main sources of revenue are domestic and export sales. For domestic sales, 21% of the forecast revenue is based on the growth rate of the USA number of marriages. The remaining 79% is based on the luxury market size of the USA.

Table 4.2 Domestic Revenue forecast

Dosmestic Sale Forecast (Million in USD)	2016	2017	2018	2019	2020	CAGR 2015-2019	2021F	2022F	2023F	Next 3 yrs CAGR
Period End Date	31-Jan-2017	31-Jan-2018	31-Jan-2019	31-Jan-2020	31-Jan-2021		31-Jan-2022	31-Jan-2023	31-Jan-2024	
Americas (Dosmetic sales)	1,841.90	1,870.90	1,960.30	1,924.00	1,426.20	-6.19%	1,586.36	1,710.38	1,793.11	7.93%
Growth (%)	-5.40%	1.57%	4.78%	-1.85%	-25.87%		11.23%	7.82%	4.84%	
No. marriage couples (MN)	2,251,411	2,236,496	2,132,853	2,130,947	2,120,629	-1.48%	2,113,159	2,116,565	2,122,849	-0.10%
Growth (%)	1.34%	-0.66%	-4.63%	-0.09%	-0.48%		-0.35%	0.16%	0.30%	
Luxury jewelry mkt size	10,675.90	10,274.40	10,866.80	11,082.20	8,647.70	-5.13%	9,885.10	10,859.10	11,515.40	0.96%
Growth (%)	-5.91%	-3.76%	5.77%	1.98%	-21.97%		14.31%	9.85%	6.04%	
Engagement Jewellery product segment (%)	22%	21%	21%	21%	21%		21%	21%	21%	
other product segment (%)	78%	79%	79%	79%	79%		79%	79%	79%	
YoY Growth (%)	-4.31%	-3.11%	3.58%	1.55%	-17.46%		11.23%	7.82%	4.84%	

Source: Own calculation

For export sales forecast, we combine the forecast revenue of four export segments, Asia-Pacific, Japan, Europe, and others. Asia-Pacific region includes Australia, China, Hong Kong, Thailand, Korea, Malaysia, Singapore, and so on. The forecast data derived from the growth rate of the number of marriages and luxury jewelry market size in each country weighted by population.

The reason for the weight the growth rate by population (2019) of each country because some country's population is very high especially China. The population of China is the highest in the world and tourism is high so assume that the effect of its growth rate will be the highest among other countries.

In the other section manufacturer and supplier, information is limited. Therefore, we assume that the revenue will be constant at 40.68 million USD as of 2020.

Table 4.3 Export (International) sale forecast

Export Sale Forecast (Million in USD)	2016	2017	2018	2019	2020	CAGR 2015-2019	2021F	2022F	2023F	Next 3 yrs CAGR
Period End Date	31-Jan-2017	31-Jan-2018	31-Jan-2019	31-Jan-2020	31-Jan-2021		31-Jan-2022	31-Jan-2023	31-Jan-2024	
Net sales	4,001.80	4,169.80	4,442.10	4,424.00	3,590.80					
Export Sale	2,159.90	2,298.90	2,481.80	2,500.00	2,164.60	3.75%	2,266.93	2,326.86	2,380.60	3.22%
Asia-Pacific (Export sale)	999.10	1,095.00	1,239.00	1,258.20	1,245.60	5.83%	1,265.10	1,282.72	1,297.54	0.65%
Asia-Pacific (Export sale %)	24.97%	26.26%	27.89%	28.44%						
Growth %	-0.40%	9.60%	13.15%	1.55%	0.75%		1.57%	1.39%	1.15%	
Japan (Export sale)	604.40	596.30	643.00	649.80	514.83	4.67%	592.58	632.58	669.45	-0.89%
Japan (Export sale %)	15.10%	14.30%	14.48%	14.69%						
Growth %	11.66%	-1.34%	7.83%	1.06%	-22.03%		15.10%	6.75%	5.83%	
Europe (Export sale)	457.60	482.90	504.40	498.30	363.49	-0.37%	368.57	370.88	372.93	-9.38%
Europe (Export sale %)	11.43%	11.58%	11.35%	11.26%						
Growth %	-9.51%	5.53%	4.45%	-1.21%	-2.67%		1.40%	0.63%	0.55%	
Other (manufacturer and supplier)	98.80	124.70	95.40	93.70	40.68	-3.44%	40.68	40.68	40.68	-24.28%
Other (manufacturer and supplier %)	2.47%	2.99%	2.15%	2.12%	1.13%					
Growth %	-8.35%	26.21%	-23.50%	-1.78%	-56.59%		0.00%	0.00%	0.00%	

Source: Own calculation

Therefore, the total sales revenue is a combination of domestic and export sales. Although the annual revenue of 2020 drops by 18.83%, Tiffany reported that they hope for positive growth shortly as they will become the family of LVMH soon. Hence, the positive growth rate in 2021, and the following years are possible because the completion of the pending merger can accelerate the growth of Tiffany.

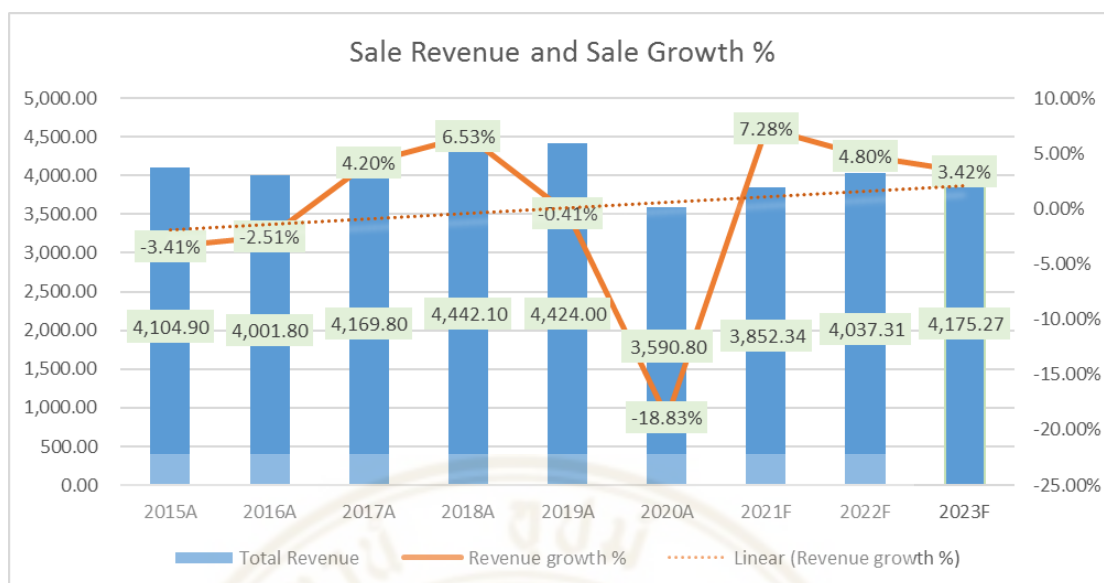


Figure 4.7 Tiffany Revenue and Growth rate

Source: Tiffany & Co., annual report, 2019

Next, we forecast the gross profit margin percentage before the calculation of gross profit. The gross profit margin in 2019 was 62.4% but the gross profit margin of the 2020 3rd quarter is 63.8%. Therefore, we assume that the profit margin will be 64% in 2020 and will decrease to 62% in 2021. Tiffany's gross profit margin was around 62% in the past 5 years so, assuming that Tiffany will try to maintain its gross profit margin at 62%.

After calculating gross profit, the cost of sales is calculated by subtracting gross profit from revenue. Then, the selling expenses are calculated after assuming the selling expenses to revenue percentage. In 2019, the selling expenses to revenue percentage was 49.5%. Consequently, the first quarters of 2020 were 53.8%, 74.65% in quarter 2, and 47.5% in quarter 3. Therefore, we assume that Tiffany will control its selling expenses to revenue percentage in 2020 will be at 53% because the average of the first 3 quarters is 58.6%. Then, it will decrease to 45% in 2021 and maintain at this level.

For other income or expenses, there was no big amount during the past five years. But there was USD 25.4 million in quarter 2, 2020. Therefore, assume there will be around USD 20 of other income in the next 3 years.

Table 4.4 Operating assets analysis and forecast

Million in USD	2016A	2017A	2018A	2019A	2020A	2021F	2022F	2023F	CAGR 2021-2023
Period End Date	31-Jan-2017	31-Jan-2018	31-Jan-2019	31-Jan-2020	31-Jan-2021	31-Jan-2022	31-Jan-2023	31-Jan-2024	
Net sales	4,001.80	4,169.80	4,442.10	4,424.00	3,590.80	3,853.29	4,037.25	4,173.71	5.14%
Dosmetic sales	1,841.90	1,870.90	1,960.30	1,924.00	1,426.20	1,586.36	1,710.38	1,793.11	7.93%
Growth %	-5.40%	1.57%	4.78%	-1.85%	-25.87%	11.23%	7.82%	4.84%	
Export sale	2,159.90	2,298.90	2,481.80	2,500.00	2,164.60	2,266.93	2,326.86	2,380.60	3.22%
Growth %	0.09%	6.44%	7.96%	0.73%	-13.42%	4.73%	2.64%	2.31%	
Total Revenue	4,001.80	4,169.80	4,442.10	4,424.00	3,590.80	3,853.29	4,037.25	4,173.71	5.14%
Revenue growth %	-2.51%	4.20%	6.53%	-0.41%	-18.83%	7.31%	4.77%	3.38%	
Cost of Sales	1,511.50	1,559.10	1,631.10	1,662.10	1,292.69	1,464.25	1,534.15	1,586.01	7.05%
Gross Profit	2,490.30	2,610.70	2,811.00	2,761.90	2,298.11	2,389.04	2,503.09	2,587.70	4.04%
Selling, general and Administrative	1,769.10	1,801.30	2,020.70	2,029.30	1,903.12	1,733.98	1,816.76	1,878.17	-0.44%
Other (income)/expenses + Loss on extinguishment of debt	(6.20)	6.90	1.80	(0.80)	(20.00)	(20.00)	(20.00)	(20.00)	
Foreign Exchange Gain/Loss/Non-Business	4.80	0.00	5.30	4.60	4.50	4.50	4.50	4.50	
EBIT	722.60	802.50	783.20	728.80	410.49	670.56	701.83	725.03	-1.25%
Interest expenses and financing costs	46.00	42.00	39.70	38.50	35.70	39.00	38.00	38.00	
Provision for Income Taxes	230.50	244.20	173.00	149.20	78.70	132.63	139.40	144.28	-2.24%
Net Income	446.10	516.30	570.50	541.10	296.08	498.93	524.43	542.75	-1.04%
Income Taxes - Non-Recurring Tax Change	0.00	146.20	(15.90)	0.00	0.00	0.00	0.00	1.00	
Net Income after Income Taxes - Non-Recurring Tax Change	446.10	370.10	586.40	541.10	296.08	498.93	524.43	541.75	
Income Available to Com Incl ExtraOrd	446.10	370.10	586.40	541.10	296.08	498.93	524.43	541.75	
Basic Weighted Average Shares	125.10	124.50	122.90	121.10	121.30	121.30	121.30	121.30	
Basic EPS Excluding ExtraOrdinary Items	3.57	4.15	4.64	4.47	2.44	4.11	4.32	4.47	

Source: Own calculation

The EPS in 2020 will be 2.44 but it will increase to 4.11 in 2021 as shown in table 4.4. In Yahoo Finance, the average EPS of analysts is 2.45 in 2020 and 4.5 in 2021.

Table 4.5 EPS forecast of 2021 and 2022

Earnings Estimate	Currency in USD			
	Current Qtr. (Jan 2021)	Next Qtr. (Apr 2021)	Current Year (2021)	Next Year (2022)
No. of Analysts	6	3	9	10
Avg. Estimate	1.91	0.79	2.45	4.5
Low Estimate	1.81	0.74	1.29	2.63
High Estimate	1.99	0.89	2.89	5.86
Year Ago EPS	1.8	-0.53	4.59	2.45

Source: YahooFinance

4.2.2. Terminal Value and Weighted average cost of capital (WACC)

To estimate the terminal value, we apply the Discounted Cash Flow Model (“DCF”). The perpetual growth rate, 3.07% per annum, is set equal to the projected growth rate for the next 3 years (2021-2023). The growth rate is high as the company is expected to finalize the merger process with LVMH and there is a potential for a high future growth rate.

The growth rate is the total combination of the forecast nominal GDP growth rate of 2021 and the luxury jewelry market growth rate of 2021 weighted by the product segment ratio of 21% and 79%. The inflation rate has been used as the stable growth rate commonly. However, the current inflation rate is low or negative.

The 2021 Forecasted nominal GDP growth rate of USA and export (Asia-pacific, Japan, and Europe) are multiplied by the domestic and export sale ratio. The proportions of domestic sales and export sales are 44% and 56%, which are the ratios in 2019. In 2020, the export ratio decreases, assuming the COVID pandemic situation is the main reason. However, we expect an improvement in export sales as the COVID situation will be better or the vaccine will be out.

Furthermore, Tiffany has two main product segments, engagement is 21%,

and other luxury products is 79%. Thus, we multiply the growth rate of forecasted nominal GDP by 79% and the growth rate of the luxury jewelry market by 21%. The luxury jewelry market growth rate is the combination of the regional jewelry market growth rate.

Table 4.6 Terminal Growth rate calculation

	PROP.	
Forecast nominal GDP 2021		
USA	5.90% ¹	44%
Outside USA	7.31% ²	56%
Growth rate (GDP multiplication)	6.69% ³	79%
Luxury Jewelry Mkt Growth rate	-10.55% ⁴	21%
Terminal Growth rate		3.07%

Source: Own calculation

Besides, Beta, 0.76, is the slope between the monthly return of Tiffany and S&P500 for 5 years. The risk-free rate is 0.86% is the average of 10 years government bond yield rate of the U.S. for November 2020. The equity risk premium is assumed at 6% from Damodaran because the firm is risky and trying to meet the investors' high expectations. As a result, the company's cost of equity is 5.44% that is calculated as follow;

$$\text{Cost of equity} = \text{Risk free rate} + (\text{beta} \times \text{equity risk premium})$$

¹ Nominal GDP growth rate of the U.S.

² Combination of nominal GDP growth rate of Asia-pacific, Japan, and Europe

³ Total multiplication of forecasted nominal GDP growth rate and the ratio of domestic sales and export sales.

⁴ Luxury jewelry market growth rate of the U.S, Asia-pacific, Japan, and Europe

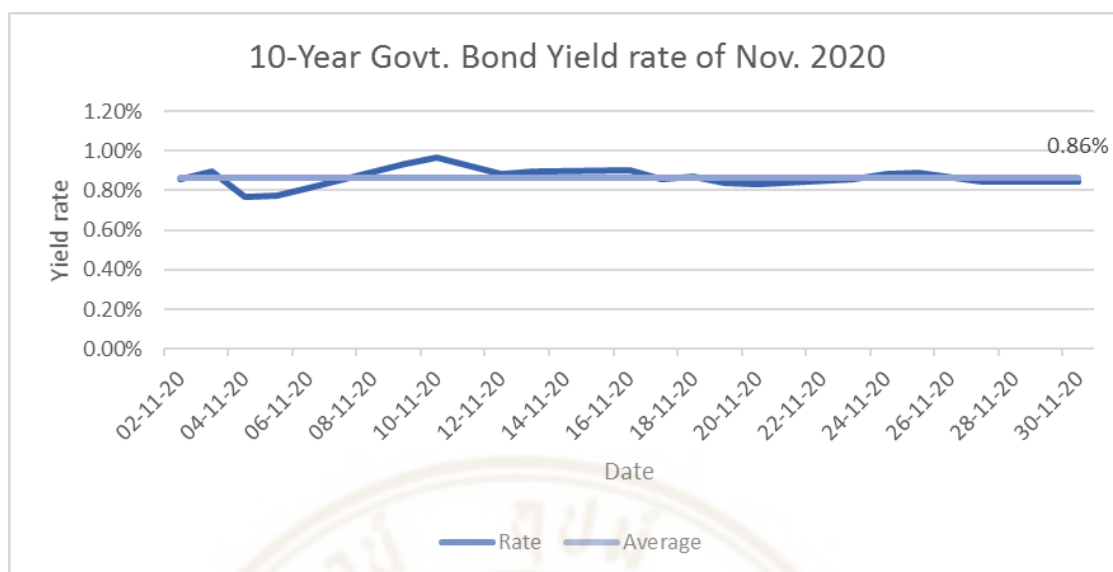


Figure 4.8 The U.S. 10 Year Treasury Bond Yield rate of November 2020

Source: U.S. DEPARTMENT OF THE TREASURY

The cost of debt (1.45%) is derived from the interest expense and finance cost divided by average interest-bearing debt. The effective interest rate was around 3% in the last five years. However, Tiffany was able to reduce it to 1.75% in 2019 and maintain around 1.4% in the first 3 quarters of 2020. Therefore, the effective interest rate is assumed at 1.45% in 2020 and maintains at 2% in the next years onward. We assume that Tiffany pays the income tax as the corporate income tax rate at 21%. Then the calculated after-tax cost of debt by deducting tax rate from the cost of debt and the resulting cost of debt after tax is 1.1%.

Multiplying market share price and outstanding share will result in firm equity value. The net debt is the forecasted interest-bearing debt minus cash and cash equivalent. Then, the weight of debt is net debt divided by the sum of debt and equity. Therefore, WACC of the company for the DCF model is 5.29% which is calculated using the following equation;

$$WACC = \left(k_d \times (1 - T) \times \frac{D}{D + E} \right) + \left(k_e \times \frac{E}{D + E} \right)$$

Table 4.7 WACC calculation

TERMINAL GROWTH	3.07%
BETA	0.76
RISK FREE RATE	0.86%
EQUITY RISK PREMIUM	6.00%
COST OF EQUITY	5.44%
COST OF DEBT	1.45%
AFTER TAX COST OF DEBT	1.15%
Tax	21.00%
WACC	5.29%

Source: Own calculation

After calculating WACC, we calculate Discounted Cash Flow (DCF) and the terminal value is 12,994.66 million USD. The formula is $Terminal\ Value = \frac{FCF_3 \times (1 + Terminal\ growth\ rate)}{WACC - terminal\ growth\ rate}$. Therefore, Terminal value = $279.4 * (1 + 3.07\%) / (5.29\% - 3.07\%)$.

4.2.3 The result of discounted cash flow valuation

The present value of the firm is 12,211 million USD as of 31 December 2020, which is the total discounted cash flow to the firm, as shown in Table 4.7.

Table 4.8 Terminal Value

PERIOD						0	1	2	Terminal Value
	2016	2017	2018	2019	2020	2021F	2022F	2023F	
EBIT	722.60	802.50	783.20	728.80	410.49	670.56	701.83	725.03	
TAX	(230.50)	(244.20)	(173.00)	(149.20)	(78.70)	(132.63)	(139.40)	(144.28)	
EBIT AFTER TAX	492.10	558.30	610.20	579.60	331.78	537.93	562.43	580.75	
(+) DEPRECIATION	208.50	206.90	229.00	259.70	141.64	141.64	141.64	141.64	
(-) WORKING CAPITAL CHANGE	(173.50)	(13.10)	(187.40)	12.20	(2,075.37)	(333.74)	(233.19)	(172.99)	
(-) CAPEX	(222.80)	(239.30)	(282.10)	(320.60)	(320.00)	(300.00)	(270.00)	(270.00)	
CASHFLOW TO THE FIRM	304.30	512.80	369.70	530.90	(1,921.95)	45.83	200.87	279.40	12,994.66
DISCOUNTED CASHFLOW	369.70					45.83	190.79	252.05	11,722.61
PRESENT VALUE OF THE FIRM									12,211.28

Source: Own calculation

Based on the present value (PV) of the firm from DCF, 12,211 million USD, subtracting net debt from present value results in the present value of equity. Dividing present equity value with share outstanding, 121.4 million shares as of 11 November 2020, generates the estimated share value of USD 95.7 per share.

Table 4.9 Share price from WACC calculation

	2020		
PV OF FIRM	12,211	Share price	131.2
NET DEBT	600	# shares (Mn)	121.4
PV OF EQUITY	11,611	Equity Value (USD Mn)	<u>15,918.89</u>
No. OF SHARES (MN)	121.4	Net Debt (USD Mn)	600.00
EST. SHARE VALUE	95.7	NET DEBT / (EQUITY + NET DEBT)	4%
Mkt. Share price (11 Nov 2020)	131.2		

Source: Own calculation

4.3 Sensitivity Analysis

To test how the estimated share value derived from the DCF valuation method depends on the valuation assumptions, we have performed a sensitivity analysis to determine how much each variable affects the value of Tiffany. The constant growth rate for the terminal value of the company can indicate how much the company can earn in the long run at this constant growth rate. Therefore, the constant growth rate is one of the important parameters driving the value of the company in the DCF.

Additionally, the cost of capital (WACC) is another important variable when the value of the company is calculated by discounted cash flow. WACC is influenced by many factors, both controllable and uncontrollable. Controllable factors are the Debt-to-Equity ratio and uncontrollable factors are world financial market conditions. The changes in WACC which affect the share price are important for the firm.

Table 4.10 Sensitivity analysis of the cost of equity and share price

Cost of equity	7.44%	6.94%	6.44%	5.94%	5.44%	4.94%	4.44%	3.94%	3.44%
Share price	48.8	55.9	65.2	77.7	95.7	123.8	173.5	285.4	773.5

Source: Own calculation

To see the possible range of share price, the sensitivity is tested by changing WACC by 0.5%. At a cost of equity of 5.44%, the share value of 95.7 USD is 27% less than the current market share price. As the cost of equity increases by 0.5%, the lower the share price. This suggests that investors should buy Tiffany shares if their required rate of return for individual stock investment is lower than 5.44%

Table 4.11 Sensitivity analysis of WACC and constant growth, g

		Sensitivity analysis						
		WACC						
Constant growth, g	95.7	2.29%	3.29%	4.29%	5.29%	6.29%	7.29%	8.29%
	0.07%	98.4	66.3	49.3	38.9	31.8	26.7	22.8
	1.07%	181.5	97.4	65.6	48.8	38.5	31.5	26.4
	2.07%	1020.0	179.7	96.5	64.9	48.3	38.1	31.1
	3.07%	N/A	1010.1	178.0	95.5	64.3	47.8	37.7
	4.07%	N/A	N/A	1000.4	176.2	94.6	63.6	47.3
	5.07%	N/A	N/A	N/A	990.8	174.5	93.6	63.0
	6.07%	N/A	N/A	N/A	N/A	981.5	172.8	92.7

Based on the sensitivity analysis from table 4.10, the expected share price is USD 95.7 at WACC 5.29% and a constant growth rate of 3.07%. The share price increase or decrease aligns with WACC and the constant growth rate. Increased WACC with the present perpetual growth rate, 3.07%, may decrease the share price. On the other hand, an increase in growth rate with the present WACC (5.29%) may increase the share price. Therefore, a wide range of share values is possible, depending on the valuation assumptions, with high downside risk if the WACC is higher than expected or the perpetual growth rate lower.

4.4 Valuation recommendation

According to the findings from the above figures and tables, the expected share price of 95.7 USD per share is 27% lower than the market share price, 131.2 USD per share as of 11 November 2020. The forecasted share price is sensitive to the projected growth rate and WACC, and the investor should “buy” when having a higher growth rate estimate than 3.07%, and/or when requiring a cost of equity below 5.44%. However, the investors should “sell” when having a lower estimate growth rate than 3.07%, and/or when requiring a cost of equity of more than 5.44%. For the investors who own Tiffany’s & Co shares, we recommend “Sell”, given that the estimated share price is 27% lower than the market price.

CHAPTER V

INVESTMENT RISKS

5.1 List of Risks and Downside Possibilities

The list of risks and downside possibilities is from the current situation of the company, stakeholders, and environment such as company operation, company strategies, customer behavior, Covid-19, global economic, etc. Risk factors will drive the uncertain situation of the company.

5.1.1 Merger Disrupts.

Tiffany's merger plan is in process, so it affects the stakeholders of the company such as employees, customers, and other parties. The customers may feel less confident with brand management. Tiffany needs to maintain relationships with them, not only customers but also suppliers and other business partners. The employee retention rate after the merger is an issue that Tiffany also needs to focus on. Merger's plan affected the confidence of employees who work at Tiffany such as not renewing the employment contract. The merger also affects the company's current plans and operations.

If the merger plan fails, Tiffany may sue LVMH due to the cost of time and the effect on its brand image. The failure of the merger agreement may affect the market price at that time. Tiffany hopes that this merger agreement will be a success in the time frame that they set.

5.1.2 Covid-19

In December 2019, the Covid-19 virus was discovered in Wuhan, China then spread to people around the world. The governments in many countries responded by reducing the time spent outside the house or imposed spending lockdowns. It affects a lot of business sectors and tourism. The retail stores need to be closed as announced by the government in some cases. Many countries close their country to prevent the spread of Covid-19.

Tiffany's geographic regions worldwide got affected by store closures, reductions in operating hours, and decreased store traffic. Customer spending is reduced from lower-income customers. The other stakeholder that counted is the company's office locations, manufacturing, servicing facilities centers, and third-party vendors.

5.1.3 Global Economic Conditions and Consumer Confidence

The falling of consumer confidence, both domestic and international, changes the economic conditions which negatively affect the company's revenue. Sales of Tiffany may decline or remain flat in quarter 4, November to end of January, which includes the holiday season. One-third of net income is from quarter 4 so the poor sales during quarter 4 will affect annual net income. Tiffany invests in China and countries that serve Chinese tourism so the slower the economy, the lower the revenue of Tiffany from retail stores.

5.1.4 Operations Globally

Tiffany has both U.S. and foreign manufacturers so its risk from the increasing costs, reduction of profits, and disruption of its business are worldwide. Tiffany also manages the different tax rates, laws, USD against foreign currencies, political situation, public health standard, lower number of tourists, and local consumer spending. The tax income law of the U.S. impacts company tax payment which affects future company net profit. In the part of USD against foreign currencies, Tiffany operates in more than 20 countries, so the fluctuation of foreign currencies is the risk of the company. The strong USD against foreign currencies forced Tiffany to increase the selling price. Customers in that location will not accept the significantly rising price of products. The risk of USD against foreign currencies would affect the reduction of company revenue.

5.1.5 Increasing of Material Cost

Tiffany is a high-end jewelry company that currently focuses on high-end materials such as gold, white gold, platinum, etc. The increasing gold price, costs of diamonds, other precious stones, and reduced supply availability during Covid-19 may affect the Company's profit margins.

Material disruption is also another risk for the company. Tiffany provides the product around the world which needs to have a good operation to transfer the product and services. However, during Covid-19, it is hard to deliver the product on time or need a higher cost of transportation. The company information system is a key role to help the company manage the product information and help the company to be better manage products.

5.1.6 Store Locations

The company focuses to maintain a brand image as a premium goods retailer, so they set the location of stores in prime locations. The company also made a significant investment in store construction, maintenance, and periodic renovation to the desirability of customers. Tiffany may not be able to acquire top locations for new stores, which will impact the brand image.

5.1.7 Brand Image

The value of the Tiffany & Co. and Tiffany trademarks could decline because of infringement by a third party. Those who produce or sell Tiffany & Co. goods must be civil action and cooperate with criminal law. For those who cannot follow the agreement with Tiffany, or the company's failure to protect the value of the brand, it must affect the brand image such as small retail jewelry companies that copy the design of the product without telling Tiffany.

The Company's business is mostly dependent on the appeal of the Tiffany & Co. brand, so the company needs to invest a lot to keep the brand image desirable and attractive. The poor performance of maintaining the brand position, brand image, or promotion impacts lower sales and profit.

5.1.8 Privacy Cost

Privacy laws and data security in a company's information systems increase operational costs. Tiffany needs to invest in the inventory system, customer information system, web-based system, cloud computing, etc. Tiffany also needs to prevent and protect against the loss of information in the system.

5.1.9 Customer Behavior

Consumer tastes are hard to predict and consume a lot of time and cost to respond to trends and preferences of customers. Tiffany developed the strategy to present a new collection, brand image, or expand the annual design collection by using social media tools. If the Company is unable to respond to the changing of customer behavior, consumer preferences, and shopping patterns to new or existing customers, Tiffany's sales and profitability could be negatively affected.

5.1.10 Environmental and Climate Changes

Risks of environmental and climate changes affect weather, climate patterns, resources, and risks related to carbon emission in every country around the world. Climate change and climate disrupt social, cultural, and economic areas in these areas. For Tiffany, the environmental risk would impact the supply chain such as damage to manufacturing locations, poor transportation systems, local infrastructure, limit the ability of the employees or customers to access the company's stores, reductions in material quality, and others.

CHAPTER VI

CONCLUSION

6.1 Conclusion and Discussion

This paper's purpose is to obtain the stock price of Tiffany & Co., by analyzing historical data and forecasting the company's future performance. The concept of the discounted cash flow to the firm model is applied to estimate a reasonable value of the firm's share price with the forecasted cash flow data. Then, it recommends whether to buy/hold/sell the company's stock for the present and potential investors.

According to the result, we recommend "Sell" TIF's shares. The discounted cash flow (DCF) method resulted in a target share price of 95.7 USD per share. Therefore, the recommendation from this paper is "Sell" as the stock price is 27% lower than the current market share price of 11 November 2020, at 131.2 USD. Yet, the investors should not overlook that there may be the additional and positive expected benefit from the LVMH acquisition may be offered to the current TIF shareholders. Further, there is a limited upside due to the acquisition offer price of 131.5 USD per share made by LVMH.

6.2 Limitation and Constraints

The typical discounted cash flow model projects cash flows for the initial set of years and then typically assumes that the cash flows will grow at a constant rate into the indefinite future. However, the future value cannot be predicted mostly by using historical data as the market may not perform as the historical trend. Additionally, there are uncontrollable and unexpected external factors that can affect the future value and performance of the company.

In this report, we forecast the next three years' revenue and EBIT to calculate the company's present value. Thus, it difficult to predict the long-term value and growth rate. The unexpected factors such as economic, political, and natural

disasters cannot be foreseen, and the effect cannot be predicted. Therefore, this report's results can be affected by the author's assumption and expectation of future growth.

To reduce personal bias and errors, I put an effort to understand a well-rounded background and knowledge, and retrieved some more information from Thomson Reuters, Yahoo Finance, CNN Business, and Euromonitor to forecast data and compare the results. However, this paper makes forecasts only for the next 3 years, and the assumption used for the future data is based on the available data from the websites, as there are limitations of time and resources.

6.3 Triggers for reassessment

This paper will need to reassess the value when the merger between Tiffany & Co. and LVMH finalizes. If the acquisition is successful, Tiffany's share price and financial data may not be available anymore, hence it will depend on the acquisition conditions. However, the merger can also trigger the reassessment because there will be changes when the two companies combine.

On 2 January 2021, there was an announcement that the long saga of the acquisition process is nearly completed after the shareholders approved the offer of LVMH for the value of around 16 billion USD. Hence, Tiffany & Co. will be removed from the S&P500 Index. Consequently, no information was available on Thomson Reuters and CNN business since 7 January 2021. As the deal is expected to close early this year, this deal will greatly affect the result of this paper, as Tiffany shares will then be acquired for the target price of 131.5 USD and delisted.

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APPENDIX

Appendix A: Tiffany's consolidated financial statements for 2015-2019

(fiscal year ended on January 31 of the following calendar year)

<i>(in millions, except per share amounts, percentages, ratios, stores and employees)</i>	2019 ^{b, c}	2018 ^c	2017 ^a	2016 ^a	2015 ^f
EARNINGS DATA					
Net sales	\$ 4,424.0	\$ 4,442.1	\$ 4,169.8	\$ 4,001.8	\$ 4,104.9
Gross profit	2,761.9	2,811.0	2,610.7	2,499.0	2,505.2
Selling, general & administrative expenses	2,029.3	2,020.7	1,801.3	1,752.6	1,706.1
Earnings from operations	732.6	790.3	809.4	746.4	799.1
Net earnings	541.1	586.4	370.1	446.1	463.9
Net earnings per diluted share	4.45	4.75	2.96	3.55	3.59
Weighted-average number of diluted common shares	121.6	123.5	125.1	125.5	129.1
BALANCE SHEET AND CASH FLOW DATA					
Total assets ^a	\$ 6,660.1	\$ 5,333.0	\$ 5,468.1	\$ 5,097.6	\$ 5,121.6
Cash and cash equivalents	874.7	792.6	970.7	928.0	843.6
Inventories, net	2,463.9	2,428.0	2,253.5	2,157.6	2,225.0
Short-term borrowings and long-term debt (including current portion)	1,032.0	996.8	1,003.5	1,107.1	1,095.8
Stockholders' equity	3,335.4	3,130.9	3,248.2	3,028.4	2,929.5
Working capital ^a	2,905.1	3,041.4	3,258.5	2,940.8	2,778.5
Cash flows from operating activities	670.9	531.8	932.2	705.7	817.4
Capital expenditures	320.6	282.1	239.3	222.8	252.7
Stockholders' equity per share	27.53	25.77	26.10	24.33	23.10
Cash dividends paid per share	2.29	2.15	1.95	1.75	1.58

Source: Tiffany Annual Report 2019

Appendix B: Number of Marriages (Euromonitor, 2020) (cont.)

Switzerland					41,891.0	41,437.0	41,646.0	40,560.0	40,716.0	38,974.0	38,478.0	38,091.0	38,035.0	38,152.0	38,307.0	38,475.0
				-	506,704.0	602,082.0	504,493.0	506,450.0	554,380.0	541,424.0	537,824.0	523,923.0	519,041.0	516,654.0	514,167.0	511,597.0
Turkey				-												
				-	283,647.0	283,559.0	287,328.0	284,824.0	288,226.0	285,885.0	286,620.0	286,425.0	286,793.0	287,015.0	287,090.0	286,997.0
United Kingdom																

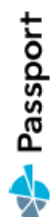
Research Sources:

Number of Marriages: Euromonitor International from national statistics/UNdata/Eurostat

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Appendix C: Market Sizes of Luxury Jewelry (Euromonitor, 2020)



Market Sizes | Historical/Forecast

Geography	Category	Data Type	Unit	Current Constant	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
China	Luxury Jewellery	Retail Value RSP	CNY million	Current Prices	13,185.4	13,945.3	16,790.2	20,123.1	22,980.4	25,049.8	28,448.6	31,863.2	35,002.9	37,851.8	40,479.6
Hong Kong, China	Luxury Jewellery	Retail Value RSP	HKD million	Current Prices	7,730.6	7,030.7	7,235.2	7,604.8	5,853.0	3,544.8	4,289.1	5,094.3	5,753.8	6,420.5	7,030.3
India	Luxury Jewellery	Retail Value RSP	INR million	Current Prices	39,438.3	47,093.1	55,000.4	64,663.1	74,910.4	48,707.9	57,547.5	67,254.4	76,374.9	85,477.8	94,548.0
Indonesia	Luxury Jewellery	Retail Value RSP	IDR billion	Current Prices	1,422.7	1,569.0	1,735.5	1,914.3	2,034.5	1,887.8	1,889.0	1,950.8	2,064.8	2,220.0	2,437.4
Japan	Luxury Jewellery	Retail Value RSP	JPY billion	Current Prices	362.3	359.1	361.8	370.6	378.3	273.3	325.8	383.5	379.3	389.6	416.5
Malaysia	Luxury Jewellery	Retail Value RSP	MYR million	Current Prices	614.9	688.8	776.7	870.1	942.1	881.8	890.7	921.7	966.4	1,023.4	1,089.7
Philippines	Luxury Jewellery	Retail Value RSP	PHP million	Current Prices	3,496.3	3,871.9	4,180.2	4,596.5	4,892.8	4,554.9	4,845.8	5,126.5	5,406.7	5,771.5	6,219.1
Singapore	Luxury Jewellery	Retail Value RSP	SGD million	Current Prices	1,476.1	1,497.2	1,521.6	1,558.4	1,599.8	1,068.0	1,352.3	1,522.9	1,592.0	1,658.2	1,722.8
South Korea	Luxury Jewellery	Retail Value RSP	KRW billion	Current Prices	1,883.9	2,012.3	2,117.2	2,236.7	2,350.2	2,362.0	2,482.3	2,620.4	2,768.1	2,889.1	3,014.3
Taiwan	Luxury Jewellery	Retail Value RSP	TWD million	Current Prices	38,811.9	41,980.7	44,389.9	47,857.9	50,823.4	53,497.5	55,655.5	57,928.5	59,744.3	61,987.4	64,182.4
Thailand	Luxury Jewellery	Retail Value RSP	THB million	Current Prices	7,986.2	8,760.2	9,775.1	11,231.7	12,309.4	8,944.4	9,169.7	9,530.2	10,062.8	10,678.4	11,383.3
Australia	Luxury Jewellery	Retail Value RSP	AUD million	Current Prices	1,078.6	1,122.8	1,177.4	1,229.3	1,288.3	933.6	1,046.9	1,150.8	1,251.7	1,334.5	1,404.6
Poland	Luxury Jewellery	Retail Value RSP	PLN million	Current Prices	233.8	251.4	271.5	294.4	318.5	218.3	268.1	293.0	320.4	350.1	377.8
Romania	Luxury Jewellery	Retail Value RSP	RON million	Current Prices	344.7	355.5	373.8	397.6	446.5	276.1	344.4	392.1	429.0	456.3	476.7
Russia	Luxury Jewellery	Retail Value RSP	RUB million	Current Prices	21,707.4	21,880.7	23,592.2	27,800.7	31,955.1	20,463.8	23,871.8	25,860.5	28,106.6	30,526.0	33,100.9
Ukraine	Luxury Jewellery	Retail Value RSP	UAH million	Current Prices	1,550.4	2,042.8	2,204.0	2,335.7	2,475.6	1,500.1	1,777.2	1,944.3	2,133.2	2,297.2	2,461.4
Argentina	Luxury Jewellery	Retail Value RSP	ARS million	Current Prices	293.4	288.7	327.1	594.2	1,211.7	1,262.4	2,038.9	3,078.9	4,346.1	5,690.3	7,275.0
Brazil	Luxury Jewellery	Retail Value RSP	BRL million	Current Prices	943.3	964.7	988.9	1,011.8	1,044.0	892.4	1,015.3	1,107.9	1,213.9	1,332.5	1,464.7
Mexico	Luxury Jewellery	Retail Value RSP	MXN million	Current Prices	4,756.3	5,137.3	5,507.7	5,892.7	6,159.4	4,104.6	5,309.1	6,313.4	6,919.5	7,498.7	8,051.6
South Africa	Luxury Jewellery	Retail Value RSP	ZAR million	Current Prices	1,246.8	1,358.5	1,440.8	1,504.9	1,576.3	1,250.0	1,188.7	1,232.1	1,286.4	1,351.8	1,428.3
United Arab Emirates	Luxury Jewellery	Retail Value RSP	AED million	Current Prices	3,877.8	3,505.1	3,441.2	3,490.9	3,515.7	2,516.9	2,709.8	3,063.7	3,409.8	3,749.5	4,039.6
Canada	Luxury Jewellery	Retail Value RSP	CAD million	Current Prices	1,000.0	1,022.3	1,055.0	1,086.2	1,120.0	760.5	977.6	1,068.5	1,128.6	1,177.3	1,219.5
USA	Luxury Jewellery	Retail Value RSP	USD million	Current Prices	11,346.2	10,875.9	10,274.4	10,866.8	11,082.2	8,647.7	9,885.1	10,869.1	11,515.4	11,918.2	12,163.3
France	Luxury Jewellery	Retail Value RSP	EUR million	Current Prices	1,935.1	1,903.4	1,922.8	1,953.7	1,967.3	1,501.1	1,609.0	1,922.1	2,008.9	2,086.1	2,176.3
Germany	Luxury Jewellery	Retail Value RSP	EUR million	Current Prices	1,651.1	1,707.2	1,783.7	1,887.4	1,947.1	1,423.2	1,681.4	1,829.2	1,952.2	2,071.9	2,178.6
Italy	Luxury Jewellery	Retail Value RSP	EUR million	Current Prices	1,753.8	1,749.6	1,774.1	1,794.8	1,812.4	1,319.8	1,547.9	1,644.8	1,724.1	1,791.0	1,870.2
Netherlands	Luxury Jewellery	Retail Value RSP	EUR million	Current Prices	291.9	296.1	300.8	310.3	324.1	235.9	271.8	297.5	315.9	328.1	340.1
Spain	Luxury Jewellery	Retail Value RSP	EUR million	Current Prices	840.8	858.0	879.1	903.9	927.8	679.0	799.0	849.5	886.0	920.9	956.3
Sweden	Luxury Jewellery	Retail Value RSP	SEK million	Current Prices	1,881.6	1,746.2	1,777.1	1,849.9	1,920.9	1,301.7	1,602.4	1,774.9	1,864.7	1,934.1	1,996.1
Switzerland	Luxury Jewellery	Retail Value RSP	CHF million	Current Prices	915.5	843.6	831.2	826.4	815.7	599.3	723.6	780.6	813.0	832.0	847.5
Turkey	Luxury Jewellery	Retail Value RSP	TRY million	Current Prices	430.1	390.9	442.6	544.7	648.0	544.1	559.7	576.3	622.0	681.0	749.9
United Kingdom	Luxury Jewellery	Retail Value RSP	GBP million	Current Prices	1,154.5	1,178.4	1,227.8	1,287.0	1,348.2	1,134.3	1,241.1	1,307.8	1,364.0	1,421.0	1,478.2

Research Sources:
Luxury Goods: Euromonitor from trade sources/national statistics

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