

ANALYSIS OF THE FRENCH LUXURY INDUSTRY

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I. PRESENTATION OF THE COMPANIES

A. Essilor Luxottica

EssilorLuxottica is a global leader in the design, manufacturing, and distribution of eyewear and optical equipment. The company was formed in 2018 through the merger of Essilor and Luxottica, two leading eyewear companies. The company's products include prescription lenses, frames, sunglasses, and other vision care products and it operates through a wide range of brands, including Ray-Ban, Oakley, Persol, and LensCrafters.

Actually, Essilor and Luxottica have a long history. In 1849, a group of French opticians founded Essilor and introduced the “Varilux lens” which allowed correction of both near and far sighted people. In 1990, Essilor expanded globally by acquiring Gentex in the US and Satisloh in Switzerland. Then in 2010 they acquired Shamir Optical Industry and in 2013 they did the same with Coastal.com.

On the other hand, Luxottica was founded in Italy, specializing in the manufacturing of eyewear components by Leonardo Del Vecchio in 196, launching their first eyewear brand in 1971 called Vogue eyewear. In 1988 they acquired Lenscrafters, a chain of optical retailers in the US, and later in the 1990s they acquired major brands such as Ray-Ban, Persol, and Oakley. In 2007 they collaborated with google to create the google glass which was a wearable, voice- and motion-controlled Android device that resembles a pair of eyeglasses and displays information directly in the user's field of vision and then finally in 2017 they announced the merger with Essilor, forming EssilorLuxottica.

This company has a global presence with a strong focus on innovation and sustainability and operations in over 150 countries, employing more than 150,000 people worldwide and

operating through a network of retail stores, wholesale distribution channels, and e-commerce platforms, designing, producing and distributing its products on a global scale.

B. Hermès International SA

Hermès International S.A. is a French luxury goods manufacturer established in 1837. The Company operates a chain of boutiques under the Hermès name and is known for its high-quality leather goods, including handbags, luggage, and accessories, as well as for its silk scarves, jewelry, watches, and other fashion items.

The main activities of Hermès include designing, manufacturing, and selling high-end luxury goods, primarily in the fashion and leather goods sectors. As well, the company operates its own retail stores worldwide and maintains a strong focus on craftsmanship, quality, and sustainability in its products.

Hermès operates in many countries worldwide, with a strong presence in Europe, Asia, and North America, having significant presence in France, Japan, China, the United States, the United Kingdom, Italy, Germany, and South Korea. The company has its own retail stores in many of these countries, and it also sells its products through department stores, online channels, and other third-party retailers.

Some of Hermès key moments in history include:

- 1837: Hermès is founded in Paris as a maker of high-quality harnesses and saddles for horses.
- 1922: The first Hermès leather handbag, the "Sac à dépêches," is introduced, which later becomes known as the "Kelly Bag" after Grace Kelly.
- 1937: Hermès introduces its first silk scarf, which becomes an iconic item for the brand.
- 1978: The "Birkin Bag" is introduced, named after actress and singer Jane Birkin.
- 1991: The Hermès watch division is established.

- 2004: Hermès launches its fragrance division, starting with the scent "Un Jardin en Méditerranée."
- 2010: Hermès introduces its own line of makeup.
- 2016: The "Birkin Bag" becomes the most expensive handbag ever sold at auction, fetching over \$300,000.

C. Kering SA

Kering, a global company with its headquarters in Paris, France, is known for its luxury and fashion products with a focus on the design, production, and retail of leather goods, shoes, watches, and jewelry. It owns brands such as Balenciaga, Bottega Veneta, Gucci, Alexander McQueen and Yves Saint Laurent.

The company was created in 1963 when François Pinault founded Pinault S.A, a timber-trading company, which became Pinault-Printemps-Redoute (PPR) in 1994, and eventually in 2013 the company was named Kering as it made its shift from retail to the luxury industry. Since then, the group has focused on promoting sustainable development for the luxury fashion industry. They even committed to become a carbon-neutral company within their operations and supply chain in 2019.

Kering has approximately 42,800 employees and a total of 1,659 directly operated luxury goods stores in more than 120 countries all over the world, with Western Europe, North America and Japan being their biggest market, accounting for most of their sales. The company also sells its products through department stores, online channels, and other third-party retailers just like the other luxury companies analyzed.

Its brands Gucci, Saint Laurent and Bottega Veneta generated 84% of the group's revenue. In fact, the leather goods, shoes, and ready-to-wear products represent 87% of its revenue, with Gucci itself representing 70% of Kering's total profits.

D. LVMH Moët Hennessy Louis Vuitton SE

The LVMH group was founded in 1987 as a result of the merger between Moët Hennessy and Louis Vuitton, which contributed to the development of an undisputed global leader in luxury products. The group's headquarters are based in Paris and it has been chaired by Bernard Arnault since its foundation.

A significant portion of their initial success was due to their capacity for adaptation. Louis Vuitton was able to adjust to the shifting modes of transportation. By establishing its first store in London in 1885, the company began to branch out outside France. In the years that followed, the business built locations all around the world, and profits increased from \$20 million in 1977 to \$1 billion in 1987. Even while the parent firm may seem a young organization, many of its brands have a lengthy heritage. Hennessy started in 1765, whereas Moët & Chandon did so in 1743 and It wasn't until 1854 that Louis Vuitton entered the scene.

This French multinational conglomerate is owner of approximately 76 renowned brands worldwide rooted in six different sectors. The company's product portfolio comprises clothing, fashion and leather goods, wines and spirits, perfumes and cosmetics, jewelry and watches.

LVMH has a strong presence in the United States, especially in New York, Los Angeles, and Miami and Japan is also a significant market. The company has been recently expanding its presence in China and it is now one of its most outstanding markets. The firm has stores and offices located in cities such as Shanghai, Beijing, and Guangzhou. Additionally, since Italy is an important market for fashion and leather goods, the company has several stores and offices in cities such as Milan and Rome and it has had an old-time presence in the UK and Spain.

*** Analysis**

Table 1: Revenue 2019-2021

<i>€ in millions</i>	<i>Essilor Luxottica</i>	<i>Hermès</i>	<i>Kering</i>	<i>LVMH</i>
2019	17,390	6,883	15,884	53,670
2020	14,429	6, 389	13,100	44,651
2021	21,498	8,982	17,645	64,215

Table 2: EBIT 2019-2021

<i>€ in millions</i>	<i>Essilor Luxottica</i>	<i>Hermès</i>	<i>Kering</i>	<i>LVMH</i>
2019	1,678	2,339	4,778	11,273
2020	452	2,0 73	3, 298	7,972
2021	2,326	3,530	4,797	17,155

Table 3: *Net income 2019-2021*

<i>€ in millions</i>	<i>Essilor Luxotti ca</i>	<i>Hermès</i>	<i>Kering</i>	<i>LVMH</i>
2019	1,185	1,528	2,309	7,717
2020	149	1,385	2,179	4,955
2021	1,613	2,445	3,255	12,698

From the comparison of the companies' financial statements, there is to mention that there was a decline of 30,8% of EssilorLuxottica's revenue in the first half of 2020 explained by some internal challenges related to the management and governance of the newly formed merger between Essilor and Luxottica, which was then amplified by the COVID-19 crisis, leading to a profit decrease of 96,2% in 2020. However, as seen on the charts, the company was back on its trajectory of sales growth as its operating profit in 2021 exceeded the pre-crisis 2019 levels.

Indeed, the operating performance of all these companies recovered in 2021, in this year they all showed significant revenue growth compared to 2020, with Luxottica, Hermès, Kering, and LVMH all increasing their revenue by 49,1%, 39,2%, 34.7%, and 43,9%, respectively, while Luxottica and Kering showed the biggest rebound in revenue. Therefore, they were able to adapt to the changing market conditions and recover relatively quickly compared to other industrial sectors by shifting their focus to e-commerce and digital sales channels and by capitalizing on the trend of "cocooning" (staying in and spending time at home) profiting from the increased interest in home and lifestyle products, boosting sales of certain luxury items.

All four companies have performed well over the years analyzed, despite the challenges posed by the pandemic, which was a systematic shock that affected the entire economy. As seen on the net income data, they were all able to recover from the pandemic-related setbacks of 2020, with significant increases in net income in 2021 for each company.

These positive financial results suggest that the luxury industry as a whole has shown resilience and the ability to adapt to the challenges of the pandemic. The companies' performance also highlights the continued demand for high-end luxury products, even in difficult economic times.

In general, the performance of Luxottica, Hermès, Kering, and LVMH in the luxury industry is impressive, and suggests that these companies are well-positioned to continue to succeed in the future.

II. FINANCIAL MARKET RELATIONSHIP

Market Capitalization formula = Current Market Price per share * Total Number of Outstanding Shares.

A. EssilorLuxottica

EssilorLuxottica has been publicly listed on the Paris Stock Exchange, called the Euronext, since March 14, 2018, shortly after the completion of its merger. The company is listed on the segment A of the Euronext and this means it's one of the largest companies in terms of market

$$\text{EssilorLuxottica market capitalization (31/12/2021)} = 184.162\text{€} * 445,467,194 = 82,038,129,428 \text{ €}$$

The largest shareholders of EssilorLuxottica as of December 31, 2021, were:

- Delfin S.à r.l.: A Luxembourg-based holding company with a 32.16% stake in EssilorLuxottica which is controlled by Leonardo Del Vecchio, the founder of Luxottica.

- Norges Bank Investment Management: The central bank of Norway which manages Norway's sovereign wealth fund, the Government Pension Fund Global., which held 3.15% of EssilorLuxottica's shares.
- BlackRock, Inc.: An American investment management corporation that provides asset management and advisory services to institutional and retail clients worldwide, holding a 2.70% stake in EssilorLuxottica.

Other notable shareholders of the company include the Qatar Investment Authority, which held a 1.92% stake, and the Vanguard Group, Inc., with 1.90% of its shares.

B. Hermès International SA

Hermès International S.A. has been publicly listed on Euronext Paris since June, 1993, which was considered a strategic move for the company, and its shares are traded under the symbol “RMS”.

As the other companies studied, Hermès is part of the CAC 40 index, which tracks the performance of the 40 largest companies listed on the Paris Stock Exchange in terms of market capitalization and liquidity. Due to its size, Hermès is also listed on the A segment of this stock exchange.

As of December, 2021, Hermès had 105,569,412 outstanding shares, and each share was valued at €1524.40, giving them a market capitalization of €160.929.782.250 million. With a market capitalization of over 160 billion euros, Hermès is considered one of the most valuable luxury brands in the world with a loyal customer base and a well-designed internationalization strategy.

$$\text{Hermès International S.A market capitalization (31/12/2021)} = 1524.40 \text{ €} * 105,569,412 = 160,929,782,250 \text{ €}$$

The largest shareholders of Hermès, holding more than 5% of the share capital of the company as for 2021 were:

- H51 SAS: Holding company controlled by the Dumas family, which founded Hermès in 1837. Reportedly holding around 70% of Hermès shares through various family holding companies like this one.
- BlackRock, Inc.: The global investment management company held around 5.2% of the shares of Hermès.
- Norges Bank: The central bank of Norway held around 2.7% of Hermès' shares.
- The Vanguard Group, Inc.: It's an American investment management company that offers a variety of financial products, like exchange-traded funds (ETFs), mutual funds, and investment advisory services, holding around 2.5% of the company's shares.

C. Kering SA

In 1988, Pinault S.A., which would later become Kering, was publicly listed on the Euronext Paris Stock Exchange. Kering has been part of the CAC40 index since 1995 and the EURO STOXX 50 since 2018. Due to the magnitude of the company, It is also classified in the Eurolist Compartiment A. Today, Kering's shares are traded under the "KER" symbol.

As of December, 2021, Kering had 124,692,916 outstanding shares, and each share was valued at €706.9, giving them a market capitalization of €88,145 million, this makes the company one of the top 200 most valuable enterprises in the world by market capitalization.

$$\text{Kering's market capitalization (31/12/2021)} = 124,692,916 * 706.9 = 88,145,422,320\text{€}$$

Their main shareholder is Groupe Artémis, which had 41.7% of the share capital of Kering in 2021. Artémis is the investment fund of the Pinault family, created in 1992 by Kering's founder François Pinault. Some other companies in their portfolio include Puma, Christie's auction house and magazines such as Point de Vue and Le point. Having consolidated estimated assets of €40 billion.

According to the company's 2020 annual report, Norges Bank owned 1.34% of Kering's share capital, and BlackRock Inc. owned approximately 5.1% of the total shares of Kering in 2021. French institutions hold 7.4 % of the company's shares and the remaining is held by institutions, individuals, employees and executive corporate officers.

A. LVMH Moët Hennessy Louis Vuitton SE

LVMH was first listed on the Euronext on June 22, 1984, while it's also listed on other stock exchanges like the New York Stock Exchange (NYSE). LVMH is also listed on the Euronext Paris Compartment A.

As of December, 2021, LVMH had 503,895,592 outstanding shares, and each share was valued at €713.86, giving them a market capitalization of €359,710,907,305 billion.

*LVMH market capitalization (31/12/2021)=503,895,592 *713.86= €359,710,907,305*

On the other side, the main shareholders of LVMH as of December 31, 2021, were:

- Christian Dior SE: Controlled by the Arnault Family Group holding 41.48% of LVMH's share capital.
- Groupe Arnault SAS: Managed by the Arnault Family Group. It held 5.81% of LVMH's shares.
- BlackRock Inc.: The company held 4.84% of LVMH's share capital.
- Norges Bank: Holding 1.64% of LVMH's share capital.

The family's patriarch, Bernard Arnault, was just named the world's richest person with an estimated net worth of \$180 billion, according to Forbes. There is definitely a concentration of LVMH's ownership in the governance structure since Bernard Arnault is the company's

chairman, CEO and main shareholder, which creates key-person risk, as well as some debt-funded acquisition risk.

*** Analysis**

The market capitalization is an excellent indicator of the size of the company. From the analysis, it is evident that all four companies are related in terms of their large dimension. However, LVMH is by far the most prominent luxury brand in terms of market capitalization, with a value that is more than three times that of its closest competitor, Hermes.

LVMH was the first company out of the four to get publicly listed on Euronext, which could have several implications. For example, it allows the company to have an established reputation in the financial markets, which could make it easier for them to access capital or attract investors. Additionally, by having a longer trading history it may have a better-settled track record of financial performance, which is useful for investors when evaluating the company's stock, creating trust and helping attract more risk-averse investors.

Based on the above, it can be ratified in France, making billions is often a family business, often, family-owned firms are created around process or product innovations whose peculiar traits are passed down from generation to generation. This transmission of knowledge and know-how is a key competitive driver for luxury firms that base their equity and reputation on product identifiers. Often, Family owners have the patience necessary to create value in the long run, sometimes also sacrificing economic results in the short term. In luxury, time is absolutely crucial. It takes time to create a brand or a reputation in the luxury marketplace.

There is also to highlight that both BlackRock Inc. and the Norwegian bank have shares in the luxury companies under study. These companies are attractive investment targets for asset management firms due to their strong brand recognition, loyal customer base, and ability to generate steady cash flows. These companies tend to have high-profit margins and may be less

sensitive to economic downturns . Therefore, the decision to hold shares in these luxury companies likely reflects its belief that they have strong fundamentals and the potential to deliver attractive returns over the long term.

Consequently, all these companies are listed in segment A of Euronext, which is reserved for the largest and most established companies, as it has the highest liquidity and visibility among investors. Companies listed in this segment must meet requirements, such as high levels of liquidity, transparency, and financial reporting and they must comply with the European Union's Market Abuse Regulation (MAR), which aims to prevent market manipulation and insider trading.

III. BONDS ISSUED

A. EssilorLuxottica

Table 5: *Essilor Luxottica's issued bonds*

Face value (in millions, local currency)	Currency	Coupon	Issue date	Maturity
1,000	EUR	0.75%	11/27/2019	11/27/2031
1,250	EUR	0.50%	06/05/2020	06/05/2028
1,500	EUR	0.38%	11/27/2019	11/27/2027
100	USD	2.65%	01/05/2017	01/05/2027
1,250	EUR	0.38%	06/05/2020	01/05/2026
1,500	EUR	0.13%	11/27/2019	05/27/2025
300	EUR	2.375%	04/09/2014	04/09/2024
500	EUR	2.625%	02/10/2014	09/30/2024
500	EUR	0.25%	06/05/2020	01/05/2024
30	USD	3.40%	11/05/2013	11/04/2023

1.000	EUR	0.00%	11/27/2019	05/27/2023
300	USD	2.50%	06/30/2017	06/30/2022
200	USD	2.05%	01/05/2017	01/05/2022

The firm has €14,500 million of long-term financial debt, while their market capitalization is €160.929 *million* and their equity €35,997 million. Using the debt to equity ratio formula we get that: $14,500/35,997 = 0.402$. This means that for every \$1 of equity, the company has \$0.402 of long-term debt. This suggests that the company is using less financial leverage to fund its operations, which can be viewed as positive by investors because This suggests that the company had a strong financial position and was less risky than companies with higher debt-to-equity ratios.

In this same line of thought, with a rating of A for the S&P, they are a trusted company with low credit risk. This means that they have strong financial fundamentals, a low likelihood of default, and a high level of financial flexibility to meet their long-term obligations and can withstand adverse economic conditions. Furthermore, the group's sales concentration in the eyewear business is mitigated by the favorable long-term dynamics of the industry, and due to their strong cash flow generation, the market anticipates EssilorLuxottica's credit ratios to continue to strengthen.

B. Hermes International SA

According to their financial statements, Hermès does not issue bonds. Instead, it can be inferred that they rely on other strategies such as having access to alternative sources of financing like bank loans, lines of credit, or equity, which may be more cost-effective or aligned with the company's financial goals.

However, it's interesting to see this behavior when Hermes is a company with a strong credit rating, which makes it attractive to investors as their bonds could be perceived as less risky than others from the same industry.

On the other hand, Hermes may choose to delay issuing bonds or look for alternative financing options if the market conditions are unfavorable, nonetheless for the years analyzed, the company may have had an specific organizational strategy that prioritized other financial objectives, such as dividend payments or share buybacks, over issuing bonds.

In terms of financing, Hermes has €1,860 million of long-term financial debt. If we compare their market capitalization of €160.929 *million* with their equity numbers of €9,412 million, the debt to equity ratio would be as follows: $1,860 / 9,412 = 0.197$. Making evident that it is mostly financed by equity. Since for every \$1 of equity, the company has \$0.197 of long-term debt. This can be generally viewed positively by investors as it indicates that the company is not relying heavily on debt to finance its operations.

C. Kering SA

Kering, as a publicly listed company, has the ability to issue bonds in order to raise money for various purposes. Their financial statements of 2021 provide insight on their outstanding bonds.

Table 6: *Kering's issued bonds*

Face value (in millions, local currency)	Currency	Rating	Coupon	Issue date	Maturity
500	EUR	N/I	Fixed 2.75%	04/08/2014	04/08/2024
				05/30/2014	04/08/2024
				06/26/2014	04/08/2024
				09/22/2015	04/08/2024

				11/05/2015	04/08/2024
345	EUR	N/I	Fixed 1.3%	10/01/2014	10/01/2021
275	EUR	N/I	Fixed 0.8%	03/27/2015	03/28/2022
150	USD	N/I	Fixed 2.8%	06/09/2015	06/09/2021
50	EUR	N/I	Fixed 1.6%	04/16/2015	04/16/2035
500	EUR	N/I	Fixed 1.25%	05/10/2016	05/10/2026
300	EUR	N/I	Fixed 1.5%	04/05/2017	04/05/2027
550	EUR	N/I	Zero Coupon	09/30/2020	09/30/2022
600	EUR	A- S&P	Fixed 0.25%	05/13/2020	05/13/2023
600	EUR	A- S&P	Fixed 0.75%	05/13/2020	05/13/2028

Kering has an "A-1" credit rating from S&P, which is the seventh-highest rating on S&P's credit rating scale, which ranges from AAA (highest credit quality) to D (default). However, even if it's very good, it's still a little more vulnerable to the negative changes and economic conditions of the market than the other companies, being suited in an upper medium investment grade.

Alternatively, the company has €8,557 million of long-term financial debt, which compared to its market capitalization of €88,145 million and their equity numbers of €13,736 million, it is evident that Kering is financed mostly by equity. Which can be more clearly seen thanks to the long-term debt to equity ratio which is: $8,557/13,176 = 0.649$. This means that for every \$1 of equity, the company has \$0.649 of long-term debt, which shows that the company has a more conservative financial structure, but it still profits from debt financing.

D. LVMH Moët Hennessy Louis Vuitton SE

Table 7: *LVMH's issued bonds*

Face value (in millions, local currency)	Currency	Rating	Coupon	Issue date	Maturity
850	GBP	N/I	1.125%	2020	2027
1,1250	EUR	N/I		2020	2024
1,1250	EUR	N/I		2020	2026
1,750	EUR	N/I	0.125%	2020	2028
1,500	EUR	N/I	0.375%	2020	2031
700	GBP	N/I	1.00%	2020	2023
1,500	EUR	N/I	0.750%	2020	2025
1,750	EUR	N/I	Floating	2020	2022
700	EUR	N/I	0.125%	2019	2023
1,200	EUR	N/I	0.750%	2017	2024
800	EUR	N/I	0.375%	2017	2022
400	GBP	N/I	1.000%	2017	2022

According to the S&P's, LVMH has an A+ rating, making it to the top five, showing a strong operating performance, which has resulted in increased profitability for the company. Also, their strong credit metrics helped them recover rapidly after the acquisition of Tiffany, which was seen as a strategic move by LVMH to expand its reach in the high-end jewelry market and complement its existing portfolio of luxury brands.

In addition, the company has €48,413 million of long-term financial debt, while having a market capitalization of €359,710 million and equity numbers of €48,909 million. This helps us realize that their debt to equity ratio is: $48,413/48,909 = 0.989$. Meaning that, for every \$1 of equity,

the company has \$0.989 of long-term debt, which suggests that the company's total debt is almost equal to its total equity.

*** Analysis**

The bond issuance of all these companies were in EUR, GBP or in USD. These may have issued bonds in different currencies as a way to diversify their funding sources, take advantage of favorable interest rate differentials between countries, and hedge against currency risks. In the case of EssilorLuxotica, it only issued a few USD bonds while Kering only did so one time and LVMH never did, during the period analyzed. The last two mostly did so in EUR, which is understandable as they are based in France. However, LVMH is the only company that issued bonds in GBP, doing so two times in 2020. This could be explained if the interest rates were lower in the UK than in France, so LVMH may have issued bonds denominated in British pounds (GBP) to take advantage of the lower borrowing costs.

Overall, these luxury companies follow the pattern of relying mostly on equity financing, which carries benefits such as avoiding debt obligations, providing a more stable financial base for a company and allows it to focus on growth and expansion without being burdened by debt. Also, equity financing carries less financial risk because investors assume the risk of the investment. Then, if the company does not perform well, the investors will not receive a return on their investment, but they will not be liable for the company's debts.

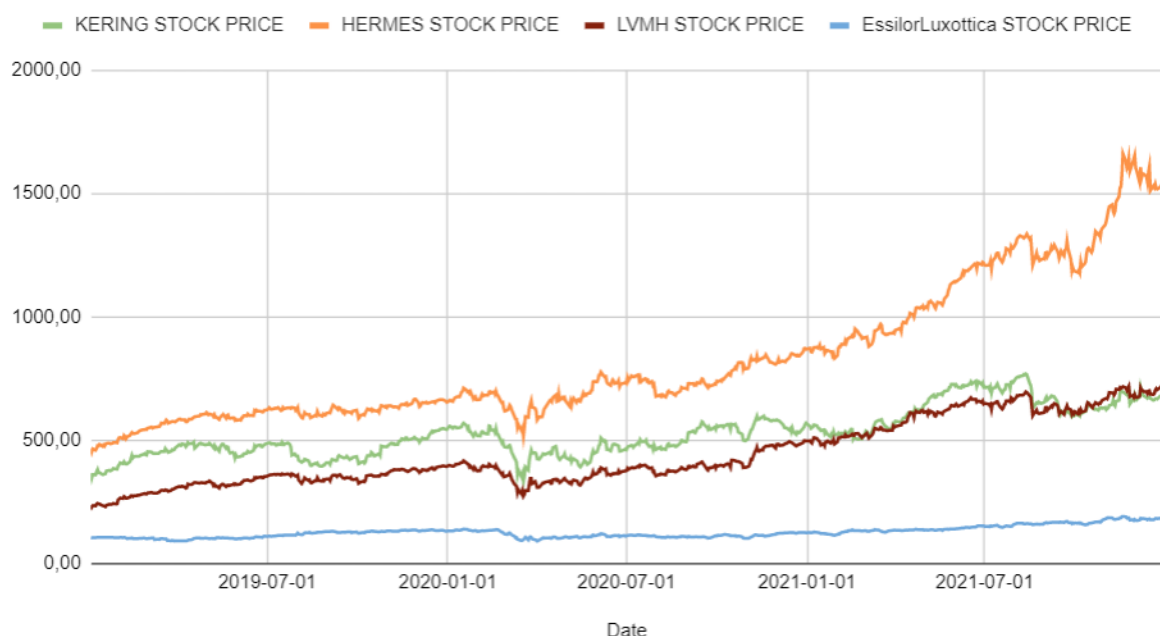
Furthermore, If these companies are successful, equity investors can potentially receive higher returns than debt investors. This is because equity investors own a share of the company's profits and can benefit from any growth in the company's value.

However, it is interesting to note that only LVMH relies on both equity and debt financing in almost equal amounts with a ratio of 0.98. This high debt to equity ratio may suggest that the company has taken on a significant amount of debt to finance its operations or expansion, which

can increase financial risk. However, bond financing can be an important tool for LVMH to fund its operations and growth, which comes with its own benefits. For instance, relying on debt can be cheaper since bond financing provides tax advantages for the company, as interest payments on bonds are tax-deductible, and also interest rates on debt are often lower than the expected return on equity shareholders demand.

IV. STOCK PRICES FLUCTUATIONS

LUXURY INDUSTRY: STOCK PRICES COMPARISON



* *Analysis*

There are some significant points to highlight from the graph above. Certainly, LVMH's stock prices have generally exhibited a stable upward trend over the past years. LVMH's strong performance was largely due to strong sales growth, especially in China, and successful product launches across its various brands.

Furthermore, there were two main firm specific events that were reflected by the fluctuations in their stock prices. First, the increase of 21% in sales that happened in China at the end of

2020, and then the acquisition and legal dispute with Tiffany & Co between 2019 and 2021, that affected LVMH's stock price in this period.

As for Hermes, it can be highlighted that they had strong financial results throughout this time, and even with the challenging circumstances of 2020, they could still collect a similar revenue compared to the previous year, which the other companies were not able to do. Since Hermes is known for its strong and stable management team, it creates investor confidence in the company's ability to navigate challenges and capitalize on opportunities in the luxury market, staying above the other companies' stock prices throughout the years analyzed.

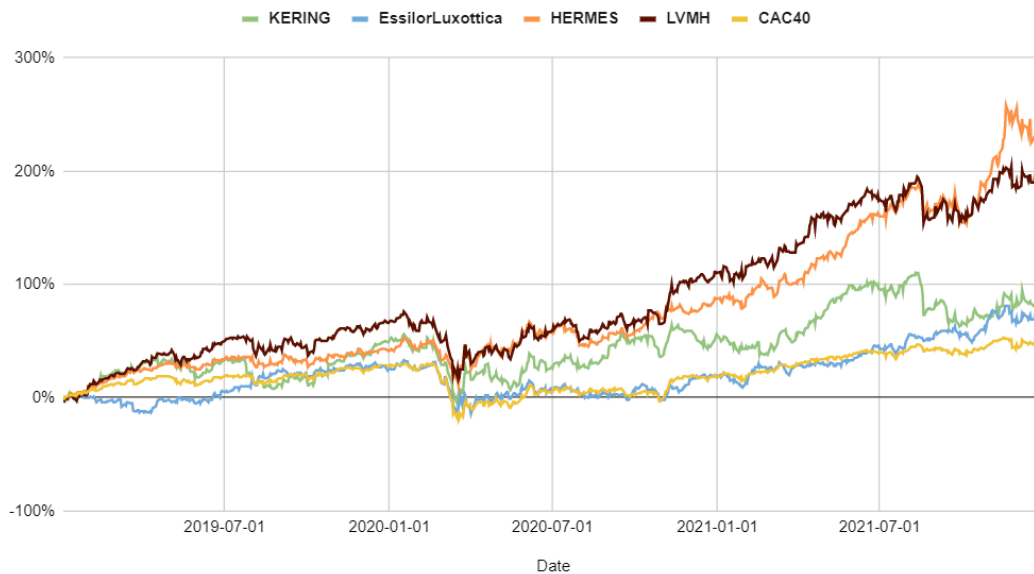
For Kering, the announcement that they would be acquiring the popular German footwear brand Birkenstock for an undisclosed amount in February of 2021, helped to boost their stock price making them reach a new all-time high.

Regarding EssilorLuxottica, they were numerous events that could have affected their stock prices, for instance, the acquisition of the Dutch eyewear company GrandVision caused a boost in their stock price, as well as an investigation by the French competition authority (FCA), which was opened in 2014 for discrimination of online players and protection of brick & mortar retailers. In this case, every time the FCA made an announcement about the ongoing investigation, it would drop EssilorLuxottica's stock prices.

In particular, on March 18th of 2020, LVMH's stock price reached its lowest point since the beginning of 2019, when it closed at €273.24 per share on the Paris Stock Exchange. This exact behavior was shared with the company Kering, when their stocks closed at €333,62. On this day, US President Donald Trump and Canadian Prime Minister Justin Trudeau agreed to close the US-Canada border, which is the world's longest, to curb the effect of COVID-19 and also, Austria and possibly other countries imposed a full lockdown and mandatory vaccines, which are events that could explain these changes. In addition, it's also on this day that the CAC40 index, which will be further analyzed below, presented its lowest point.

Finally, for EssilorLuxottica, it was on the 1st of April, 2020 when their stock prices dropped to €90,72 and in the case of Hermes, it was on January 3rd, 2019 when the prices went down to 451,35€. Then, all of these effects could be traced back to the impact of the pandemic on the global economy and the luxury goods sector, affecting their stock prices.

THE CHANGES OF THE STOCK PRICES



* *Analysis*

Since all of these companies belong to the CAC40 index, they can, to some extent, influence the behavior of the index as a whole. As it can be seen in the graph, all five stocks have parallel fluctuations and present peaks and downs at similar points in time, which can imply that there's a fairly steady behavior in the overall luxury industry and that the behavior of the index mirrors the fluctuations of these companies, together with the other 36.

These companies and the CAC40 index had significant growth between 2019 and 2021. In the case of Kering, the value of their shares went from €365,47 to €686,93, in the last analyzed year. Hermes' stock prices went from €464,58 to €1524,40. LVMH started in 2019 with a stock price of €236,30 and ended 2021 at €716,80. EssilorLuxottica went from €105,07 to €184,56

in this period of time and the CAC40 index from €4689,39 in 2019 to €7173,23 in 2021. The stocks of Hermes presented the most significant growth in this period with a 228% rise, while Essilor Luxottica had the least with 78% change from 2019.

Apart from the firm specific events that affected the stock prices of these French luxury companies. There were also some important global news that influenced these changes. For instance, in 2019, the market had an overall high performance, helping the stock prices to reach new all-time market highs, as for the CAC40 index. All these companies and the CAC40 had a massive decline in march 2020, when the pandemic had its first and major outburst, making the market prices drop approximately 40% from the stocks' peaks of 2019. In this case, they were not able to sell their products in physical stores for a period of time, so this affected their revenues and cash flows, which indirectly brought the stock prices down.

As governments and central banks launched monetary and fiscal stimulus measures to boost their economies, the CAC40 index began to rebound in the second half of 2020. In 2021, the market continued to rise as the global economy recovered, fueled by robust business profits from the luxury companies and economic expansion. However, the index showed considerable volatility at the year's end as a result of the concerns about inflation and the growth of the Omicron variant.

V. RETURN AND VOLATILITY

A. EssilorLuxottica

EssilorLuxottica has had impressive average annual returns of 22.01%. In 2019, the company had a remarkable return of 25.03%, followed by a negative return of -5.85% in 2020, which was mainly due to the pandemic's impact on the market. However, the company was able to bounce back in 2021, with an outstanding return of 46.85%. This high level of volatility is

characteristic of the eyewear industry and reflects the company's ability to adapt to changes in consumer preferences and technological advances. Despite this, EssilorLuxottica has managed to maintain a steady return on investment. During the period analyzed, the company showed an annualized volatility of 32,73% which indicates the risk and price fluctuations they would be by investing in the company. Then, the company's consistent returns together with the average volatility of their stocks, make it an attractive investment opportunity for those looking for a long-term, stable investment.

B. Hermes International SA

In the case of Hermes, the study shows that they have had strong financial records over the past years. In 2019, Hermes had an impressive return of 40.58%, followed by a still impressive return of 31.99% in 2020, despite the economic challenges posed by the pandemic. In 2021, the company saw an explosive return of 74.62%. This means that investors who bought Hermes' stock at the beginning of the year and sold it at the end of the year would have made a profit of 74.62% on their investment.

Accordingly, the average annual return of the company over the past three years was an outstanding 49.06%, indicating consistent growth and profitability. Despite these impressive returns, Hermes' financial statements also indicate relatively average volatility for the industry, with a rate of 28,96%. It means that the company's stock price had an average annual fluctuation of 28,96% over the period analyzed. This suggests that the company has been able to achieve strong returns while maintaining a stable and predictable level of risk despite the sudden market changes.

C. Kering SA

Kering SA had an average annual return of 24,90% of their stocks between 2019 and 2021, this number can be considered a very good return for investors, although it is lower than some of their competitors in the industry.

Their best year was 2019 when investors would've had a ROI of 48,55%, the year after stock prices fell strongly due to the global pandemic, however, they still managed to grow 2,71% compared to the previous year, and finally, in 2021 the company, as well as the global market, were recovering from their past lows and Kering had a return of 23,41% on their stock prices. Which makes Kering an interesting company to look at investing in since it could give healthy potential returns.

Regarding the risk of the company, Kering presents an annualized volatility of 39,18%, meaning that the stock prices are likely to fluctuate in this range.

D. LVMH Moët Hennessy Louis Vuitton SE

LVMH had an average annual return of 45.07%, which is considered to be a very high rate for investors. This means that an investment in this company, over the three-year period studied, has increased in value by over 45.07%. One key factor that contributed to the company's strong annual return is its strong brand recognition and reputation. The conglomerate has a strong financial position, with a solid balance sheet and strong cash flow, allowing the company to invest in growth opportunities.

However, the return on the investment has not fully recovered after the pandemic, since in 2019 the annual return was 66.33%. and in 2021 it only reached 44.09%, so the performance of the investment in 2021 was not as strong as it was back in 2019.

On the other hand, the company showed an annual volatility of 34,34% , which suggests that the returns on the investments have had this variation over the period of time and the risk there is when investing in the company.

Annual Stock Returns

	<i>Essilor Luxottica</i>	<i>Hermès</i>	<i>Kering</i>	<i>LVMH</i>
2019	25,03%	40,58%	48,55%	66,33%
2020	-5,80%	31,99%	2,71%	24,78%
2021	46,85%	74,62%	23,43%	44,09%
Average annual return	22,01%	49,06%	24,90%	45,07%

Volatility

	<i>Essilor Luxottica</i>	<i>Hermès</i>	<i>Kering</i>	<i>LVMH</i>
Annualized Volatility	32,73%	28,96%	39,18%	34,34%

** Analysis*

As seen on the tables, Hermes, EssilorLuxottica, and LVMH have relatively similar annualized volatility rates, while Kering has a higher rate.

EssilorLuxottica's rate is slightly higher than Hermes, which indicates that their fluctuations are slightly higher than Hermes, but it still falls within the range of relatively low to moderate volatility like in the case of LVMH. In contrast, Kering had the highest annualized volatility which may be considered risky by some investors, being valuable information that helps them understand the long-term risk of the stocks.

When it comes to the stock returns, over the period analyzed, one specific percentage sticks out. The stock returns of Hermes were at an impressive 74,62% in 2021. There are several reasons why this may have happened. For instance, some of their luxury goods remained in high demand despite the pandemic. Also, the company has been able to successfully expand into the Asian markets, boosting its revenue growth. As well, investors may have been optimistic about the prospects for luxury brands like Hermes, and must have had confidence in the company's ability to weather the pandemic and emerge as a strong player in the luxury goods market. Nonetheless, with interest rates near historic lows, investors may have been more willing to take on risk in search of higher returns

Overall, the impressive stock returns of Hermes in 2021 can be attributed to a combination of strong financial performance, positive market sentiment, investor confidence, and the low-interest-rate environment.

On the other hand, the average stock returns of EssilorLuxottica in 2020 were the lowest out of them all with a -5,85%. Possibly, the company's revenue was lower than expected, so the concerns about the company's long-term prospects made investors more prompt to sell their shares, leading to a decline in their stock prices. Also, with the pandemic affecting the

company's operations, investors may have reacted by selling their shares, causing the stock price to decline.

Finally, as the company operates in such a competitive industry, it may struggle to maintain market share or pricing power, leading to lower stock prices and then lower profits, if compared to its French competition. Additionally it can be said that if an investor was to choose between the four companies, Hermes would be the best option as it has the higher annual returns on average and the lowest volatility.

VI. BETA OF THE COMPANIES

A. EssilorLuxottica

The stock of EssilorLuxottica has shown positive returns in recent years, indicating the company's strong financial performance. The beta of 0.86 suggests that the stock is less volatile than the overall market, which is desirable for risk-averse investors.

B. Hermes International SA

Hermes has a Beta of 0.76, which indicates that the stock is also less volatile than the market, so when the market experiences fluctuations, Hermes' stocks are likely to be affected less than the overall market. This can be seen as a positive characteristic for investors who are looking for a more stable and predictable investment.

C. Kering SA

Whether a beta of 1.14 for Kering is considered "good" depends on an investor's personal preferences and investment objectives. A beta of 1.14 indicates that Kering's stock price is expected to be more volatile than the market as a whole, meaning that it could experience larger price swings in response to market fluctuations.

D. LVMH Moet Hennessy Louis Vuitton SE

A Beta of 1.08 for LVMH shows investors that the investment is slightly more volatile than the overall market, but it still has a positive correlation with it. This means that if the market goes up or down, LVMH's stock prices are expected to move in the same direction, but with a slightly higher magnitude than the market.

** Analysis*

It's important to note that the Beta only captures the relationship between the stock and the market and does not reflect the risks specific to the company.

In comparison, EssilorLuxottica has a beta of 0.86, which is also less volatile than the overall market but slightly more volatile than Hermes. Kering, on the other hand, has a beta of 1.14, which indicates that it is more volatile than the market. This suggests that Kering's stock price may be more sensitive to market fluctuations compared to Hermes and EssilorLuxottica. LVMH also has a beta of 1.08, indicating that it is similarly more volatile than Hermes and EssilorLuxottica but less volatile than Kering.

In terms of beta, Hermes and EssilorLuxottica have lower betas, suggesting that they are less volatile than the market, while Kering and LVMH have higher betas, indicating that they are more volatile than the market. Ultimately, the best beta will depend on an investor's individual risk tolerance, investment objectives, and portfolio diversification strategy.

Therefore, for investors who prioritize high returns and are willing to take on higher risk, a higher beta like Kering's could be considered attractive. However, for investors who prioritize stability and are more risk-averse, a lower beta stock like Hermes or EssilorLuxottica may be more appropriate.

Capital Asset Pricing Model

Inferring the companies' expected annual return using relevant risk-free rate and market risk premium measures: We calculated it with the equation : $E[RP] = RF + \beta * (E[R_m] - RF)$

Risk-free rate: We decided to use the French 10 Years Government Bond rate of 2.997% since these companies are French and their prices are affected by the government's decisions.

Beta: We get this factor by dividing the covariance with the CAC40 between the Variance of each company's stock prices. This is the measure of risk of an investment. The higher the beta factor the higher you would like to see ROI to make the risk worth it in most cases.

Market risk premium over the 3 years: It is typically calculated as the difference between the expected return on the market and the risk-free rate but since we didn't know the expected return, we estimated it using historical market returns and the current risk-free rate. Our approach was to use the historical average return on the stock market over the studied time and then subtract the current risk-free rate. After we had the 3 values we averaged it. This should give us an estimate of the market risk premium.

	<i>Risk-free rate</i>	<i>BETA</i>	<i>Market return over 3 years</i>	<i>Expected return</i>
<i>Kering</i>	2,997%	1.14	16.03%	17,85%
<i>LMVH</i>	2,997%	1.08	16.03%	17,07%
<i>HERMES</i>	2,997%	0.76	16.03%	12,90%
<i>EssilorLuxottica</i>	2,997%	0.86	16.03%	14,21%

*** *Analysis***

Highest expected return: 17,85% from Kering.

Lowest expected return: 12,90% from Hermes

Kering's expected return is the highest with a value of 17,85%. This makes sense as the Beta factor of Kering is also the highest amongst these companies, which is the measure of excess return that is required by an individual to compensate for being subject to an increased level of risk. Hence, the need for a higher expected return.

The results suggest that Kering may be a more attractive investment opportunity for investors who prioritize high returns, compared to the other companies.

On the other hand, Hermes has the lowest expected return, a good reason for this is because it has the lowest Beta out of the four companies, this consideration could make them look less favorable when attracting new investors.

VII. CONCLUSION

The companies of the luxury industry analyzed had notable differences in terms of their stock prices, debt to equity ratio, market capitalization, and bonds issuance between 2019 and 2021. During this period, Hermes stood out with its consistently high stock price, strong brand equity, consistent financial performance, and a strong management team. Meanwhile, EssilorLuxottica had a relatively low debt to equity ratio, indicating a strong financial position. This suggests that the company may be a less risky investment option for investors who prioritize financial stability and lower risk but this would mean lower returns. Meanwhile, even though Hermes was less affected by the pandemic compared to the other luxury companies, its stock price remained relatively stable throughout this period. It can be considered the riskiest option due to its high valuation and premium pricing, which may make it vulnerable to market fluctuations and consumer trends, offering a higher risk premium than the other companies.

LVMH and Kering also showed varying trends in terms of market capitalization and bonds issuance. LVMH saw a significant increase in market capitalization, while Kering experienced a decline during the period. However, both companies issued bonds in different currencies to diversify their funding sources and these two are expected to have the highest returns on the investment.

Overall, the luxury industry faced significant challenges during this period, including the COVID-19 pandemic, which impacted the demand for luxury goods. Nonetheless, the industry has shown resilience, so, the luxury industry's financial health during this period was characterized by a mix of challenges with companies in the sector demonstrating varying levels of financial strength and capacity to recover and adapt to the changes in the market.

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