LISBON
SCHOOL OF
ECONOMICS &
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UNIVERSIDADE DE LISBOA

MASTER

FINANCE

MASTER´S FINAL WORK

PROJECT

EQUITY RESEARCH: FERRARI N.V.

DIOGO MARTINS DE FREITAS

OCTOBER-2018

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SUPERVISION:
PH.D. PROFESSOR CLARA RAPOSO

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GLOSSARY

BoD - Board of Directors

CAGR - Compound Annual Growth Rate

CAPEX - Capital Expenditures

CAPM - Capital Asset Pricing Model

DCF - Discounted Cash Flow

EBIT - Earnings Before Interest and Taxes

EBITDA - Earnings before Interest, Taxes, Depreciation and Amortization

ECB - European Central Bank

EV - Enterprise Value

FCA- Fiat Chrysler Automobiles

FCFF - Free Cash Flow to the Firm

GDP - Gross Domestic Product

NAFTA - North Atlantic Free Trade Agreement

NOPLAT - Net Operating Profit Less Adjusted Taxes

NV - Dutch Public Company

NWC - Net Working Capital

MRP - Market Risk Premium

LATAM - Latin America

OPEX - Operational Expenditures

ROIC - Return on Invested Capital

S.p.A - Italian Public Company

SUV - Sport Utility Vehicle

TOC - Total Cost of Ownership

WACC - Weighted Average Cost of Capital

YoY- Year over Year

ABSTRACT, KEYWORDS AND JEL CODES

O presente relatório de Equity Research tem por objectivo determinar o justo valor da fabricante italiana de supercarros de luxo, *Ferrari*. Nesse sentido, um preço-alvo para o final do ano de 2018 foi desenvolvido e posteriormente concretizado numa recomendação de investimento, tendo por base o processo de avaliação e o preço atual da acção.

A primeira etapa do processo de avaliação compreende uma breve análise macroeconómica da indústria em que a empresa se insere, seguida de uma análise operacional. Posteriormente segue-se um tratamento de dados financeiros fundamentais para o desenvolvimento do modelo de Discount Cash Flow (DCF) e para o modelo de avaliação relativa com em base em Múltiplos.

O modelo de Discount Cash Flow (DCF) deriva um preço por acção no final de 2018 de € 121.21. Em contraste, a abordagem via múltiplos é ligeiramente mais conservadora, com um valor-alvo por acção de € 115.36. Em 30 de Junho de 2018, o preço da acção em mercado foi fixado em € 116.50, o que deixa espaço para um potencial de valorização de cerca de 4%, considerando o valor obtido através do modelo DCF. O rendimento futuro dos dividendos é esperado ser de 0.70%.

Desde o início do ano, o retorno anualizado da acção foi de 36%, juntamente com uma volatilidade anual de 31%, valores estes que podem ser explicados pela ainda recente IPO e a consequente descoberta de preço pelo mercado

No dia 25 de julho de 2018, *Sergio Marchionne*, Presidente e CEO da *Ferrari* e também CEO do Grupo *FCA*, faleceu inesperadamente. No entanto e apesar deste triste acontecimento, o analista acredita firmemente que o recém-nomeado CEO, *Louis Camilleri*, ex-CEO da *Philip Morris Intl*., irá manter as metas e planos estratégicos de *Marchionne* para a empresa, pelo menos a curto / médio prazo. Certamente será o mais razoável de assumir visto que o recém-nomeado CEO vem de uma indústria completamente diferente, enquanto *Marchionne* tinha o consenso unânime de ter sido um CEO revolucionário na indústria automóvel, especialmente pela impressionante reviravolta do Grupo *FCA* e pelas ideias inovadoras aplicadas na *Ferrari*.

Dito isto, o analista reafirma a sua análise sobre a empresa, a qual está devidamente refletida neste relatório.

KEYWORDS: Equity Research; Valuation; Due Diligence; Discount Cash Flow; Luxury Industry; Value Creation

JEL CODES: M10; M20; M40; G12; G17; G32; G34; G35

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Firstly, I would like to take this opportunity to express my sincere and deepest gratitude to my parents who have always encouraged and made it possible for me to pursue my college studies. In memory of my father, I'm especially grateful to him for everything he taught me, the life values he passed me overtime and for always having supported me throughout my all life.

Secondly, I would like to thank Professor Clara Raposo for her advisory, guidance and feedback throughout the project.

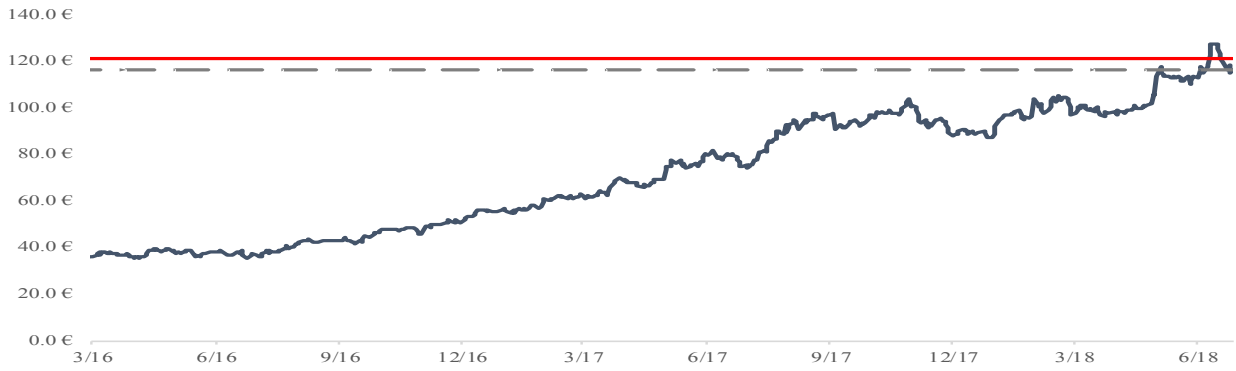
Lastly, I want to thank my friends and colleagues that direct or indirectly were part of this journey and made it special.

INTRODUCTORY RESEARCH NOTE

Date: 30/06/2018 **Current Price: €116.50** **Recommendation: Buy and Hold**

Ticker: RACE.MI (Reuters) **Target Price: €121.21**

RACE:IM(Bloomberg)



Market Profile		
Closing Price (EUR)		116.5
52 Week Range (EUR)		73.55-129.50
Avg. Volume ('000)		620.428
Volume as % of shares outstand.		0.33%
Shares Outstanding		185,690,987
Market Capitalization	(EUR '000)	21,633
Institutional Ownership		8.60%
Insider Ownership		34.29%
Free Float		57.11%
P/E ratio		40.08
EPS		2.95

A recommendation to adopt a **Buy-and-Hold** strategy is initiated for *Ferrari N.V.* (RACE) stock. The target share price towards the end of the year is set at €121.21, which represents an upside potential of about 4% from the latest closing price of €116.50 on 30th June 2018. The target price is backed up by the discounted free cash flow method. The relative valuation based on multiples is in line with the hold recommendation.

Despite the low upside potential, *Ferrari* definitely has a solid business on hands. For the moment, this is clearly the type of investment that is not oriented for capital gains, but rather for the strong and solid cash flows the company is able to achieve. Besides, it has been able to generate a robust Return on Invested Capital (24% in 2017) above the average of its peers within the luxury industry. This is important as it tells investors how funds invested in the business are being putted to good use, and thus it's also a long-term performance measure.

Since its incorporation, *Ferrari* has been distributing part of its free cash flows as dividends to its equity holders. The forward dividend yield it's set to 0.70% which is not impressive, but at the same time is aligned with the industry that tend to offer very solid and stable dividends, that are less prone to suffer cut backs.

For the stock justify a higher price than the proposed target, *Ferrari* must clarify whether the "self-imposed" maximum threshold of 10.000 cars produced yearly is to be maintained on the future or not.

Moreover, it's not completely clear if Maranelo plant is able to keep up with a production way over the defined threshold. Even in a scenario where production is ramped up, Ferrari is already selling a lot more cars than its direct competitors (approx. 120% more than Lamborghini in 2017) which despite being very positive can also pose a threat to brand exclusivity, and consequently a loss in pricing power.

To overcome this issue, the company can try leverage its sales by acquiring Maserati so that the increase on total revenues it's not entirely achieved by sacrificing brand exclusivity. Typically, in the luxury industry it's very hard to increase volume and product margins at the same time, at least for extending periods, as product exclusivity, scarcity and, ultimately, personalization are paramount factors both for the producer to offer and to the consumer to appreciate.

The current target price is highly supported by a stable demand from the two main markets: Europe and North America which account for 70% of total volume. China and other Asian-Pacific countries represent also the emerging part of the business, approx. 22% of total demand. The operational efficiency of the company is also above the industry's average with EBITDA and NOPLAT margins of 37% and 17%, respectively.

Ferrari has also been adopting a deleveraging strategy which is backed by strong operating cash flows that allow for the repayment of such debt. It's expected that by the end of 2021 Net Debt will become negative, as the company increases cash balances at a greater pace than its leverage. It's a common sign in the luxury industry, Enterprise Values to be lower than Equity Values exactly due the existence of negative Net Debt. Under-Leverage will help to smooth out the WACC as the firm becomes more liquid and thus, investors will be exposed to less risk and consequently will demand a lower cost of equity. In the case of Ferrari is quite important as the market value of its equity outweighs by a long distance the total market value of debt. Moreover, is always good to have enough cash around to expand the business through acquisitions or invest on new projects.

	2017	2018F	2019F	2020F	2021F	2022F
Total Revenues	3416.89	3741.40	4085.00	4462.18	4894.26	5372.49
NOPLAT	609.22	644.12	678.26	725.45	786.88	856.62
Total Assets	4141.10	4639.43	5180.21	5790.63	5809.02	6609.50
Total Liabilities	3357.17	3384.42	3419.18	3461.43	2844.63	2928.83
Total Debt	1806.18	1761.17	1712.66	1689.28	979.91	967.57
FCFF	415.77	470.29	573.77	595.13	638.95	733.70
NOPLAT Margin	17.83%	17.22%	16.60%	16.26%	16.08%	15.94%
ROA	12.98%	13.56%	13.58%	13.64%	15.31%	15.17%
ROE	68.55%	50.12%	39.96%	33.92%	30.00%	27.24%
Debt-to-EBITDA (x)	1.74	1.50	1.30	1.15	0.59	0.53

Source: Company Data & Analyst Estimates, (€ millions)

Business Description

Ferrari N.V. is a leading Italian luxury brand focused on the production of luxury performance sports cars. Currently it's incorporated in the Netherlands as a public company with limited liability. The company is listed under the ticker RACE in both NYSE (New York Stock Exchange) and MTA (Mercato Telematico Azionario di Borsa Italiana).

In 1939, *Enzo Ferrari* founded the company alongside with his own racing team, *Scuderia Ferrari*. The first race and road car were launched in 1947 and 1948, respectively. The initial participation in the Formula 1 World Championship goes back to 1950, which makes *Scuderia Ferrari* the longest running F1 team. The success of the manufacturer caught the attention of Fiat Group, that in 1969 acquired a 50% stake in the company, later increased to 90% after Enzo Ferrari's death.
On October 29, 2014, *Fiat Chrysler Automobiles* (FCA), former *Fiat Group*, announced the intention to separate *Ferrari* from its operations (spin-off), in a process that was known as the "Separation". The operation was fully completed on January 3, 2016.

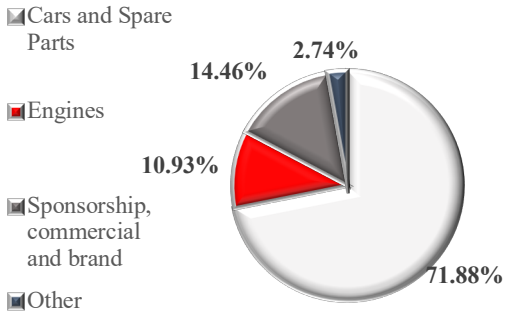
The company's production facility and corporate headquarters are located in Maranello, region of Modena, Italy. There's also a second plant in this region allocated just for the production of automobiles' bodywork and chassis. The design, development and assembly of both Sport and GT cars, as well as, F1 cars takes place in the Maranello plant. All post-production road tests are performed in the *Fiorano* racing track, that is adjacent to the plant. Besides the production of both road and racing cars, *Ferrari* has an agreement with *Maserati* to supply it with V6 and V8 petrol engines until 2020, an arrangement that may be extended in the future.

The business has a significant dependence on raw materials, mainly aluminium, composite materials like carbon fiber and some precious metals such as palladium and rhodium that are sourced from a limited number of suppliers. Also, because the price of these raw materials fluctuate overtime, the company is subject to some degree of commodity exposure.

Shareholder Structure

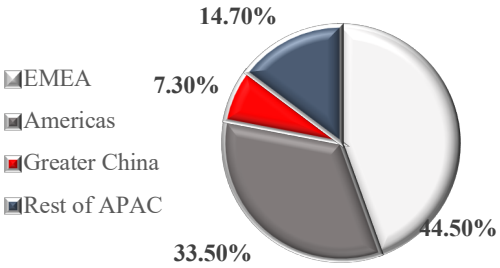
Currently, the BoD owns approx. 34.29% of the outstanding shares. Among board members 0.79% of the shares (contingent of free float) are directly owned by executive and non-executive members, 10% directly owned by Enzo's Ferrari son, Mr. *Piero Ferrari* (Co-Vice Chairman) and 23.5% indirectly through *Exor*. *Blackrock* and *T. Rowe Price Associates*, two U.S. investment firms who traditionally seek long term investments, hold 3.6% and 5.0%, respectively. The remaining 57.11% is free float.

Figure 1. Revenue Generating Segments as % of Total Revenues, 2017



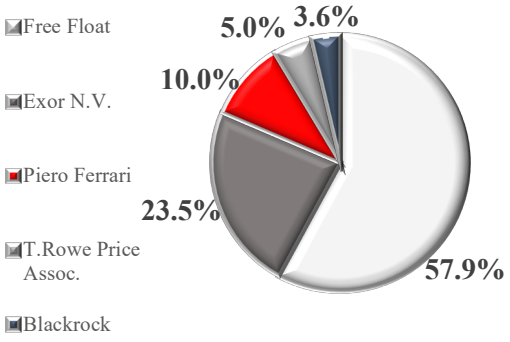
Source: Company Data

Figure 2. Worldwide Car Sales, 2017



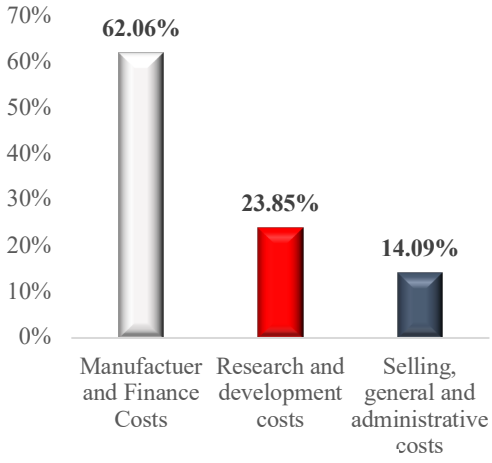
Source: Company Data

Figure 3. Shareholder Structure, 2018



Source: Company Data

Figure 4. Cost Breakdown, 2017



Source: Company Data

Management and Corporate Governance

Corporate Governance

Ferrari is organized under the Dutch Corporate Governance Code and is also qualified as foreign private issuer under the NYSE listing standards. Both Dutch and NYSE governance models were adopted as they are based on the same principals, though with some differences. As a foreign private issuer, *Ferrari* does not have to comply with the NYSE specific applicable rules for U.S. domestic companies. Whenever that's the case, the procedure is to follow the Dutch Code.

Currently the company deviates from the Dutch Corporate Governance Code in 4 best practices. The risks that can arise from those deviations are related with independence of the BoD, lack of independence of the audit committee when nominating an external auditor and related-party transactions.

The company's corporate governance model consists of:

Board of Directors- is composed of 13 members (1 executive and 12 non-executive) and currently the majority of the board (8 members) is independent. It's responsible for both the management and strategic direction of the company and the appointment of the internal committees. The term office is 1 year, and each Director may be reappointed at any subsequent annual general meeting of shareholders;

General Meeting- shareholders appoint the BoD and approve its remuneration policy in articulation with the **Compensation Committee** which is responsible for performance evaluation and remuneration. It's composed by 3 independent board members;

Governance and Sustainability Committee- it's composed by 4 independent board members. It assists and advises the BoD in matters such as: the performance of individual directors; nomination or re-nomination of directors to be appointed in the general meeting; monitoring and evaluation on the company's sustainable policies and practices, management standards, strategy, performance and governance;

Audit Committee- constituted by 3 independent members, assists and advises the BoD in aspects related with the integrity of the company's financial reporting and disclosure, tax planning, compliance, etc. It also recommends the external auditor and makes sure it remains independent of the management;

Statutory Auditor- *Ernst & Young (EY)* is currently Ferrari's external auditor;

Voting Rights

The company's management holds directly through *Piero Ferrari* 15.4% and indirectly through Exor 33.4% of the voting rights resulting in a joint control of 48.8% in the company's current and future strategic guidance. Public shareholders hold approx. 51.2% of the voting power.

Both *Piero* and *Exor* shares hold special voting rights that were firstly created after the spin-off from *FCA*. The special voting rights are also part of *Ferrari's Loyalty Program* that seeks to encourage a stable shareholder base. Long-term common stock ownership (>= 3 years) grants shareholders the right to receive special voting shares if they apply for this specific program. Nevertheless, voting shares cannot be traded unless they are detached from their special voting rights first.

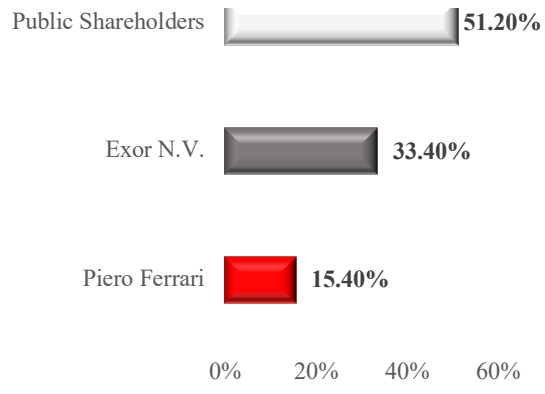
Since 48.8% of decision power is attributed to the management through stocks that are part of the *Loyalty Program*, that's a way of mitigating hypothetical future agency problems.

In general terms, the BoD and public shareholders have approximately the same degree of voting power which promotes the mutual engagement of these two identities to share a common view on structural points of the business, or at least to reach some sort of shareholders' agreement.

Management Overlaps- Possible Conflicts of Interest

Mr. *Sergio Marchionne* was appointed Ferrari's Chairman and CEO after the spin-off from *FCA* and holds approx. 0.77% shares. He's also CEO of *FCA*. On the other hand, *John Elkann*, Co-Vice Chairman of *Ferrari*, assumes at the same time both the positions of Chairman and CEO at *Exor,* plus the position of Chairman at *FCA*. *Exor* owns 29.4% common stock and 43.3% voting rights in *FCA*. Additionally, it's relevant to stress that Mr. *John Elkann* is also Chairman of *Giovanni Agnelli B.V.* which holds 52.99% of *Exor*. That helps to explain the indirect influence of *Exor* on Ferrari's BoD. For all these reasons, conflicts of interest can arise as these two individuals owe duties to more than one company.

Figure 5. Shareholders' Voting Rights, 2018



Source: Company Data

Industry Overview

Luxury Industry Overview

The luxury industry is comprised by many segments. According to *Bain & Company*, luxury cars, luxury hospitality and personal luxury goods segments account for more than 80% of the market. In 2017 the industry grew 5% (YoY) to an estimated global value of € 1.2 trillion. In particular, sales of luxury/premium cars increased 6% (YoY) which translates into a total global value of €489 billion.

Demand Outlook

The real source of demand in the luxury industry is the consumer's dream. Indeed, it's the dream of possessing a luxury good or experiencing a luxury moment what makes an individual to make a positive movement towards the purchase. Inherent to this consumer feeling, is the fact that luxury brands must continuously evoke status (brand strength), outstanding quality and performance, style and novelty on their product line-up, so that demand can remain alive. After all, there would be no consumer dream if no brand didn't come up with products that embed the dream of a luxury life, in the first place.

The main source of growth continues to be driven by consumers in emerging markets. China was the top performer, backed by an increase on consumer confidence levels and by the rise of a new fashion trend preeminent on the upper-middle class. Also, according to 2017 Forbes list of billionaires there are 2043 billionaires around the world, which corresponds to a 13% increase (YoY). China accounts for ± 400 billionaires, representing an increase of 26% (YoY). Lower prices differentials with the rest of world also helped to boost sales on China mainland, partly due a strengthen of the Renminbi against the Dollar.

This important as luxury companies respond to currency movements in order to maintain their price structures among the various countries in which they are present. For instance, after the British referendum, the sterling pound fell by 18% against the dollar. In order to adjust for currency, brands responded by raising their prices in the UK. However, despite this type of adjustments, price disparities within the luxury goods market may still exist. Therefore, arbitrage opportunities can arise. Industry's sales in China summed up to € 20 billion, a 15% increase (YoY). In addition, also in Asia, Japan continuous to be a key market for luxury brands. The market grew 4% (YoY) with a total sales value of €22 billion.

Once again, the appreciation of Renminbi against the Yen helped fuel purchases from Chinese travellers. Internal demand, was special higher on the second half of the year when the Yen strengthen against the Dollar, boosting consumer purchasing power.

Europe is the region that best performs when it comes to luxury sales by value. Nonetheless, sales are expected to remain quite stable on a modest growth trajectory. Sales totalized € 87 billion, a 6% increase (YoY). In general, European domestic shoppers and wealthy tourists are quite cautious about spending. It's also important to stress, that Europe is the region that is home for the majority of luxury brands out there.

Both North and Latin America markets showed a very modest growth of 2% (YoY). Nevertheless, in 2017, total sales value in these two markets combined was €84 billion, which puts the American market right next to the European market, in terms of sales value, thus crucial for luxury brands.

In LATAM, Mexico is the largest country for the luxury goods market followed by Brazil. By contrast, United States, the world's largest country for luxury goods, has experienced a slow down on sales.

Macro Analysis – A quick glance on key luxury markets

China- Economic growth in China has been one of the strongest in the world. In 2017 GDP increased by 6.8% with future forecasts pointing for a 6% growth. China's monetary policy is pretty much focused towards a very competitive currency in order to favour exports, the main growth driver of the economy. In other words, China's economy is very sensitive to Governmental policies. A stronger Renminbi is a good sign for internal purchasing power, especially for imported goods, such as luxury. Since the beginning of 2017, Chinese currency has been appreciating especially against the dollar. This poses a threat on the competitive ability of the currency and consequent slow down on external demand for Chinese exports. Given this, it's most likely that currency appreciation will not be sustainable in the future, especially because of governmental intervention.

Japan- This economy is very peculiar as Japan is the most indebted country in the world (239% of GDP). Most of the debt is domestic (owned by the central bank and domestic financial institutions) so debt default is a very remote possibility, as by declaring it the government would have to recapitalize itself. The country does not simple financial implode, mainly due to: low interest rates, very tight control of spending and high taxes. As long as, there's a balance surplus and debt can be repaid, Japan's economy, in theory, will not crash.

Given this panorama, luxury industry in this country could face volatile times ahead, primarily linked to currency fluctuations and also due to the high taxes both on consumption and personal income. In 2017 Japan's GDP grew by 1.7% and forecasts are pointing for a future growth rate of 0.7%.

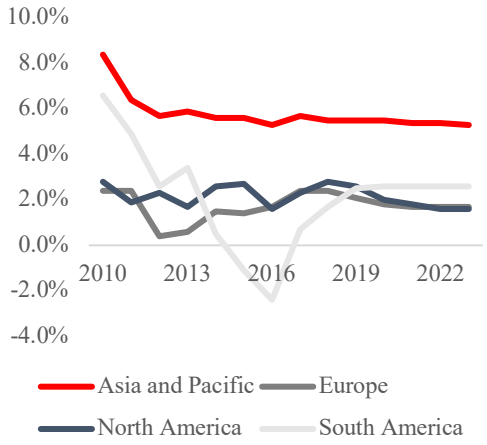
United States- One of the biggest fears in currency markets right now is that inflation picks up on the U.S. Dollar. The *Federal Reserve* most likely will raise fund-rates as a way to contrary the erosion in currency value, after years of economic stimulus. As consequence, US sovereign debt yields are raising, as demand for dollars is decreasing due to inflation concerns. Also, the stock market is highly inflated after following a bull market pattern for quite a few years until now. This, in theory, will have a direct negative impact on imported goods, as internal purchasing power will most likely decrease, as well as, on consumer confidence levels. Incentives to protect U.S. economy are also expected to occur. China's currency strengthen can be partially explained due to the fact that investors are allocating more funds in its economy, as a safe heaven, and also due to a decrease in foreign exchange reserves of the People's Bank of China, namely in dollar terms, as United States represent the biggest market for China's exports. In general terms, a weaker dollar is positive for U.S exports and negative for imports, namely luxury.

United Kingdom (UK)- Currently there's a big unknown about the future post-Brexit trade relationship between the EU and UK. There still no clear agreement especially on matters related with external tariffs, quotas and customs clearance on exported/imported goods. Nonetheless, chances are that a Free Trade Agreement will eventually be achieved between these two parties in a near future. Since the Brexit referendum, the GBP has been depreciating in value in relation to both the Euro and U.S. Dollar which negatively affects imported goods, especially luxury items, from these two regions. An "unsolved" Brexit situation poses a serious threat on the performance of UK's economy, affecting negatively consumers' confidence levels and ultimately internal demand.
In 2017, GDP grew 1.7% (YoY) and look-ahead forecasts expect the same real growth rate of 1.7%, an optimistic forecast, as still there's a lot of uncertainty around this economy.

Europe (E.U.)- despite the introduction of the quantitative easing program by the ECB which has been aimed to boost the Eurozone economy, overall levels of investment remain relatively weak and unemployment medium-high. Nonetheless, the Eurozone economy is growing at a moderate pace. In 2017, it increased in real terms 2.1% and forecasts indicate a decrease in the growth rate towards the 1.5% in the forthcoming years. It's also important to stress the economic performance of Germany, given its main role in the European economy and also because its home for the majority of the billionaires in Europe. It recorded a GDP increase of 2% in 2017, in line with EURO area growth. Forecasts estimate a smaller growth in the future of about 1.3%.

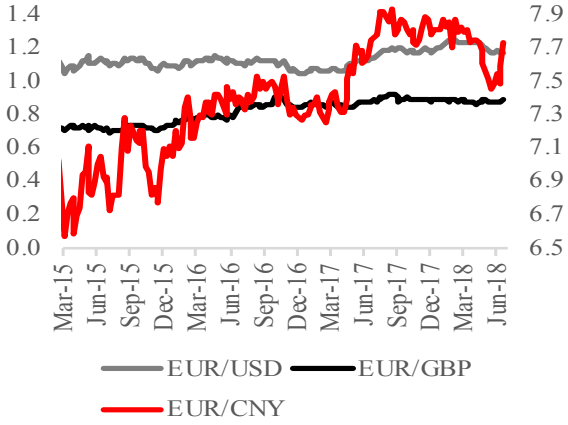
LATAM- Mexico is the most relevant market for the luxury industry in LATAM. In 2017 GDP increased 2.1% (YoY). Look-ahead forecasts are projecting a growth of 2.7%. Nevertheless, future growth is highly dependent on the most profitable free-trade agreement of the country: NAFTA. The thing is that, U.S. is refusing to accept the permanency of the Mexico in NAFTA. Indeed, if it occurs, the impact on the Mexican economy of such decision will be disastrous affecting dramatically Mexican exports and, in turn, the Mexican peso pushing downwards the currency. Alongside with this big uncertainty, there's also political instability that together can push the Government to tight monetary policies, that will have a negative impact on both private consumption and investment. Due to these reasons, luxury industry in Mexico might face adverse times.

Figure 6. Real GDP Growth Forecast, by Region, 2010-22F



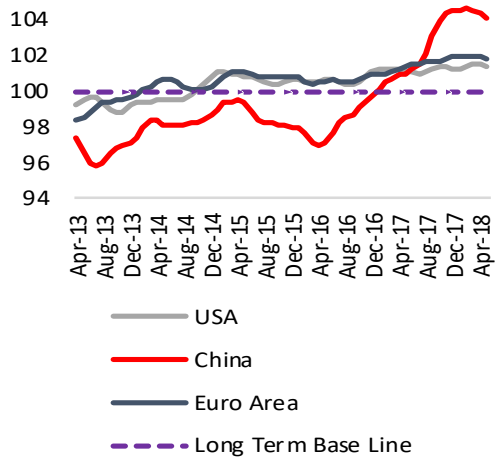
Source: IMF

Figure 7. USD Dollar and GB Pound Performance against Euro / Euro against Renminbi



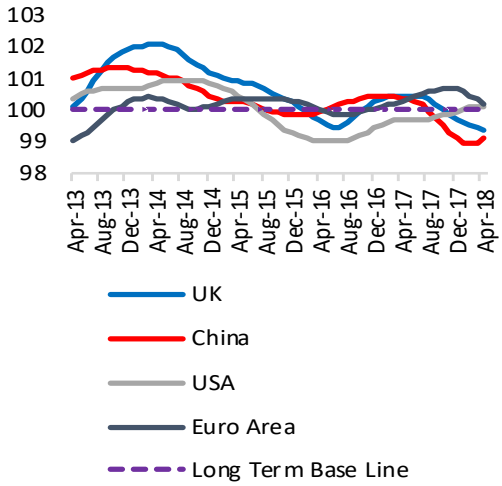
Source: Reuters Eikon

Figure 8. Consumer Confidence Index 2013-Mid 18



Source: OECD

Figure 9. Composite Leading Indicator, 2013-Mid 18



Source: OECD

Supply Outlook

Supply in the luxury industry is not driven by volume. Most companies operating in this business, indeed chose to adopt a low volume strategy in order to maintain a reputation of exclusivity and scarcity of their brands among customers. Therefore, the production of such goods is adjusted to a lower scale, exactly with the aim of understating demand. Volume turnover is not impressive at all in this industry, however sales turnover is quite the opposite. This can only be explained by the high margins embedded in the prices of this type of goods.

Companies are able to charge extremely high margins due to their strong brand equities and high perceived values. It's paramount, that such qualities must be maintained throughout time so that margins on new products can be constantly improved. Consumer demand must be stimulated not with the aim of increasing sales volume, but rather with intuit of making the consumer curious and excited about the launch of new products. Therefore, luxury brands are required to have the ability to renew their product line-up quite regularly.

Adjusting Supply to new Industry Trends

One of the most noticeable trends that is taking over the luxury market is product personalization. Indeed, it offers a more luxury experience for the customer besides the luxury product just by itself. It also represents an opportunity for brands to capitalize on their product margins through this type of personal-customization. This trend is particularly incident on luxury cars and on personal luxury goods such as: jewellery, watches, apparel and footwear. According to a Deloitte survey on the subject, about 45% of the inquired population was asking for more personalized products and services.

"Millennialization" is not a quite a new market trend, but rather a generational shift on the customer base that is transversal to all luxury brands. In other words, luxury goods are now spreading into the younger generations (born: 1977-1995) like never before. About 85% of the aggregate 2017's growth for the industry was attributed to the millennial mindset shift. Therefore, this shift towards luxury products is forcing brands to redefine their value propositions to better address younger generations.

Industry Future Outlook

According to future forecasts, industry growth will continue to be positive, between 4%-5% CAGR for the next three years. In 2017 market conditions changed in a positive direction, about 65% of all luxury brands experienced revenue growth, which represents an increase of 15% from 2016.

However, among the 65% of brands that managed to grow in 2017, only 1/3 actually was also able to grow their profits. This poses uncertainty on long-term value creation, as the improvement of operational efficiency probably will be one of the biggest challenges that luxury brands will need to overcome in the future.

Competitive Positioning

Ferrari, more than ever, wants to be perceived as a luxury brand rather than just an automobile icon. In fact, its main business is to produce luxury performance cars. However, the level of exclusivity, performance, styling and premium price of their products alongside with strong brand equity sets the company right on the luxury market.

Nevertheless, *Ferrari* is still a car manufacturer, and, for that reason, some aspects related with the automobile industry must be addressed, such as Governmental regulations (e.g.: CO2 emissions) or benefits (derogations from currently applicable production standards) and other automobile legal requirements than can vary with geographical region (e.g. vehicle safety legislation) that are transversal to all automobiles manufactures. In addition, some broader automobile industry trends (e.g. SUVs) and new technologies (e.g. hybrid/electric) should be also considered.

Luxury Performance Car Segment

Within the luxury/premium automobiles sector, the segment of luxury performance cars comprises all two-door cars powered by engines producing more than 500 HP (horse-power) and with a retail price of at least € 150,000 (VAT included). Manufactures present in this market either belong to large automotive groups or are small producers exclusively focused on performance luxury cars. As for product segmentation, there's two main segments: Sports Cars and GT (Grand-Tourer) Cars.

The United States remain the world's largest market for performance luxury cars. About 30% of the worldwide volume sold in 2016, for this specific niche-market, was attributed to this region. Sales increased only 1.1% (YoY), though. Both UK and China markets came second and third, with about 16% and 15% of the worldwide demand, respectively. The growth in the UK market was 15.6% (YoY) and in China, an impressive, 54.2% (YoY).

Direct Competition

Ferrari faces direct competition with other international luxury performance car manufactures, some of whom are part of larger automotive groups such as: *Lamborghini*, *Bentley*, *Audi* and *Porsche* that are integrated in the Volkswagen Group and *Rolls-Royce* that is part of *BMW*.

Small producers like *McLaren* and *Aston Martin* (5% owned by *Daimler*) are exclusively dedicated on the production of these type of automobiles. **Appendix-10; 1-2**

Drivers of competition in this market segment:

- Price;
- Brand Strength;
- Appeal of the products especially in terms of performance, design, cutting-edge tech. and innovation;
- Ability to frequently renew the product line-up to stimulate customer demand;
- The size of financial resources interlinked with flexible planning and capital spending;
- Total Cost of Ownership is extremely important as overtime a high resilience on the devaluation of these cars reduces the TOC, and thus promotes repeated purchases by clients that often flip their cars or hold them as investments (Ferrari dominates the top-dollar collector car world, holding seven of the top ten highest prices ever paid for automobiles at an auction; a 1963 Ferrari 250 GTO holds the record, sold at a private auction for a reported $70 million);

Ferrari's Strategical Options- Adjusting the business towards Competitive Advantage

1. Introduction of a luxury performance SUV

The SUV hype present in the automobile industry is making its move to the segment of luxury performance cars. In fact, the SUV segment represents 34% of global auto sales, an increase of 3% in market share since 2016 and 11.5% since 2014. Bentley was pioneer by bringing a luxury SUV to this niche-market and, at the end of the day, it "open the doors" for a new segment: Luxury Performance SUV. Lamborghini recently launched its first ever Performance SUV, too.

Ferrari will not fall behind and already has plans to launch its own interpretation of a luxury performance SUV, the FUV (Ferrari Utility Vehicle), by the end of 2019. According to Ferrari's CEO it will be the fastest SUV on the market, and it will drive and feel like a proper Ferrari.

2. Hybrid and Electric Technology

The transition to hybrid technology is becoming a reality for luxury performance cars, although at very slow pace when compared to mass market vehicles. *Ferrari* intends to use its expertise on this department, as this technology is currently being fully applied on their F1 engines. It's expected the transition of Ferrari's product portfolio to hybrid tech by 2019.

Ferrari also has plans to launch an electric supercar by 2020 to compete directly with Tesla, the only solid manufacturer currently present on the segment of high-end electric automobiles.

In addition, it's also a way to capitalize on the hybrid tech as going from there to fully electric, certainly doesn't require much operational investment as it's represents an extension of the concept.

3. **Formula 1**

Ferrari's marketing strategy is mostly entirely carried out by its present in the Formula 1 World Championship. The continuous success and appeal of the brand is connected with the success of the *Scuderia Ferrari*. The latest cutting-edge technology is implemented in the racing cars, so F1 may be perceived as a demonstration of Ferrari's latest technological capabilities. Revenues from F1 come from sponsorship agreements and broadcasting rights. It's estimated that in 2017, Ferrari received broadcasting proceeds of $180 million, about 1/5 of the total pot to be distributed for all racing teams. *Ferrari* continues to be the top earner, alongside with the title of the most successful team in F1 history. The company's R&D costs are mainly incurred by the F1 Racing Team. Technologies developed by that department are then usually transferred and adapted to road model automobiles, both Sport and GT versions. The racing DNA is present across all *Ferrari* models, reason why it remains a true value booster for the brand.

4. **Product Licensing on adjacent luxury categories**

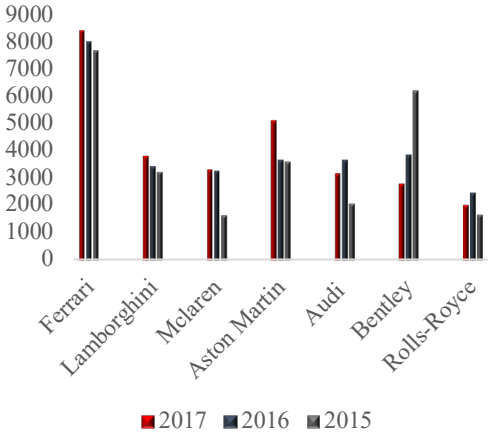
Ferrari licenses its own brand to third parties which produce personal luxury goods. Partnerships are made with the objective, once again, of enhancing brand value and in certain way to reach the segment of personal luxury goods, to clearly affirm the exclusivity of the brand. In this field, the most notorious partnership is with the Swiss watchmaker *Hublot* that is part of the LVMH luxury conglomerate. More recently, Luxottica, the owner of *Ray-Ban*, has become a partner, too.

Regulatory Risks

All car manufactures are subject to laws and regulations related to fuel economy requirements, reduction of pollutant emissions and vehicle safety that can compromise both the cost structure of the company and, ultimately, the final product proposition to the consumer.

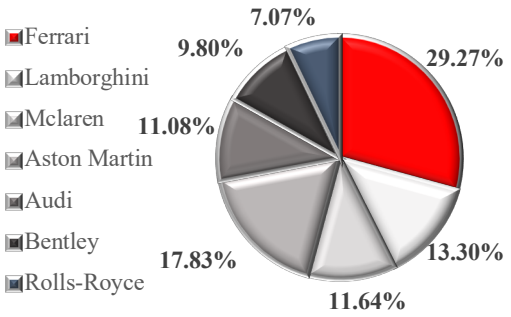
Currently *Ferrari* is considered a small volume manufacturer (SVM; production < 10,000 cars/year) and because of that status is able to benefit from a derogation linked to emissions requirement in both E.U. and U.S.A., otherwise the costs of compliance for that matter would be significantly higher. Furthermore China, Canada and some M.E. countries are now creating new policies to address these issues and they can be even more stringent putting additional pressure on the company. Hybrid tech, in some way, mitigates the problem but does not solve it for good, hence the presence of regulatory risk which can lead to an increase on compliance costs. In the extreme case, *Ferrari* can become ineligible to sell its cars in certain regions if the required compliance is not properly addressed.

Figure 10. Worldwide Sales Volume of Luxury Performance Cars by brand, 2015-17



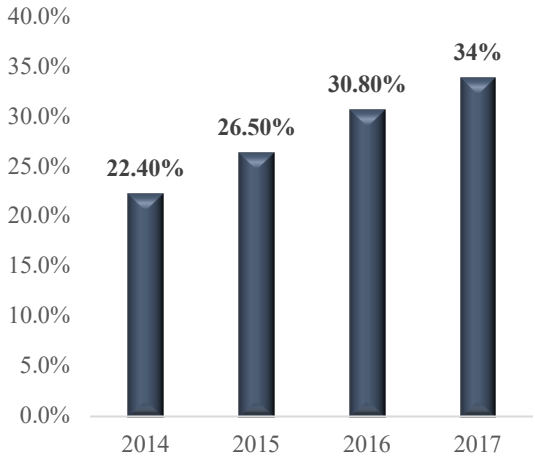
Source: Companies' data (Porsche's data for the segment not disclosed)

Figure 11. Relative Market Share of the Luxury Supercar segment by brand, 2017



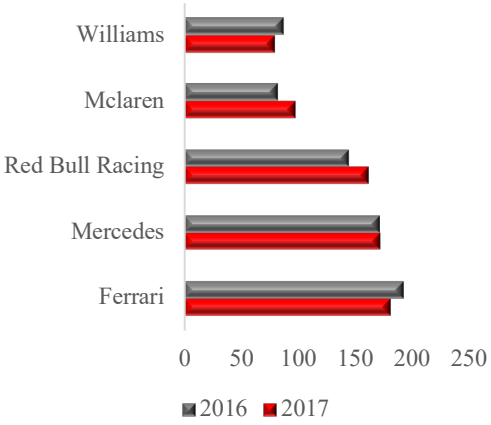
Source: Companies' data

Figure 12. Relative Market Share of SUVs within the automotive industry,2014- 17



Source: Jato Dynamics

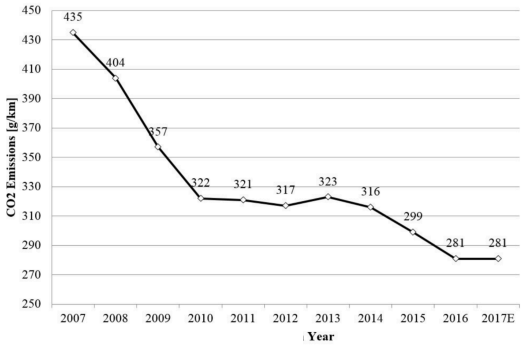
Figure 13. Projected Formula 1 payments to top 5 constructors, $ millions, 2016- 17



Note: values are not disclosed by Liberty Media nor the teams

Source: Autosport

Figure 14. Average Specific CO2 Emissions of Ferrari's Fleet for the European Market, 2007-17F



Source: Company Data

Investment Summary

Valuation Methodology

As part of the valuation process, two methods were used to compute *Ferrari's* share target price. The first approach was through the discounted cash flow model (DCF) in which free cash flows to the firm (FCFFs) were used to came up with an overall enterprise value, then adjusted for the equity value. The second method was performed as a complement to the DCF model, although not as meticulous. It's based on a relative valuation principle, in which multiples derived from key financial ratios within a peer group are used to perform a broader valuation of either the equity or enterprise value.

Investment Risks

Despite both the robust ROIC and strong operating cash-flows *Ferrari* is able to achieve, there's still uncertainty on the business regarding the total output produced. The company has for now a "self-imposed" maximum threshold of 10,000 units to be produced each year in order to maintain its status of SVM (Small Volume Manufacturer) that has been saving the company a lot of cash in compliance costs. The total real capacity of Maranello factory is not disclosed, but if indeed sales go beyond the 10,000 units/year, it's highly probable that the company will need new facilities or at least expand significantly the current one.

Also, when comparing with its direct competitors, like *Lamborghini* and *McLaren*, *Ferrari* is selling on average about 100%-120% more automobiles per year, which is a good thing but can also be misleading, as by selling a lot more than the competition the scarcity and exclusivity of its products might be negatively affected. That, in turn, may affect the ability of the company to charge high premiums on its products. So far, Ferrari has managed to increase sales at the same it increases price premiums, but the big question remains: Will the company be able to continue to operate with such profitability in the long-term?

As for demand, it's expected that the main "Cash-Cows" markets, Europe and North America, remain robust. The main sources of volatility could arise from China and other Asian-Pacific countries like Japan and from the Middle East, especially in the Persian-Gulf area. Together these sources of volatility represent approx. 30% of total sales of the company.

Merger & Acquisition- A possible and plausible future

One of the sources of industrial revenue is the production of petrol engines to *Maserati*. As consequence, *Ferrari* is involved as an outsourced party in the supply chain of *Maserati*, that is part of *FCA* Group. Because both supply chains are already interlaced in this specific bilateral agreement and, also due to the fact *FCA* already showed some interest in spinning-off the brand, *Ferrari* management can try and bid for the acquisition of *Maserati*. However, investors should keep in mind, that for the acquisition to be value accretive for *Ferrari*, the company's current ROIC and the fair value of *Maserati's* business must be used as guidelines, because by paying too much of a premium will have a negative impact on ROIC and thus, a negative impact on the overall long-term value being generated for the party that is acquiring.

Definitely this deal can be useful for the company, minding the reasons already mention before. By paying the right amount for *Maserati, Ferrari* could boost sales without exposing too much its own brand, thus being able to keep the price premium power and also being capable to grow the overall number of automobiles sold each year as a group.

Valuation

Free Cash Flow to the Firm (DCF Model)

In order to access the equity value of *Ferrari*, the DCF Model was used. That translated into a target price of €121.21, which represents an upside potential in relation to the market valuation of approx. 4 %. The Free Cash Flow to the Firm method aims to determine the amount of cash that is available to be distributed between debtholders and shareholders at the end of the year. Because those are free cash flows then by using the DCF model to discount them, one obtains the firm's Enterprise Value that further requires the adjustment of net debt and minority interests, to obtain the equity value.

The DCF Model is designed as a two-stage process, in which there's an explicit forecasting period, five years in this case, and subsequently a normalized terminal period that runs into perpetuity with a constant growth rate.

Even though, *Ferrari* has been paying dividends to its shareholders each year since 2016 and it's expected to continue to do so, it's not prudent to disregard the DCF Model in favour of the Dividend Discount Model (DDM), as dividends are far from a mature cycle.

The key aspects that influence the dynamics of DCF model are:

- **Industrial Production**

The industrial sales are divided into two segments: automobiles/spare parts and petrol engines sourced to *Maserati*. The total number of units of automobiles/spare parts was forecasted according to the respective weight that each region is expected to contribute yearly, in terms of unit sales. Those assumptions are based on both forward regional CAGRs for the luxury industry and also the historical company's CAGR- ***Appendix 8***. The total output of petrol engines to be produced for *Maserati* are expected to grow constant in the forecasted period, as no further information is disclosed and also because *Maserati* has now at its disposal diesel engines that can be fitted in some of its models, according to customer preference, thus offsetting the need for petrol engines. It's also assumed that the Maranello factory is working in an order fulfilment basis, which means that it only produces what is requested.

- **Sponsorship, Commercial and Brand**

Formula 1 World Championship is the big source of income when it comes to sponsorship and broadcasting rights. The dimension of such funds is dependent upon the performance of *Scuderia Racing Team* in the competition. Brand licensing to other luxury brands (e.g. *Hublot*) represents also a stream of income for the company. Historically, revenues in this specific account have been quite stable and so, the historical CAGR of 1.1% was assumed throughout the forecasting period.

- **Ferrari Financial Services (F.F.S)**

Financial Services are provided both direct to dealerships and customers. This operation is mostly concentrated in the United States. Its purpose is to expedite the all process of selling a car to the final customer, as the cars are sold first at discount to the dealerships and only then to the customers at a mark-up that is line with *Ferrari* requirements. For those dealerships that want to leverage their business, the financial services are an option, as well as, for those customers that don't want to pay fully up-front. Historical revenues have remained quite constant so as the projected years. Financial contracts have an estimated approximate maturity of eight years.

- **Manufacturer and Finance Costs of the F.F.S**

Ferrari relies on several local suppliers in the region of Modena for raw materials like aluminum and other precious metals such as rhodium and palladium that are considered commodities and thus, they're subject to price volatility. For some electronic and mechanic components the company relies on *Magneti Marelli*, a subsidiary of the *FCA Group*, *Brembo* for brakes, *Pirelli* for tires and on several other strategic partners located in Italy and Germany. Nevertheless, there's special items like turbochargers that are outsourced from Japan.

In relation to the financial services, funds have been raised using securitizations programs in the United States, often by pledging future financial receivables and credit lines as collateral. Both manufacturer and funding costs are considered in the cost of sales, which are assumed to remain stable in relation to its proportion to total revenues throughout the projected years. **Appendix- 12;7**

- **Depreciation & Amortization and CAPEX**

Innovation is paramount at *Ferrari*. As consequence, each year there's a lot of investment into the development of car projects and related components alongside with engines and systems for both Formula 1 and road vehicles. All the costs that may be directly attributed to the development process are capitalized as development costs under intangibles assets. Still, there's also some patents, licenses, concessions and trademarks that also figure under the same balance account, although with less weight. Amortizations of intangibles have a historical average of 35.7%. As for tangible assets, they account for property, plant and equipment, whilst the historical average for depreciation is 21.1%. The business is then highly dependent on the R&D department for continuous innovation and on the cutting-edge manufacturer plant. For those reasons CAPEX is expected to be above total D&A throughout the forecasted period and in the long-term. As consequence, non-current assets are expected to increase every year. It's expected the company to invest on average, in maintenance and substitution CAPEX approx. € 429 million alongside with € 83 million in expansion CAPEX, for the forecasted years. - **Appendix 12;4**

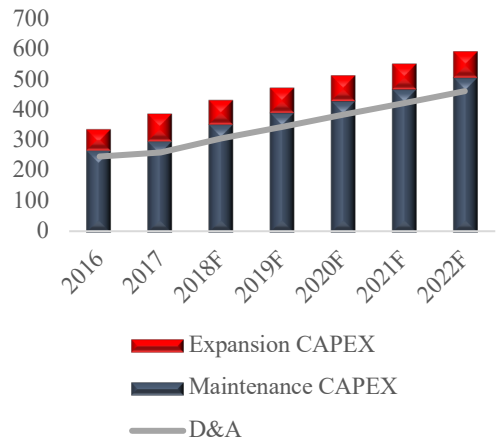
- **WACC Assumptions**

The cost of equity was computed using the CAPM model. The risk-free rates (Rf) used were based on a weighted average of the two most valuable markets for the company, Europe and North America, on respectively the German Bunds and U.S. Treasury Bonds/Notes in accordance to the maturities that best fit the forecast. The same type of logic was implemented to come up with the market risk premium (MRP), but this time by splitting the European region into to the most important countries for the business alongside with their respective CRPs. The United States was also considered. The final result was an MRP of 5.44% that was applied across all years **Appendix- 12;2-3**

The levered beta was computed through linear correlations between *Ferrari's* stock returns against a global market proxy, in this case, the MSCI All Country World Index (Medium-Large Cap). The same methodology was applied for the peers to come up with their own levered betas. After de-leverage all betas and smoothing them for the industry peer group, *Ferrari's* re-levered beta was set to 1.14 for 2018. **Appendix- 12;1**

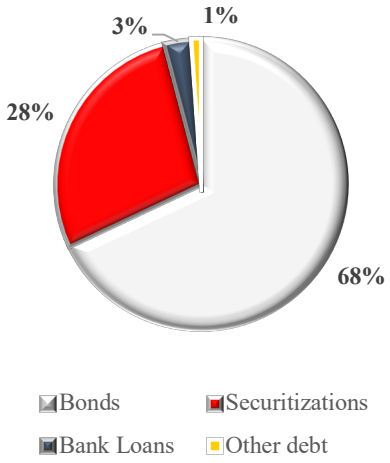
The cost of debt is quite low, due to the current economic stimulus and low-interest rate environment in both Europe and North America. The business is exposed both to EURIBOR and USD LIBOR rates plus spreads ranging from 60 to 120 bps, as well as, to annual interest payments on issued bonds. After factoring for these considerations, cost of debt was set at 2.17% for 2018. The effective corporate tax has been ± constant since 2015, usually attached with tax benefits that come in the form of deferred tax assets that are due to temporary differences in overpaid taxes that usually are then partially offset with deferred tax liabilities. Ferrari pays its taxes in Italy at both Statutory and Regional levels, despite being incorporated in the Netherlands. A constant marginal tax rate of 24.2% was assumed. **Appendix-12;5-9**

Figure 15. CAPEX vs D&A, € millions, 2016-22F



Source: Company Data & Analyst Estimates

Figure 16. Company's Debt Structure, 2017



Source: Company Data

- **Terminal Value Considerations**

The terminal value aims to normalize the free cash flows that had been forecasted previously, thus smoothing the all process before a perpetuity growth rate is applied. According to *Ferrari's* CEO, Maranello plant is not operating at full capacity yet which leaves room for future improvements. It's highly expected that production reaches the threshold of 10.000 cars in the future, but it's not disclosed whether that's also the full capacity of the plant. Nevertheless, the perpetuity growth rate was set to 2.10%. To achieve that value, computations were done so that it was possible to grasp how FCFFs are expected to grow in perpetuity, given the average proportion that each operating and investing cash flow represents on total revenues, adjusted for their respective CAGR on both explicit and terminal periods. Somehow, it's an attempt to figure out what's the overall impact on FCFFs given revenue performance.

Peer Selection

As mentioned previously on this report, *Ferrari* has a singular position when compared to its automotive peers. It's hard to compare a company that sold roughly 8000 units last year with, for instance, other luxury brands such as *Audi* that sold almost 2 million cars and even *Porsche* with approx. 240 thousand units sold. Even if one wants to compare *Ferrari* with its direct competition: *Lamborghini*, *Aston Martin*, *McLaren*, *Rolls-Royce* and *Bentley* it's practically impossible as none of them is publicly traded. So, given this context and bearing in mind the strong brand equity, pricing power, product exclusivity and the high resilience of the business on adverse economic cycles, it's plausible to allocate *Ferrari* in the luxury sector, as those attributes are characteristic of luxury brands. The peer group was then composed by six companies: *LVMH Moet Hennessy*, *Ferragamo*, *Richemont*, *Hermès*, *Kering* and *Moncler*.

Relative Valuation (Multiple Valuation)

As a complement to the DCF method, a relative valuation based on Ferrari's selected peers was also performed. The valuation was based on two types of multiples, price and enterprise value multiples. Sales based multiples are suitable, as traditionally there's low volatility in revenues within the luxury industry, as well as, cash flow-based multiples as the ability to generate cash is still king when it comes to value a business. Enterprise value multiples are valuable as they comprise the effect of leverage and cash on the business and for that reason it gives a greater perspective on how capital structure affects the value of a company. On general terms and according to the relative valuation, *Ferrari* is priced just about right, €115.36, in relation to the market price at the date of this report, €116.50. **Appendix- 11**

Financial Analysis

Demand Outpaces Supply

The production at Maranelo plant is adjusted accordingly the dealers' orders. In other words, *Ferrari* only produces cars that are certain to be sold, which leaves no room for final product inventory. However, because all the manufacture process is not performed in series, but rather handcrafted assembled with highly customized orders, it makes the all supply chain to eventually bottleneck at same point in the structure, especially due to the fact that demand has been exceeding supply. As a consequence, there's demand out there that will not be fulfilled, given the supply chain bottleneck on production time and output. However, because awaiting lists can go up as long as two years, in some cases, the company is able to know exactly how much automobiles it's going to produce for a specific year. Currently, this year's production is taking place to fulfil 2017 orders. Nonetheless, industrial sales have a historical CAGR of 10.90% and given the described scenario, it's expected to maintain the same CAGR for the forecasted period (2018-2022).

Operating Costs

Industrial costs and financial funding for the financial services, represent together, as Cost of Sales, 63% of total operational costs. Subsequently, R&D expenses represent 24% followed by SG&A that account for 13%. For the explicit base period, Cost of Sales was set to approx. 42% of total revenues, which is line with historical figures. An additional adjustment for Italy's expected inflation was also considered in each year, as *Ferrari's* main suppliers are located in there. Followed by an increase in industrial production, cost of sales shall increase at a CAGR of 10.69%. The other operating costs were also adjusted for Italy's expected inflation and shall increase at a weighted CAGR of 8.95%. In overall terms, total operating costs are set to follow a CAGR of 10.06% (2018-2022).

Profitability Margins

Ferrari's profitability margins are coherent with those practiced in the luxury industry, as well as, among its peers. Historical figures show average values for Gross, EBITDA and EBIT margins of 67.7%, 33.8% and 23.4%, respectively. In addition, the company tries to mitigate the risk of several foreign currency exchange rates and interest rates through financial hedging given the worldwide exposure of the business. It uses for that purpose both currency and interest rate swaps or futures. The hedging factor is very important has it helps to decrease yearly volatility amongst profitability margins. Moreover, because the brand *Ferrari* has such an equity and high perceived value, there's more leeway to stretch margins simply by increasing price premiums on products, a common practice on high-end luxury goods. For the effect, it was assumed a 6% price premium increase each year.

The result was stronger operating margins for the base period, averaging 66.0%, 37.3% and 27.5% for Gross, EBITDA and EBIT margins.

As production and plant efficiency levels increase to meet demand, both fixed asset turnover and total asset turnover will also suffer a positive upwards shift. The historical average value for fixed asset turnover was 3.81 and by the end of 2022 it's estimated a value of 5.42. The cash cycle conversion has been negative, and it's expected to continue that way, as it reflects the continuous firm's ability off getting paid long before of paying its duties with suppliers.

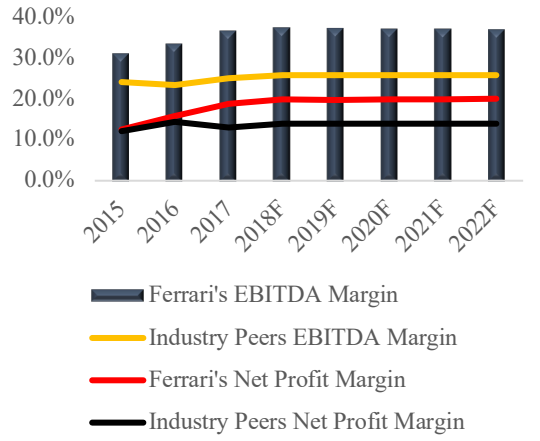
Debt Management Strategy

Inherent to the incorporation process of Ferrari in the Nederland and consequently spin-off from the FCA group, a considerably amount of debt was raised in 2015, namely: a €2000 million loan, split into a bank syndicated Term Loan of €1500 million and a Bridge Loan of €500 million from FCA. In 2016, the proceeds from the first bond issue, €500 million, were used straight a way to repay the FCA Bridge Loan, as well as, the proceeds from the second bond issue in 2017, €700 million, that were allocated to fully amortize the Term Loan. The company is now free from all the liabilities arisen from its incorporation and separation process, but it's now liable for the debt that it raised in the fixed income market, that account for approx. 66% of all outstanding debt. As the business has revealed to be very efficient in generating both operating cash flows and free cash flows, in theory, *Ferrari* will have no distress managing its debt. In fact, by 2021 forecasts point out that there will be more than enough cash available to fully reimburse the €700 million of the second bond issue. It's also expected that by that time net debt will reach negative values, as cash reserves increase.

Currently, the company has a lot more market exposure to equity than to debt and thus is required to respond accordingly, by continuously improving its free cash flows and cash reserves to balance the cost of equity. As the business becomes more liquid, the risk assumed also becomes substantially lower. Leverage-up the company to take advantage of the current low interest rates in the market would only make sense if the marginal effect of having more debt reflects a lower WACC. On the other hand, levered beta equity holders are exposed to CAPM which is also linked to leverage. They are first loss positions and they are exposed to the additional volatility that new debt could create.

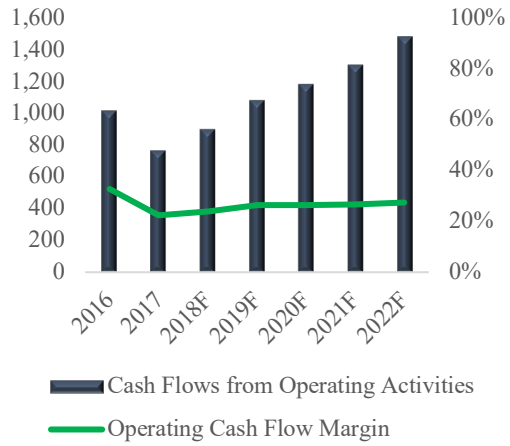
The scenario among the majority of luxury companies shows that Enterprise Value is often below Equity Value, as net debt is negative. This push firms to deal more with the cost of equity rather than cost of debt, as leverage is residual when compared with cash reserves. **Appendix-13;1-2**

Figure 17. Ferrari Vs Peers on EBITDA and Net Profit Margins, € millions, 2015-22F



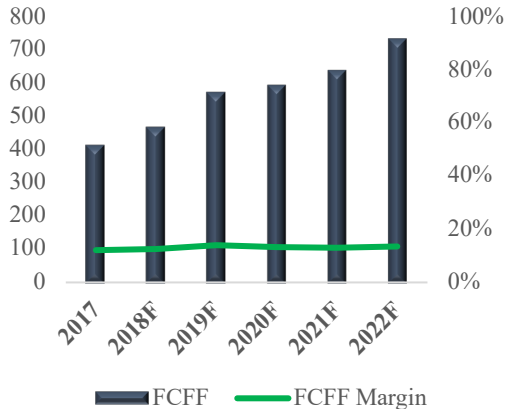
Source: Company Data & Analyst Estimates

Figure 18. Op. Cash Flow margin, € millions, 2016-22F



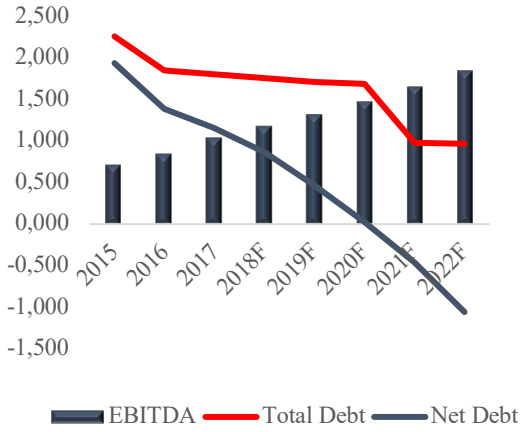
Source: Company Data & Analyst Estimates

Figure 19. FCFF Margin, € millions, 2017-22F



Source: Company Data & Analyst Estimates

Figure 20. Total Debt & Net Debt, € millions, 2015-22F

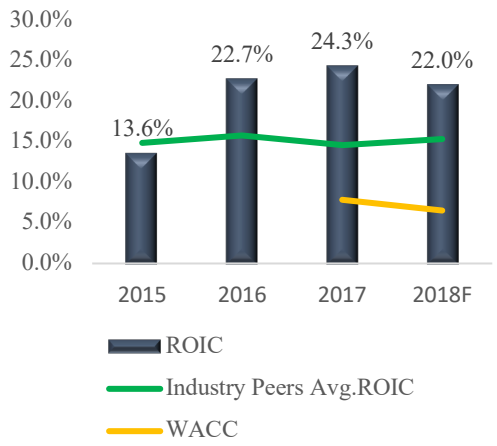


Source: Company Data & Analyst Estimates

Robust Return on Invested Capital & Strong Operating Cash Flows

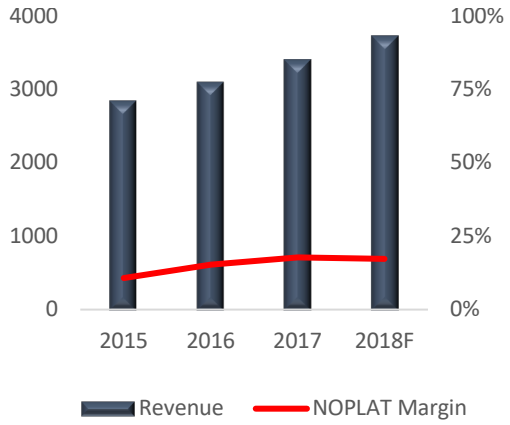
Ferrari's business has been delivering a very solid return on invested capital, a clear sign of its strength in relation to operational sustainability and profitability. This metric is extremely important as it gives a glimpse and serves as a proxy to understand how much operational profit is being generated per unit of capital invested in the business via NOPLAT (Net Operating Profit Less Adjusted Taxes). In other words, it measures the aggregated value creation for the shareholders. The higher the spread between ROIC and WACC the greater the value being generated. In 2017 *Ferrari* archived an impressive ROIC of 24.3% with a WACC of 7.78%, which translates into a spread of 16.52%. In addition, by setting Goodwill aside from invested capital, it's possible to obtain a value that is not distorted by price premiums paid for acquisitions, and thus ROIC will focus more towards the operating performance of the business. Ferrari's goodwill adjusted ROIC in 2017 was 33%, which is highly correlated with the strong operating cash flows the company has been able to generate. Forecasts for 2018 point out a ROIC of 22% and an adjusted Goodwill ROIC of 29% alongside with a WACC of 6.54%.

Figure 21. Ferrari's ROIC vs Avg. Peers ROIC 2015-18F



Source: Company Data & Analyst Estimates

Figure 22. NOPLAT Margin 2015-18F



Source: Company Data & Analyst Estimates

Dividend Policy

The company has been distributing dividends since 2016, and so it's still on an embryonic phase regarding the ongoing concern of this matter. Nonetheless, the BoD strongly supports the efficient distribution of dividends, despite the absence of a clear dividend distribution policy. An efficient distribution of dividends implies that the future company's investments and growth are not compromised, at the same time shareholders are fairly compensated. The company's payout ratio since 2016 has been approx. 22.4%. For 2018, it's forecasted a payout of 25%, from 2019-2020 a payout of 28% and from 2021 onwards a payout ratio of 28.5% so it's aligned with the industry average.

Key Investment Risk

Market Risks

Foreign Exchange Rate Risk

Ferrari's has a worldwide business and for that reason it faces direct foreign country exchange risk. The company, as an entity, present its accounting numbers in Euros meaning that all cash collected from sales mediated through other currencies must be posteriorly exchanged. In order to mitigate the risk of devaluation of the Euro against other foreign currencies, financial hedging is used through derivative instruments. As consequence, revenues are sensitive to this matter, but as the risk is managed, the degree of that sensitivity is diminished. Historically, the hedging techniques used have been positive for the company. Any positive/negative outcome derived from the hedging process is recognized on the balance sheet under Other Comprehensive Income (OCI) until it's realized and then recognized on the income statement. As for operational costs, the majority is paid in Euros as the main suppliers are local, as well as, personnel and selling expenses.

Interest Rate Risk

About 32% of the company's overall debt is indexed to either USD LIBOR or EURIBOR. So far to this date, *Ferrari* has been benefiting from the historical low levels of both inter-bank interest rates. However, it's not expected that they remain in those current levels for long, as baseline fund rates are increasing in order to initiate the process of deleveraging the economy after an economic cycle of expansion, plus there's also signs of inflation that must be addressed. That's already occurring in the United States and is a matter of time to reach Europe. The impact on the company is quite relative, as the company is adopting a deleveraging strategy backed by strong operating cash flows.

China and Asian-Pacific Demand

Over the past years, growth in luxury industry has been fuelled by the increasing demand in the Asian-Pacific markets, especially in China. The same is true for *Ferrari*, as the big source of growth has been coming from those two regions, even though sales by value are not that significant, when compared with North America and Europe. Nonetheless, China as an emerging economy and Japan with its "sloppy" economy could pose a threat in the future organic growth of the business, as the adopted monetary policies by the Central Banks could aim towards the promotion of exports rather than imports, especially luxury goods. As consequence, internal demand would be affected in detriment of a more competitive currency.

Regulatory, Political and Social Risks

Pollutant Emissions and Other Regulations

The company is subject worldwide to increasingly restrict regulatory requirements that directly affect the business, such as: environmental pollution, fuel economy, vehicle safety and noise emission concerns. In order to comply with all these legal laws, regulations and policies *Ferrari* needs to adjust its production in such a way its cars are fully compliant. That can mean an increase on compliance costs and longer periods to renew product offering, which ultimately can lead to a loss on overall profitability. As already mentioned, the company is fully committed to mitigate these risks, especially fuel economy and CO2 emissions, by progressively introducing hybrid technology in its cars. On that same note, Ferrari's CEO already declared intentions to introduce a fully-electric supercar in the product line-up, by 2022.

Politically speaking, changes in export/import incentives or tariffs in certain countries may also negatively affect the business. For instance, the U.S.A. is threating to increase tariffs on imported goods from Europe, and China has recently imposed measures indented to limit consumption of luxury goods, including a tax specifically applicable on the purchase of luxury cars.

Governance Risks

About half of the voting rights (48.8%) are in the hands of two shareholders, *Piero Ferrari* and *Exor.* Also, if one adds the correspondent voting rights attributed to the 0.79% of the outstanding shares belonging to members of the BoD, the overall scenario is about 50% of voting power dispersed through members of the Board, either directly or indirectly or both. As consequence, there's the risk that insider investors can guide the company in such a way, that jeopardizes the investment of minority shareholders. Also, there's a questionable management overlap at the high end of the Board tree as Ferrari's CEO is also FCA's CEO being *Exor* the bridge between these two institutions. That's not necessarily a bad thing, as it's known that there's several transactions among *FCA* and its subsidiaries with *Ferrari*, especially for mechanical/electronic parts. Still, there's always the risk that those transactions may not be totally aligned with Ferrari's business needs.

Sensitivity Analysis- Risks to Price Target

The terminal value accounts for approx. 86% of the enterprise value derived from the DCF model. As so, in order to access the impact on the company's price target, a sensitivity analysis was conducted regarding the WACC, Beta, Market Risk Premium and terminal growth rate. Small changes on these variables often reflect a significative impact on the valuation. The terminal growth rate is highly related with the company's strategic guidance for organic growth, meanwhile WACC is more influenced by the strategy adopted for the capital structure. Currently, *Ferrari* is benefiting from low interest rates in the market that in conjunction with robust operating cash flows, tend to lower both cost of debt and cost of equity, and ultimately the WACC. Nonetheless, market conditions, especially funding rates, are subject to change over the next years, thus the importance of the sensitivity analysis. **Appendix- 15.**

To test the robustness of the DCF model a Monte Carlo Simulation was performed using 300,000 trials, considering changes in terminal WACC and in the terminal growth rate. The result of the simulation was a prob. of 50.08% that the stock price is equal or greater than the DCF target price. Also, according to the simulation process, WACC has a substantial greater impact on the final target price (-84.9%) than the terminal growth (15.1%). The distribution of Ferrari's stock price according to the simulation closely follows a Lognormal continuous probability function, which is exactly the type of function more commonly used to describe stock price behaviour. **Appendix- 14.**

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Appendices

Appendix 1: Balance Sheet Statement (RACE)

Balance Sheet (Eur '000)	2015	2016	2017	2018F	2019F	2020F	2021F	2022F
Non-Curtent Assets								
Goodwill	787,178	785,182	785,182	785,182	785,182	785,182	785,182	785,182
Intangible Assets	307,810	354,394	440,456	526,518	612,580	698,642	784,704	870,766
Property, plant and equipment	626,130	669,283	710,260	751,237	792,214	833,191	874,168	915,145
Investments and other financial assets	11,836	33,935	30,038	30,038	30,038	30,038	30,038	30,038
Deferred Tax Assets	122,622	119,357	94,091	94,091	94,091	94,091	94,091	94,091
Total Non-Current Assets	1 855,576	1 962,151	2 060,027	2 187,066	2 314,105	2 441,144	2 568,183	2 695,222
Current Assets								
Inventories	295,436	323,998	393,765	376,276	429,015	467,163	520,695	574,887
Trade Receivables	158,165	243,977	239,410	253,835	287,820	315,078	350,787	388,036
Receivables from financing activities	1 173,825	790,377	732,947	854,359	826,455	832,070	855,218	856,349
Current tax receivables	15,369	1,312	6,125	3,719	4,922	4,320	4,621	4,471
Other current assets	46,477	53,729	45,441	48,549	49,240	47,743	48,511	48,498
Current Financial Assets	8,626	16,276	15,683	15,683	15,683	15,683	15,683	15,683
Cash and Cash Equivalents	321,925	457,784	647,706	899,939	1 252,967	1 667,432	1 445,318	2 026,358
Total Current Assets	2 019,823	1 887,453	2 081,077	2 452,360	2 866,102	3 349,490	3 240,833	3 914,282
Total Assets	3 875,399	3 849,604	4 141,104	4 639,426	5 180,207	5 790,634	5 809,016	6 609,504
Shareholders' Funds								
Share Capital	3,778	2,504	2,504	2,504	2,504	2,504	2,504	2,504
Retained Earnings and other reserves	(12,127)	302,336	746,341	1 217,415	1 723,433	2 291,606	2 926,787	3 643,082
Cash flow hedge reserve (OCI)	(52,923)	(18,780)	6,434	6,434	6,434	6,434	6,434	6,434
Currency translation differences (OCI)	42,571	46,823	31,814	31,814	31,814	31,814	31,814	31,814
Remeasurement of defined benefit plans (OCI)	(6,422)	(7,888)	(8,415)	(8,415)	(8,415)	(8,415)	(8,415)	(8,415)
Equity attributable to owners of the parent	(25,123)	324,995	778,678	1 249,752	1 755,770	2 323,943	2 959,125	3 675,419
Non-controlling interests	5,720	4,810	5,258	5,258	5,258	5,258	5,258	5,258
Total Shareholders' Funds	(19,403)	329,805	783,936	1 255,010	1 761,028	2 329,201	2 964,383	3 680,677
Non- Current Liabilities								
Employee Benefits	78,373	91,024	84,159	84,159	84,159	84,159	84,159	84,159
Provisions	141,847	215,227	197,392	197,392	197,392	197,392	197,392	197,392
Deferred Tax Liabilities	23,345	13,111	10,977	10,977	10,977	10,977	10,977	10,977
Other non-current liabilities	79,359	36,426	42,806	42,806	42,806	42,806	42,806	42,806
Long-Term Debt	1 340,981	1 448,165	1 500,150	1 595,184	1 570,571	852,997	841,632	462,638
Total Non-Current Liabilities	1 663,905	1 803,953	1 835,484	1 930,518	1 905,905	1 188,331	1 176,966	797,972
Current Liabilities								
Trade Payables	507,499	614,888	607,505	660,153	741,357	813,357	903,149	999,023
Current Tax Payables	125,232	41,595	29,160	35,378	32,269	33,823	33,046	33,435
Other current-liabilities	575,425	619,849	577,544	590,939	596,111	588,198	591,749	592,019
Other current financial-liabilities	103,332	39,638	1,444	1,444	1,444	1,444	1,444	1,444
Short/ Current Long Term debt	905,419	372,005	287,702	147,772	142,093	835,438	134,808	504,764
Short-Term Debt	13,990	27,871	18,329	18,212	-	0,842	3,472	0,170
Total Current Liabilities	2 230,897	1 715,846	1 521,684	1 453,898	1 513,274	2 273,103	1 667,668	2 130,855
Total Shareholders' Funds and Liabilities	3 875,399	3 849,604	4 141,104	4 639,426	5 180,207	5 790,634	5 809,016	6 609,504

Source: Company data & Analyst Estimates

Appendix 2: Common-Size Balance Sheet Statement (RACE)

Balance Sheet	2015	2016	2017	2018F	2019F	2020F	2021F	2022F
Non-Curtent Assets								
Goodwill	20,3%	20,4%	19,0%	16,9%	15,2%	13,6%	13,5%	11,9%
Intangible Assets	7,9%	9,2%	10,6%	11,3%	11,8%	12,1%	13,5%	13,2%
Property, plant and equipment	16,2%	17,4%	17,2%	16,2%	15,3%	14,4%	15,0%	13,8%
Investments and other financial assets	0,3%	0,9%	0,7%	0,6%	0,6%	0,5%	0,5%	0,5%
Deferred Tax Assets	3,2%	3,1%	2,3%	2,0%	1,8%	1,6%	1,6%	1,4%
Total Non-Current Assets	47,9%	51,0%	49,7%	47,1%	44,7%	42,2%	44,2%	40,8%
Current Assets	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Inventories	7,6%	8,4%	9,5%	8,1%	8,3%	8,1%	9,0%	8,7%
Trade Receivables	4,1%	6,3%	5,8%	5,5%	5,6%	5,4%	6,0%	5,9%
Receivables from financing activities	30,3%	20,5%	17,7%	18,4%	16,0%	14,4%	14,7%	13,0%
Current tax receivables	0,4%	0,0%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Other current assets	1,2%	1,4%	1,1%	1,0%	1,0%	0,8%	0,8%	0,7%
Current Financial Assets	0,2%	0,4%	0,4%	0,3%	0,3%	0,3%	0,3%	0,2%
Cash and Cash Equivalents	8,3%	11,9%	15,6%	19,4%	24,2%	28,8%	24,9%	30,7%
Total Current Assets	52,1%	49,0%	50,3%	52,9%	55,3%	57,8%	55,8%	59,2%
Total Assets	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
Shareholders' Funds								
Share Capital	0,1%	0,1%	0,1%	0,1%	0,0%	0,0%	0,0%	0,0%
Retained Earnings and other reserves	-0,3%	7,9%	18,0%	26,2%	33,3%	39,6%	50,4%	55,1%
Cash flow hedge reserve	-1,4%	-0,5%	0,2%	0,1%	0,1%	0,1%	0,1%	0,1%
Currency translation differences	1,1%	1,2%	0,8%	0,7%	0,6%	0,5%	0,5%	0,5%
Remeasurement of defined benefit plans	-0,2%	-0,2%	-0,2%	-0,2%	-0,2%	-0,1%	-0,1%	-0,1%
Equity attributable to owners of the parent	-0,6%	8,4%	18,8%	26,9%	33,9%	40,1%	50,9%	55,6%
Non-controlling interests	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%	0,1%
Total Shareholders' Funds	-0,5%	8,6%	18,9%	27,1%	34,0%	40,2%	51,0%	55,7%
Non- Current Liabilities								
Employee Benefits	2,0%	2,4%	2,0%	1,8%	1,6%	1,5%	1,4%	1,3%
Provisions	3,7%	5,6%	4,8%	4,3%	3,8%	3,4%	3,4%	3,0%
Deferred Tax Liabilities	0,6%	0,3%	0,3%	0,2%	0,2%	0,2%	0,2%	0,2%
Other non-current liabilities	2,0%	0,9%	1,0%	0,9%	0,8%	0,7%	0,7%	0,6%
Long-Term Debt	34,6%	37,6%	36,2%	34,4%	30,3%	14,7%	14,5%	7,0%
Total Non-Current Liabilities	42,9%	46,9%	44,3%	41,6%	36,8%	20,5%	20,3%	12,1%
Current Liabilities								
Trade Payables	13,1%	16,0%	14,7%	14,2%	14,3%	14,0%	15,5%	15,1%
Current Tax Payables	3,2%	1,1%	0,7%	0,8%	0,6%	0,6%	0,6%	0,5%
Other current-liabilities	14,8%	16,1%	13,9%	12,7%	11,5%	10,2%	10,2%	9,0%
Other current financial-liabilities	2,7%	1,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Short-Term Debt	23,4%	9,7%	6,9%	3,2%	2,7%	14,4%	2,3%	7,6%
Total Current Liabilities	57,6%	44,6%	36,7%	31,3%	29,2%	39,3%	28,7%	32,2%
Total Shareholders' Funds and Liabilities	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

Source: Company data & Analyst Estimates

Appendix 3: Income Statement (RACE)

Income Statement (Eur '000)	2015	2016	2017	2018F	2019F	2020F	2021F	2022F
Total Sales	2 298,89	2 517,97	2 829,27	3 136,76	3 533,37	3 955,91	4 430,71	4 964,36
Other Income	555,48	587,12	587,62	604,64	606,91	613,36	622,03	628,06
Adj. Cost of Sales	(1 340,717)	(1 399,034)	(1 448,124)	(1 603,890)	(1 778,568)	(1 963,628)	(2 173,540)	(2 408,063)
Gross Profit	1 513,65	1 706,05	1 968,77	2 137,51	2 361,71	2 605,64	2 879,20	3 184,35
Selling, general and administrative costs	(338,626)	(295,242)	(328,791)	(324,577)	(328,991)	(333,597)	(338,601)	(344,018)
Research and development costs	(446,726)	(509,580)	(556,617)	(620,488)	(698,942)	(782,526)	(876,448)	(982,009)
Other Costs	(20,204)	(9,152)	(6,237)	(7,783)	(7,889)	(7,999)	(8,119)	(8,249)
Other Income	22,10	5,75	4,96	5,42	5,49	5,57	5,65	5,74
Provisions and Impairment Losses	(12,933)	(52,463)	(42,906)	(12,405)	(12,573)	(12,749)	(12,941)	(13,148)
EBITDA	717,27	845,36	1 039,18	1 177,67	1 318,80	1 474,34	1 648,74	1 842,67
Amortization and depreciation	(272,945)	(247,717)	(260,606)	(306,930)	(346,295)	(385,660)	(425,026)	(464,391)
Indirect taxes	-	(5,628)	(5,593)	(5,593)	(5,593)	(5,593)	(5,593)	(5,593)
Result from investments	-	0,92	2,44	1,68	1,68	1,68	1,68	1,68
EBIT	444,32	592,93	775,42	866,83	968,59	1 084,76	1 219,80	1 374,36
Gains and losses in associated companies	-	2,15	-	-	-	-	-	-
Financial Expenses	(16,678)	(30,413)	(35,697)	(11,743)	(11,904)	(10,748)	(10,949)	(9,603)
Financial Income	6,53	2,68	6,44	6,31	6,94	7,83	8,88	8,32
Profit Before Taxes	434,17	567,35	746,16	861,39	963,63	1 081,84	1 217,73	1 373,08
Income Tax Expense	(144,115)	(167,635)	(208,760)	(232,359)	(259,937)	(291,825)	(328,480)	(370,385)
Net Profit	290,05	399,72	537,40	629,03	703,69	790,02	889,25	1 002,69
Shareholders of the parent	287,82	398,76	535,39	627,03	701,69	788,02	887,25	1 000,69
Non-Controlling Interests	2,24	0,96	2,00	2,00	2,00	2,00	2,00	2,00

Source: Company data & Analyst Estimates

Appendix 4: Common-Size Income Statement (RACE)

Income Statement	2015	2016	2017	2018F	2019F	2020F	2021F	2022F
Total Sales	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
Other Income	24,16%	23,32%	20,77%	19,28%	17,18%	15,50%	14,04%	12,65%
Adj. Cost of Sales	-58,32%	-55,56%	-51,18%	-51,13%	-50,34%	-49,64%	-49,06%	-48,51%
Gross Profit	65,84%	67,76%	69,59%	68,14%	66,84%	65,87%	64,98%	64,14%
Selling, general and administrative costs	-14,73%	-11,73%	-11,62%	-10,35%	-9,31%	-8,43%	-7,64%	-6,93%
Research and development costs	-19,43%	-20,24%	-19,67%	-19,78%	-19,78%	-19,78%	-19,78%	-19,78%
Other Costs	-0,88%	-0,36%	-0,22%	-0,25%	-0,22%	-0,20%	-0,18%	-0,17%
Other Income	0,96%	0,23%	0,18%	0,17%	0,16%	0,14%	0,13%	0,12%
Provisions and Impairment Losses	-0,56%	-2,08%	-1,52%	-0,40%	-0,36%	-0,32%	-0,29%	-0,26%
EBITDA	31,20%	33,57%	36,73%	37,54%	37,32%	37,27%	37,21%	37,12%
Amortization and depreciation	-11,87%	-9,84%	-9,21%	-9,78%	-9,80%	-9,75%	-9,59%	-9,35%
Indirect taxes	-	-0,22%	-0,20%	-0,18%	-0,16%	-0,14%	-0,13%	-0,11%
Result from investments	-	0,04%	0,09%	0,05%	0,05%	0,04%	0,04%	0,03%
EBIT	19,33%	23,55%	27,41%	27,63%	27,41%	27,42%	27,53%	27,68%
Gains and losses in associated companies	-	0,09%	-	-	-	-	-	-
Financial Expenses	-0,73%	-1,21%	-1,26%	-0,37%	-0,34%	-0,27%	-0,25%	-0,19%
Financial Income	0,28%	0,11%	0,23%	0,20%	0,20%	0,20%	0,20%	0,17%
Profit Before Taxes	18,89%	22,53%	26,37%	27,46%	27,27%	27,35%	27,48%	27,66%
Income Tax Expense	-6,27%	-6,66%	-7,38%	-7,41%	-7,36%	-7,38%	-7,41%	-7,46%
Net Profit	12,62%	15,87%	18,99%	20,05%	19,92%	19,97%	20,07%	20,20%
Shareholders of the parent	12,52%	15,84%	18,92%	19,99%	19,86%	19,92%	20,02%	20,16%
Non-Controlling Interests	0,10%	0,04%	0,07%	0,06%	0,06%	0,05%	0,05%	0,04%

Source: Company data & Analyst Estimates

Appendix 5: Cash Flow Statement (RACE)

Cash Flow Statement (Eur '000)	2018F	2019F	2020F	2021F	2022F
Cash Flows from Operating Activities					
EBIT	866,826	968,591	1 084,759	1 219,800	1 374,363
Amortization and depreciation	306,930	346,295	385,660	425,026	464,391
Change in NWC	(46,788)	22,552	(3,281)	(20,891)	4,123
Income Tax	(232,359)	(259,937)	(291,825)	(328,480)	(370,385)
Financial Income	6,309	6,944	7,833	8,877	8,317
Total	900,918	1 084,445	1 183,147	1 304,332	1 480,809
Cash Flows from Investing Activities					
CAPEX: Maintenance and Substitution	(352,932)	(391,195)	(429,411)	(467,526)	(505,539)
Other Investment	(81,037)	(82,139)	(83,289)	(84,538)	(85,891)
Total	(433,969)	(473,334)	(512,699)	(552,065)	(591,430)
Cash Flows from Financing Activities					
New Loans	128,841	114,906	116,132	125,741	124,766
Loan Reimbursements	(176,428)	(165,984)	(142,093)	(137,459)	(138,280)
Bond Reimbursements	-	-	-	(700,000)	-
Bond Amortizations	2,573	2,573	2,573	2,352	1,174
Financial Expense	(11,743)	(11,904)	(10,748)	(10,949)	(9,603)
Distributed Dividends	(157,959)	(197,675)	(221,846)	(254,067)	(286,398)
Total	(214,716)	(258,083)	(255,982)	(974,381)	(308,340)
Net Change in cash	252,233	353,028	414,465	(222,114)	581,039
Initial Cash Balance	647,706	899,939	1 252,967	1 667,432	1 445,318
Final Cash Balance	899,939	1 252,967	1 667,432	1 445,318	2 026,358

Source: Company data & Analyst Estimates

Appendix 6: Key Financial Ratios (RACE)

Financial Ratios (RACE)	Unit	2015	2016	2017	2018F	2019F	2020F	2021F	2022F
Profitability Ratios									
Gross Profit Margin	%	65.8%	67.8%	69.6%	68.1%	66.8%	65.9%	65.0%	64.1%
EBITDA Margin	%	31.2%	33.6%	36.7%	37.5%	37.3%	37.3%	37.2%	37.1%
EBIT Margin	%	19.3%	23.5%	27.4%	27.6%	27.4%	27.4%	27.5%	27.7%
Net Profit Margin	%	12.6%	15.9%	19.0%	20.1%	19.9%	20.0%	20.1%	20.2%
ROA	%	7.5%	10.4%	13.0%	13.6%	13.6%	13.6%	15.3%	15.2%
ROE	%	-1494.9%	121.2%	68.6%	50.1%	40.0%	33.9%	30.0%	27.2%
Efficency Ratios									
Trade Receivables Turnover	(x)	17.32	14.95	13.75	14.33	14.03	14.18	14.10	14.14
Days Sales Outstanding (DSO)	days	21.07	24.41	26.54	25.48	26.01	25.74	25.88	25.81
Financial Receivables Turnover	(x)	0.10	0.10	0.12	0.12	0.12	0.12	0.12	0.12
Days Credit Outstanding (DCO)	months	123.18	119.52	97.71	97.71	97.71	97.71	97.71	97.71
Inventory Turnover	(x)	4.54	4.52	4.04	4.26	4.15	4.20	4.17	4.19
Days Inventory Outstanding (DIO)	days	80.43	80.80	90.46	85.63	88.04	86.84	87.44	87.14
Payables Turnover	(x)	2.64	2.49	2.37	2.43	2.40	2.41	2.41	2.41
Days Payable outstanding (DPO)	days	138.16	146.41	154.05	150.23	152.14	151.19	151.66	151.43
Operating Cycle	days	25.61	28.93	30.58	29.74	30.16	29.95	30.05	30.00
Cash Cycle Conversion (CCC)	days	-36.66	-41.20	-37.05	-39.12	-38.09	-38.61	-38.35	-38.48
Fixed Asset Turnover	(x)	3.67	3.76	3.98	4.18	4.46	4.75	5.07	5.42
Total Asset Turnover	(x)	0.59	0.65	0.68	0.68	0.68	0.68	0.76	0.75
Liquidity Ratios									
Current Ratio	(x)	0.91	1.10	1.37	1.69	1.89	1.47	1.94	1.84
Quick Ratio	(x)	0.77	0.91	1.11	1.43	1.61	1.27	1.63	1.57
Cash Ratio	(x)	0.14	0.27	0.43	0.62	0.83	0.73	0.87	0.95
Capital Structure									
Total Debt to Total Equity	(x)	-116.50	5.60	2.30	1.40	0.97	0.73	0.33	0.26
Total Debt to Total Assets	(x)	0.58	0.48	0.44	0.38	0.33	0.29	0.17	0.15
Debt to EBITDA	(x)	3.15	2.19	1.74	1.50	1.30	1.15	0.59	0.53
Interest Coverage Ratio	(x)	26.64	19.50	21.72	73.81	81.37	100.93	111.40	143.12
Long-Term Debt to Equity	(x)	-69.11	4.39	1.91	1.27	0.89	0.37	0.28	0.13
Long-Term Debt to Assets	(x)	0.35	0.38	0.36	0.34	0.30	0.15	0.14	0.07

Source: Company data & Analyst Estimates

Appendix 7: Return on Invested Capital (ROIC) Breakdown

1. Reorganized Balance Sheet

EUR ('000)	2015	2016	2017	2018F
Cash and Cash Equivalents	321,93	457,78	647,71	899,94
Inventories	295,44	324,00	393,77	376,28
Trade Receivables	158,17	243,98	239,41	253,83
Receivables from financing activities	1 173,83	790,38	732,95	854,36
Current tax receivables	15,37	1,31	6,13	3,72
Other current assets	46,48	53,73	45,44	48,55
Total Operating Current Assets	**1 689,27**	**1 413,39**	**1 417,69**	**1 536,74**
Trade Payables	507,50	614,89	607,51	660,15
Current Tax Payables	125,23	41,60	29,16	35,38
Other current-liabilities	575,43	619,85	577,54	590,94
Total Operating Current Liabilities	**1 208,16**	**1 276,33**	**1 214,21**	**1 286,47**
Operating Working Capital	**481,12**	**137,06**	**203,48**	**250,27**
Net Property, plant and equipment	626,13	669,28	710,26	751,24
Ohter long-term assets (net of long-term liabilities)	(287,743)	(308,742)	(294,319)	(294,319)
Operating Leases (non-cancellable)	19,612	14,820	16,964	13,736
Invested Capital (without goodwill and acq.intagibles)	**1 161,04**	**970,21**	**1 284,09**	**1 620,86**
Goodwill	787,18	785,18	785,18	785,18
Net Intangibles assets	307,81	354,39	440,46	526,52
Invested Capital	**2 256,03**	**2 109,78**	**2 509,73**	**2 932,56**
Net Financial Derivatives	(94,706)	(23,362)	14,24	14,24
Tax-Loss Carry-forwards	4,36	1,81	0,11	-
Total Funds Invested	**2 165,68**	**2 088,23**	**2 524,08**	**2 946,80**
Total Funds Invested (Reconciliation)				
Long-Term Debt	1 340,98	1 448,17	1 500,15	1 595,18
Short/ Current Long Term debt	905,42	372,01	287,70	147,77
Short-Term Debt	13,99	27,87	18,33	18,21
Operating Leases (non-cancellable)	19,612	14,820	16,964	13,736
Debt and its equivalentes	2 280,00	1 862,86	1 823,15	1 774,90
Defered Taxes	(94,920)	(104,436)	(83,005)	(83,114)
Equity attributable to owners of the parent	(25,123)	325,00	778,68	1 249,75
Non-controlling interests	5,72	4,81	5,26	5,26
Equity and its equivalents	(114,323)	225,37	700,93	1 171,90
Total Funds Invested	**2 165,68**	**2 088,23**	**2 524,08**	**2 946,80**

2. NOPLAT

EUR ('000)	2015	2016	2017	2018F	2019F	2020F	2021F	2022F	Norm. Terminal Value
Industrial Revenues	2 298,89	2 517,97	2 829,27	3 136,76	3 478,10	3 848,83	4 272,24	4 744,43	5 141,63
SponsorShip, Commercial and brand	441,13	488,51	494,08	499,71	505,41	511,17	517,00	522,89	536,02
Financial Revenues	114,36	98,60	93,54	104,92	101,50	102,19	105,03	105,17	104,21
Adj. Cost of Sales	(1 340,72)	(1 399,03)	(1 448,12)	(1 603,89)	(1 778,57)	(1 963,63)	(2 173,54)	(2 408,06)	(2 619,25)
Selling, general and administrative expenses	(338,63)	(295,24)	(328,79)	(324,58)	(328,99)	(333,60)	(338,60)	(344,02)	(345,56)
Research and development expenses	(446,73)	(509,58)	(556,62)	(620,49)	(698,94)	(782,53)	(876,45)	(982,01)	(1 099,04)
Adjusted Operating Income	728,30	901,23	1 083,36	1 192,44	1 278,50	1 382,43	1 505,67	1 638,40	1 718,01
Depreciation and amortization	(272,95)	(247,72)	(260,61)	(306,93)	(346,30)	(385,66)	(425,03)	(464,39)	(493,21)
Operating lease expenses	(3,50)	(3,00)	(3,54)	(3,47)	(3,41)	(3,35)	(3,11)	(0,96)	0,00
Adjusted EBIT	451,86	650,51	819,21	882,05	928,80	993,42	1 077,54	1 173,04	1 224,79
Operating Cash Taxes	(144,33)	(171,20)	(209,99)	(237,93)	(250,54)	(267,97)	(290,66)	(316,43)	(350,69)
NOPLAT	307,53	479,31	609,22	644,12	678,26	725,45	786,88	856,62	874,10

3. **Operating Leases PV Estimation (not fully disclosed by the company; no further planned payments beyond 2022)**

EUR ('000)	2015	2016	2017	2018F	2019F	2020F	2021F	2022F
Op. Lease Expenses	3,500	3,000	3,537	3,467	3,410	3,351	3,109	0,962
PV	19,612	14,820	16,964	13,736	10,510	7,279	4,044	0,962

4. **ROIC**

		2015	2016	2017	2018F
	ROIC	**13,6%**	**22,7%**	**24,3%**	**22,0%**
Split Up	Operating Cash Tax Rate	0,319	0,263	0,256	0,270
	Adj.EBIT/Revenues	0,158	0,209	0,240	0,236
	Revenues/Invested Capital	1,265	1,472	1,361	1,276

Traditionally, ROIC is computed as NOPLAT / Invested Capital. Nevertheless, one can also break down the computation as follows: ROIC = (1- Operating Cash Tax Rate) * (Adj. EBIT/ Revenues) * (Revenues / Invested Capital) to better picture the real extent to which company's ROIC is being driven by: 1. Efficiency in operating taxes; 2. Ability to maximize profitability; 3. Optimization of capital turnover;

Appendix 8: Revenue and OPEX Breakdown Analysis (RACE)

1. Revenue Breakdown by segment

Revenue Breakdown (€ '000)	2015	2016	2017	2018F	2019F	2020F	2021F	2022F
Cars and Spare Parts	2 080,228	2 180,045	2 455,955	2 777,052	3 106,602	3 478,108	3 895,563	4 364,754
Engines	218,657	337,924	373,313	359,708	371,495	370,720	376,674	379,676
Sponsorship, commercial and brand	441,128	488,514	494,082	499,713	505,409	511,170	516,996	522,889
Other	114,356	98,601	93,540	104,924	101,497	102,187	105,030	105,168
Total Revenues	2 854,369	3 105,084	3 416,890	3 741,398	4 085,003	4 462,185	4 894,263	5 372,487

Source: Company data & Analyst Estimates

2. Automotive Sales Breakdown by Worldwide Region

Ferrari Worlwide Sales	2015		2016		2017		2018F		2019F		2020F		2021F		2022F		Company's CAGR(2015-2017)	Industry's CAGR (2018F-2022F)	Company's Adjusted CAGR (2018F-2022F)
EMEA	3351	43,72%	3610	45,05%	3737	44,50%	3946	44,87%	4132	45,34%	4327	45,82%	4531	46,29%	4745	46,77%	5,60%	4%	4,71%
Americas	2640	34,45%	2687	33,53%	2811	33,47%	2901	32,98%	2961	32,49%	3022	32,00%	3084	31,51%	3148	31,03%	3,19%	1,5%	2,07%
China, Hong-Kong and Taiwan	610	7,96%	619	7,72%	617	7,35%	621	7,06%	644	7,06%	668	7,07%	693	7,08%	719	7,08%	0,57%	4,0%	3,74%
Rest of APAC	1063	13,87%	1098	13,70%	1233	14,68%	1328	15,10%	1377	15,11%	1427	15,11%	1480	15,12%	1534	15,12%	7,70%	3%	3,67%
Total	**7664**	100%	**8014**	100%	**8398**	100%	**8795**	100%	**9113**	100%	**9444**	100%	**9788**	100%	**10146**	100%	4,68%	4,0%	4,1%

Source: Company data & Analyst Estimates

3. Automobile Production Output & Industrial Revenues

		2015	2016	2017	2018F	2019F	2020F	2021F	2022F
Plant Installed Prod. Capacity ("Self-Imposed")	Units	10 000	10 000	10 000	10 000	10 000	10 000	10 000	10 000
Plant Prod. Output	Units	7 664	8 014	8 398	8 795	9 113	9 444	9 788	10 146
Relative Prod. Output	%	76,64%	80,14%	83,98%	87,95%	91,13%	94,44%	97,88%	101,46%
Avg. Selling Price (per automobile)	€	271 428	272 030	292 445	315 738	340 882	368 284	397 996	430 212
Expected Industrial Revenue	€	2 080 228	2 180 045	2 455 955	2 777 052	3 106 602	3 478 108	3 895 563	4 364 754

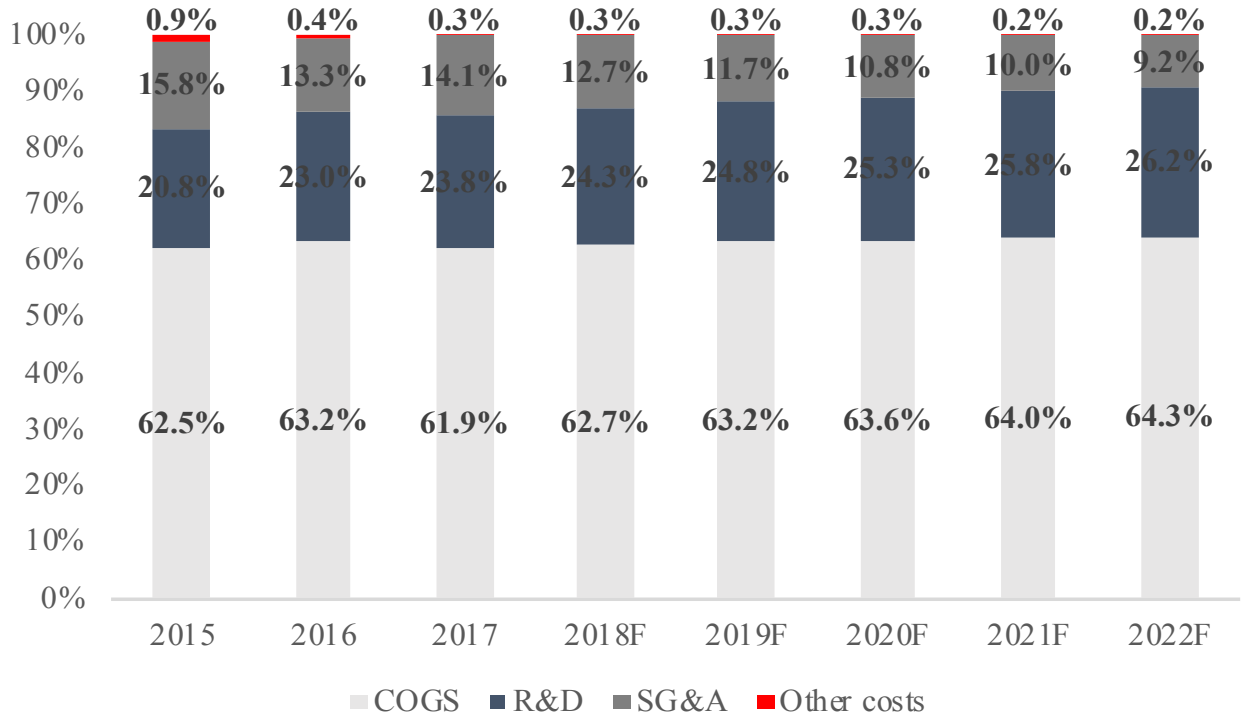
Source: Company data & Analyst Estimates

4. Expected Real term Inflation Rates

	2018F	2019F	2020F	2021F	2022F
Italy's Expected Inflation Rate	1,15%	1,36%	1,40%	1,50%	1,60%
Expected Inflation Rate by Region					
Europe	2,10%	2,20%	2,30%	2,40%	2,40%
North America	2,70%	2,50%	2,20%	2,10%	2,20%
Middle East	5,60%	4,90%	4,80%	4,70%	4,50%
Asia and Pacific	3,40%	3,30%	3,40%	3,30%	3,40%

Source: IMF

5. OPEX Breakdown



Source: Company data

Appendix 10: Comparable Companies

1. Ferrari's Product line-up vs Direct Competition in each Segment

Sports Car Segment						
Ferrari's Product Portfolio	**Lamborghini**	**McLaren**	**Porsche**	**Mercedes**	**Aston Martin**	**Audi**
488 GTB 488 Spider 812 Superfast	Huracan Aventador S	540C 570S 570GT 720S	911 Turbo 911 Turbo S	AMG GTC	V8 Vantage V12 Vantage	R8 V10 R8 V10 Plus
GT Car Segment						
Ferrari's Product Porfolio	**Rolls-Royce**	**Bentley**	**Aston Martin**	**Mercedes**		
Portofino GTC4Lusso GTC4LussoT	Wraith Dawn	Continental GT	Vanquish DB 11	AMG S63 Coupe		
Limited Editions						
Ferrari's Product Portfolio	**Lamborghini**	**McLaren**	**Porsche**			
La Ferrari Aperta 488 Pista	Centenario	Senna	911 GT3 RS 911 GT2 RS			

2. Worldwide sales by brand for the Luxury Performance Car Segment (units)

Luxury Performance Car Sales						
	2017		**2016**		**2015**	
Ferrari	8398	29,27%	8014	28,1%	7664	29,30%
Lamborghini	3815	13,30%	3457	12,1%	3245	12,41%
McLaren	3340	11,64%	3286	11,5%	1654	6,32%
Aston Martin	5117	17,83%	3687	12,9%	3615	13,82%
Audi	3179	11,08%	3688	12,9%	2074	7,93%
Bentley	2813	9,80%	3872	13,6%	6213	23,76%
Rolls-Royce	2029	7,07%	2477	8,7%	1688	6,45%
Segment total	**28691**	100,00%	**28481**	100,0%	**26153**	100,00%

Sales of Porsche and Mercedes-Benz for this specific segment are not disclosed. Nevertheless, Ferrari's market share should be no less than 25%, after adjusting.

Maserati is not considered in the list, as petrol engines used in their Sport and GT cars are produced by Ferrari, thus part of the operational activity of the company.

All the direct competitors of Ferrari are stated above, but none of them fully disclose their financial performance. Lamborghini, Audi and Bentley are part of the VAG Group and Rolls-Royce part of BMW A.G. These two automotive groups only disclose their financial data on a consolidated basis. Both McLaren and Aston Martin are not integrated in any group, but as they are private capital companies, they also don't disclose their financial positions.

Given this panorama and in the absence of tangible financial data from all these direct competitors, other indirect competitors within the luxury industry market were picked. The decision to allocate Ferrari in the luxury industry rather than automotive industry was based partially on the great positive discrepancy that exist between the company's EBITDA Margin vs Avg. EBITDA Margin achieved in the automotive industry.

3. Industry Allocation of Ferrari based on EBITDA Margin

	EBITDA Margin	2018 (TTM)	2017	2016
Automotive Industry	General Motors	16,37%	16,96%	14,5%
	Toyota	14,91%	14,30%	14,35%
	FCA	12,02%	11,96%	9,59%
	VolksWagen	16,40%	16,57%	14,29%
	BMW	16,47%	16,13%	16,11%
	Daimler	12,07%	12,35%	12,14%
	Avg.	**14,71%**	**14,71%**	**13,50%**
	Ferrari	**37,54%**	**36,73%**	**33,57%**
Luxury Industry	LVMH	24,49%	24,49%	23,13%
	Hermès	37,80%	37,80%	35,84%
	Kering	22,43%	22,43%	18,70%
	Richemont	20,41%	24,54%	18,28%
	Moncler	29,75%	28,56%	30,13%
	Ferragamo	16,95%	17,14%	21,84%
	Avg.	**25,31%**	**25,83%**	**24,65%**

Appendix 11: Valuation through Multiples

To value Ferrari using the relative valuation method, two types of multiples were used: Enterprise Value and Price Multiples. The advantage of using the enterprise value is that it comprises the effect of leverage and cash (net debt) on the business of the company. Price multiples are more focused on the operational performance. Forward multiples were applied as they already incorporate future expectations on the business. Ferrari's multiples are based on the analyst estimates for 2018 whereas peer multiples are based on Reuters Eikon.

1. Forward Multiples for Ferrari and its peers

Peers Multiples 2018F								
Multiple	**P/Earnings**	**P/Sales**	**P/Book**	**P/Op.Cash Flow**	**EV/Sales**	**EV/EBITDA**	**EV/Op.Cash Flow**	**EV/Net Debt**
LVMH	26,48	3,31	4,90	17,87	3,56	15,31	21,60	17,37
Ferragamo	20,07	2,64	5,60	15,74	2,71	15,53	13,55	13,03
Richemont	36,08	3,79	2,81	22,76	3,38	15,58	15,59	-38,14
Hermès	38,15	9,73	10,68	32,69	9,31	23,85	32,10	-17,40
Moncler	29,36	8,30	10,61	25,58	8,01	24,87	30,45	-19,92
Kering	35,78	3,05	4,99	24,4	3,79	16,85	19,31	-39,82
1st Quartile	27,20	3,12	4,92	19,09	3,43	15,54	14,57	-12,55
Median	32,57	3,55	5,30	23,58	3,68	16,22	20,45	-18,66
Mean	30,99	5,14	6,60	23,17	5,13	18,67	22,10	-14,14
3rd Quartile	36,01	7,17	9,36	25,29	6,96	22,10	25,71	-28,61
Ferrari's Multipe	34,93	7,00	17,51	24,39	7,29	19,41	25,37	26,02
Δ median	7,24%	97,30%	230,61%	3,42%	98,25%	19,68%	24,02%	-239,45%
Δ mean	12,7%	36,4%	165,3%	5,2%	42,1%	4,0%	14,8%	-284,0%
Δ 1st Quartile	28,4%	124,8%	255,6%	27,7%	112,7%	24,9%	74,1%	-307,3%
Δ 3rd Quartile	-3,0%	-2,3%	87,1%	-3,6%	4,8%	-12,2%	-1,3%	-191,0%

Although present in the same industry, peers have different strategical guidance than Ferrari, first-of because they are indirect peers as the drivers of demand & supply are quite the same, but the range of product offering is different. After the analysis of the various proposed multiples, some of them were excluded as they exhibit large outliers and don't match Ferrari business: Price-to-Book Value and EV-to- Net Debt (majority of the peers sustain either high levels of liquidity or low levels of debt or both). Typically, cash flow multiples are more stable and less subject to manipulation from management, thus offer more reliable values.

The following results were achieved:

Price Ratios	
Avg. Δ median	36,0%
Avg. Δ mean	18,1%
Avg. Δ 1st Quartile	60,3%
Avg. Δ 3rd Quartile	-3,0%

EV Ratios	
Avg. Δ median	47,32%
Avg. Δ mean	20,29%
Avg. Δ 1st Quartile	70,56%
Avg. Δ 3rd Quartile	-2,9%

2. Ferrari 2018F Relative Valuation

Multiple Valuation						
Multiples	**P/Earnings**	**P/Sales**	**P/OP.Cash Flow**	**EV/Sales**	**EV/EBITDA**	**EV/Op.Cash Flow**
Multipe (3rd Quartile)	**36,01**	**7,17**	**25,29**	**6,96**	**22,10**	**25,71**
EV (€ '000)	23 526,66	23 376,74	23 658,04	21 816,17	26 026,56	23158,85
EBITDA (€ '000)	1 177,67	1 177,67	1 177,67	1 177,67	1 177,67	1 177,67
Net Debt (€ '000)	878,33	878,33	878,33	878,33	878,33	878,33
Market Equity (€ '000)	22 648,34	22 498,41	22 779,72	20 937,84	25 148,23	22 280,53
Target Price	€121,97	€121,16	€122,68	€112,76	€135,43	€119,99
Avg. Target Price	**€122,33**					
Multiple (Mean)	**30,99**	**-**	**23,17**	**-**	**18,67**	**22,10**
EV (€ '000)	20 369,97		21 755,60		21 981,26	19 909,66
EBITDA (€ '000)	1 177,67		1 177,67		1 177,67	1 177,67
Net Debt (€ '000)	878,33		878,33		878,33	878,33
Market Equity (€ '000)	19 491,64		20 877,28		21 102,93	19 031,33
Target Price	€104,97		€112,43		€113,65	€102,49
Avg. Target Price	**€108,38**					
Final Weighted Avg. Target Price	**€115,36**					

The relative valuation based on 2018 forward multiples reveals that Ferrari is priced just about right in relation to its current market price of €116.50.

Appendix 12: Discounted Cash Flow Method (DCF) Assumptions

1. Adjusted Levered Beta

	Ferrari	LVMH	Ferragamo	Richemont	Hermès	Kering
Levered Beta	1,03	0,81	0,68	0,75	0,48	0,84
Debt/Equity	2,02	0,38	0,11	0,57	0,01	0,41
Effective Tax Rate	24,18%	29,22%	28,21%	22,20%	34,60%	23,99%
Unlevered Beta	0,41	0,64	0,62	0,52	0,48	0,64
Industry's Peer Avg. Unlevered Beta	0,55	0,55	0,55	0,55	0,55	0,55
Smooth Out Levered Beta	1,40	0,70	0,60	0,80	0,56	0,72

2.Adjusted Risk-Free Rate

Risk Free Rate	2017	2018F	2019F	2020F	2021F	2022F
German Bund (adj. For maturity)	-0,80%	-0,68%	-0,68%	-0,58%	-0,43%	-0,25%
U.S. Tresuary Bond (adj. For maturity)	0,82%	1,98%	2,12%	2,39%	2,52%	2,69%
Business Adj. Risk Free Rate	**-0,06%**	**0,53%**	**0,60%**	**0,78%**	**0,92%**	**1,09%**

The risk-free rate was adjusted accordingly the two most important geographical regions the business is exposed to. German Bunds and U.S Treasury Bonds aim to resemble the risk-free rate for both Europe and North America, respectively.

3.Country and Market Risk Premiums

Country Risk Premium		Adj. Business Exposure (Main Markets)
North America	5,08%	45,68%
United Kingdom	5,65%	13,44%
Germany	5,08%	11,33%
France	5,65%	5,52%
Italy	7,27%	6,65%
Swiss	5,08%	5,40%
Other Europe	6,00%	11,98%
Adj. Market Risk Premium	**5,44%**	100,00%

4.Capex and D&A

Capex and D&A ('000)	2017	2018F	2019F	2020F	2021F	2022F
Capex						
Maintenance and Substitution	297,135	352,932	391,195	429,411	467,526	505,539
Expansion and Others						
Intangible Assets	82,930	64,509	65,386	66,302	67,296	68,373
Tangible Assets	7,580	16,528	16,753	16,987	17,242	17,518
Total Capex	**387,645**	**433,969**	**473,334**	**512,699**	**552,065**	**591,430**
D&A						
Property, Plant and Equipment	143,484	149,650	158,284	166,917	175,551	184,185
Intangible Assets	117,122	157,280	188,012	218,743	249,475	280,206

5.Total Debt Outstanding

Debt Breakdown ('000)	2016	2017	2018F	2019F	2020F	2021F	2022F
Bonds	497,614	1 193,517	1 196,091	1 198,664	1 201,238	503,590	504,764
Securitizations	485,670	556,276	502,643	459,628	427,928	406,468	390,486
Bank Loans	836,886	38,059	44,223	54,372	59,269	66,381	72,153
Other debt	27,871	18,329	18,212	0,000	0,842	3,472	0,170
Total	**1 848,041**	**1 806,181**	**1 761,168**	**1 712,664**	**1 689,277**	**979,911**	**967,572**

6. Fixed Income Debt Instruments

0.25% Ferrari 11/21 Fixed Annual Coupon (Eur '000)	Bond Discount	Clean Carrying Value	Dirty Carrying Value	
EIR Method	5,828	694,172		
	5,598	694,402	694,623	**2017**
Straight Line Amort.	4,199	695,802	696,023	**2018F**
	2,799	697,201	697,422	**2019F**
	1,400	698,601	698,822	**2020F**
	0,000			**2021F**
1.5% Ferrari 03/23 Fixed Annual Coupon Eur('000)	**Bond Discount**	**Clean Carrying Value**	**Dirty Carrying Value**	
EIR Method	9,271	490,729		
	8,324	491,676	497,614	**2016**
	7,044	492,956	498,894	**2017**
Straight Line Amort.	5,870	494,130	500,068	**2018F**
	4,696	495,304	501,242	**2019F**
	3,522	496,478	502,416	**2020F**
	2,348	497,652	503,590	**2021F**
	1,174	498,826	504,764	**2022F**
	0,000			**2023F**

Both bonds were issued at discount in the market, and as consequence there's a need to amortize those discounts until maturity. Ferrari uses Effective Interest Rate Method (EIR) to do so, but for the forecasted period Straight Line Amortization was applied. Dirty Carrying Value already includes accrued interest.

7. Securitizations

Securitizations (Ferrari Financial Services related) Eur ('000)	2016	2017	2018F	2019F	2020F	2021F	2022F
Initial	-	485,670	556,276	502,643	459,628	427,928	406,468
Proceeds from borrowings	527,124	232,520	85,436	82,646	83,207	85,522	85,635
Repaymenys of borrowings	(64,424)	(91,405)	(139,069)	(125,661)	(114,907)	(106,982)	(101,617)
Final	485,670	556,276	502,643	459,628	427,928	406,468	390,486

Securitizations are an integrant part of the funding process of Ferrari Financial Services (F.F.S). It's a way to expedite funding without intra-transactions within the company. It's performed by pledging retail and leasing financial receivables and credit lines as collateral. F.F.S has its operations mainly located in the United States.

8. Banks Loans

Bank Loans Eur ('000)	2016	2017	2018F	2019F	2020F	2021F	2022F
Initial	2 245,144	836,886	38,059	44,223	54,372	59,269	66,381
Proceeds from borrowings	10,041	10,074	25,193	32,261	32,082	36,747	38,962
Repayments of borrowings	(1 422,719)	(800,943)	(19,029)	(22,111)	(27,186)	(29,634)	(33,191)
Final	836,886	38,059	44,223	54,372	59,269	66,381	72,153

Banks Loans were first used to fund the spin-off process. As of beginning of 2018 all funds raised in that operation had already been fully paid with the proceeds from the two bond issuances. For the forecasted period, bank loans are assumed to move accordingly the operational needs of the business on a marginal basis, namely for CAPEX and Working Capital.

9. Other Debt

Other Debt (FFS Operational) Short Term Eur ('000)	2016	2017	2018F	2019F	2020F	2021F	2022F
Initial	15,246	27,871	18,329	18,212	0,000	0,842	3,472
Proceeds from borrowings	66,092	34,804	18,212	-	0,842	3,472	0,170
Repayments of borrowings	(53,989)	(43,084)	(18,329)	(18,212)	0,000	(0,842)	(3,472)
Final	27,871	18,329	18,212	0,000	0,842	3,472	0,170

10. Working Capital

Working Capital Eur ('000)	2016	2017	2018F	2019F	2020F	2021F	2022F
Current Assets							
Inventories	323,998	393,765	376,276	429,015	467,163	520,695	574,887
Trade Receivables	243,977	239,410	253,835	287,820	315,078	350,787	388,036
Receivables from financing activities	790,377	732,947	854,359	826,455	832,070	855,218	856,349
Current tax receivables	1,312	6,125	3,719	4,922	4,320	4,621	4,471
Other current assets	53,729	45,441	48,549	49,240	47,743	48,511	48,498
Current Liabilities							
Trade Payables	614,888	607,505	660,153	741,357	813,357	903,149	999,023
Current Tax Payables	41,595	29,160	35,378	32,269	33,823	33,046	33,435
Other current-liabilities	619,849	577,544	590,939	596,111	588,198	591,749	592,019
NWC	137,061	203,479	250,267	227,715	230,996	251,887	247,764
ΔNWC	(344,055)	66,418	46,788	(22,552)	3,281	20,891	(4,123)

11. Total Operational Funds Required excluding COGS and Overhead

Required Funds Eur ('000)	2016	2017	2018F	2019F	2020F	2021F	2022F
OPEX	813,974	891,645	952,848	1 035,822	1 124,122	1 223,168	1 334,277
CAPEX	337,454	387,645	433,969	473,334	512,699	552,065	591,430
ΔNWC	(344,055)	66,418	46,788	(22,552)	3,281	20,891	(4,123)
Total Funds	807,373	1 345,708	1 433,605	1 486,604	1 640,102	1 796,124	1 921,583

Appendix 13: Discounted Cash Flow Analysis

DCF Analysis	2017	2018F	2019F	2020F	2021F	2022F	Terminal
Risk-Free Rate	-0,06%	0,53%	0,60%	0,78%	0,92%	1,09%	1,09%
βu	0,55	0,55	0,55	0,55	0,55	0,55	0,55
Debt/Equity	2,30	1,40	0,97	0,73	0,33	0,26	0,26
Market Risk-Premium	5,44%	5,44%	5,44%	5,44%	5,44%	5,44%	5,44%
βL	1,52	1,14	0,96	0,85	0,69	0,66	0,66
Cost of Equity (Re)	8,19%	6,73%	5,82%	5,43%	4,68%	4,69%	4,69%
Cost of Debt (Rd)	2,26%	2,17%	2,03%	1,97%	2,99%	2,93%	2,93%
Effective Tax Rate	24,18%	24,18%	24,18%	24,18%	24,18%	24,18%	24,18%
Entreprise Value (Mkt. Value, Eur'000)	18233,73	22499,49	22097,96	21660,10	21172,85	20579,47	20579,47
Equity to EV (Mkt. Value)	93,62%	96,15%	97,90%	99,87%	102,17%	105,12%	105,12%
Net Debt to EV (Mkt. Value)	6,38%	3,85%	2,10%	0,13%	-2,17%	-5,12%	-5,12%
WACC	7,78%	6,54%	5,73%	5,43%	4,73%	4,82%	4,82%

Net debt was used for the WACC computation, as the DCF model uses Free Cash Flows to the Firm (FCFF) to obtain Enterprise Value (EV), so it makes sense to discount them using a WACC that already resembles the effects of net debt. Moreover, despite FCFF represent cash available to be distributed both for debt and equity holders, there's a priority in that same distribution that says that debt holders have the right to receive their cash first, that's one of the reasons why EV has net debt incorporated on it.
Mkt Enterprise Values stated above are forecasted based on the dynamics of debt and cash levels, and minority interests, everything else is assumed to be *Ceteris Paribus*, that includes the equity values throughout the forecast period that are stated in relation to the latest market cap on June 30, 2018.

	2017	2018F	2019F	2020F	2021F	2022F	Terminal
Book Entreprise Value	1 942,41	2 116,24	2 220,73	2 351,05	2 498,98	2 621,89	2 621,89
Book Net Debt/Book EV	59,6%	40,7%	20,7%	0,9%	-18,6%	-40,4%	-40,4%
Book Equity/Book EV	40,4%	59,3%	79,3%	99,1%	118,6%	140,4%	140,4%
WACC	4,33%	4,62%	4,92%	5,39%	5,18%	5,69%	5,69%

Discount FCFF Model Eur ('000)	2018F	2019F	2020F	2021F	2022F	Normalized Terminal Value	CAGR
Adjusted EBIT	882,046	928,796	993,422	1 077,539	1 173,043	1 224,793	6,8%
Operating Cash Tax	(237,930)	(250,541)	(267,973)	(290,664)	(316,426)	(350,688)	8,1%
NOPLAT	**644,116**	**678,255**	**725,448**	**786,876**	**856,617**	**874,105**	**6,3%**
YoY	6%	5%	7%	8%	9%	2%	
D&A	**306,930**	**346,295**	**385,660**	**425,026**	**464,391**	**493,213**	**10,0%**
YoY	18%	13%	11%	10%	9%	6%	
CAPEX	**(433,969)**	**(473,334)**	**(512,699)**	**(552,065)**	**(591,430)**	**(623,019)**	**7,5%**
YoY	12%	9%	8%	8%	7%	5%	
ΔNWC	**(46,788)**	**22,552**	**(3,281)**	**(20,891)**	**4,123**	**(12,976)**	**-22,6%**
YoY	-30%	-148%	-115%	537%	-120%	-415%	
FCFF	**470,288**	**573,769**	**595,129**	**638,945**	**733,701**	**731,323**	**9,2%**

Enterprise Value	EUR
Terminal Growth Rate	2,10%
Perpetuity WACC	4,82%
PV Terminal Value ('000)	21 242,95
NPV of FCFF ('000)	2 712,41
Enterprise Value ('000)	23 955,35

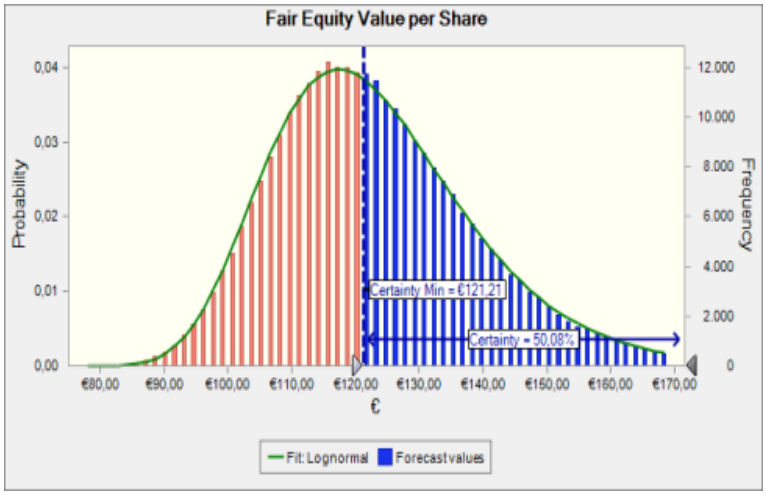
Price Target	EUR
Entreprise Value ('000)	23.955,35
Net Debt W/Operating Leases (' 000)	878,33
Value of Equity ('000)	23.071,77
No of shares outstanding ('000)	185,69
Equity Value per share	€124,25
DCF Risk Adjustment Rate	2,5%
Price at the end of 2018	**€121,21**
Market Price at June, 30th 2018	€116,50

Appendix 14: Monte Carlo Simulation

In order to test out the robustness of the DCF model, a Monte Carlo simulation was performed upon it. The variables chosen were the ones described below, as they can impact the final share price in a sharper way through the terminal value, which just by its own has an overall weight of approx. 86% on the final output value of the DCF model. The terminal FCFF could also had been used as variable, but it's not common to assign a specific probability distribution to it, as a large historical sample is required to make a prudent approximation of its statistical distribution.

Variable Assumptions	Mean	St.Dev	Distribution
Terminal WACC	4,82%	0,30%	Normal
Terminal Growth Rate	2,10%	0,15%	Normal

Both terminal WACC and Growth Rate are assumed to be Normal distributed, which is in line with the sensitivity analysis described on the next appendix for the distribution of both variables.



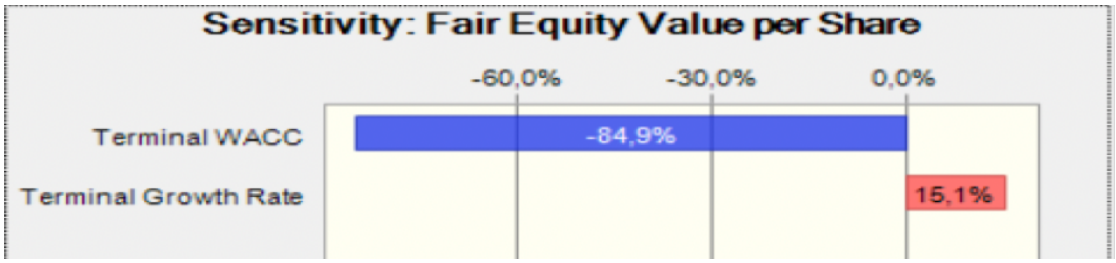
Monte Carlo Statistics	
Number of trials run	300 000
Confidence Level	95%
Mean	€123,23
Standard Deviation	€16,39
10th Percentile	€104,25
90th Percentile	€144,59
Prob of Upside Pontential	62,48%

Mean	€123,23
DCF	€121,21
Current	€116,50

Sell, Reduce or Hold - 49,92 % Buy - 50,08% Probability

Probability

Source: Analyst Estimates; Software: Oracle Crystal Ball



Source: Analyst Estimates; Software: Oracle Crystal Ball

Appendix 15: Sensitivity Analysis

Growth Rate	WACC						
	3,92%	**4,22%**	**4,52%**	**4,82%**	**5,12%**	**5,42%**	**5,72%**
1,65%	€149,86	€131,52	€117,05	€105,35	€95,69	€87,60	€80,72
1,80%	€159,79	€139,08	€122,98	€110,11	€99,59	€90,84	€83,44
1,95%	€171,23	€147,65	€129,61	€115,37	€103,85	€94,35	€86,39
2,10%	€184,56	€157,42	€137,05	**€121,21**	€108,54	€98,19	€89,57
2,25%	€200,28	€168,69	€145,48	€127,73	€113,72	€102,38	€93,04
2,40%	€219,10	€181,80	€155,10	€135,06	€119,46	€107,00	€96,81
2,55%	€242,05	€197,28	€166,19	€143,35	€125,88	€112,10	€100,94

Growth Rate	Beta						
	0,45	0,52	0,59	0,66	0,73	0,80	0,87
1,65%	€173,98	€143,30	€121,55	€105,35	€92,83	€82,87	€74,77
1,80%	€187,55	€152,34	€127,97	€110,11	€96,48	€85,75	€77,09
1,95%	€203,56	€162,70	€135,16	€115,37	€100,47	€88,87	€79,58
2,10%	€222,73	€174,68	€143,29	**€121,21**	€104,84	€92,25	€82,26
2,25%	€246,10	€188,68	€152,54	€127,73	€109,66	€95,93	€85,16
2,40%	€275,22	€205,28	€163,17	€135,06	€114,99	€99,96	€88,29
2,55%	€312,52	€225,27	€175,49	€143,35	€120,91	€104,37	€91,70

Growth Rate	Market Risk Premium						
	4,84%	**5,04%**	**5,24%**	**5,44%**	**5,64%**	**5,84%**	**6,04%**
1,65%	€122,33	€116,12	€110,48	€105,35	€100,65	€96,34	€92,37
1,80%	€128,83	€121,95	€115,74	€110,11	€104,98	€100,29	€95,98
1,95%	€136,13	€128,46	€121,58	€115,37	€109,74	€104,61	€99,93
2,10%	€144,38	€135,77	€128,09	**€121,21**	€115,00	€109,37	€104,25
2,25%	€153,78	€144,03	€135,41	€127,73	€120,84	€114,63	€109,01
2,40%	€164,58	€153,45	€143,69	€135,06	€127,37	€120,48	€114,27
2,55%	€177,14	€164,29	€153,14	€143,35	€134,71	€127,01	€120,12

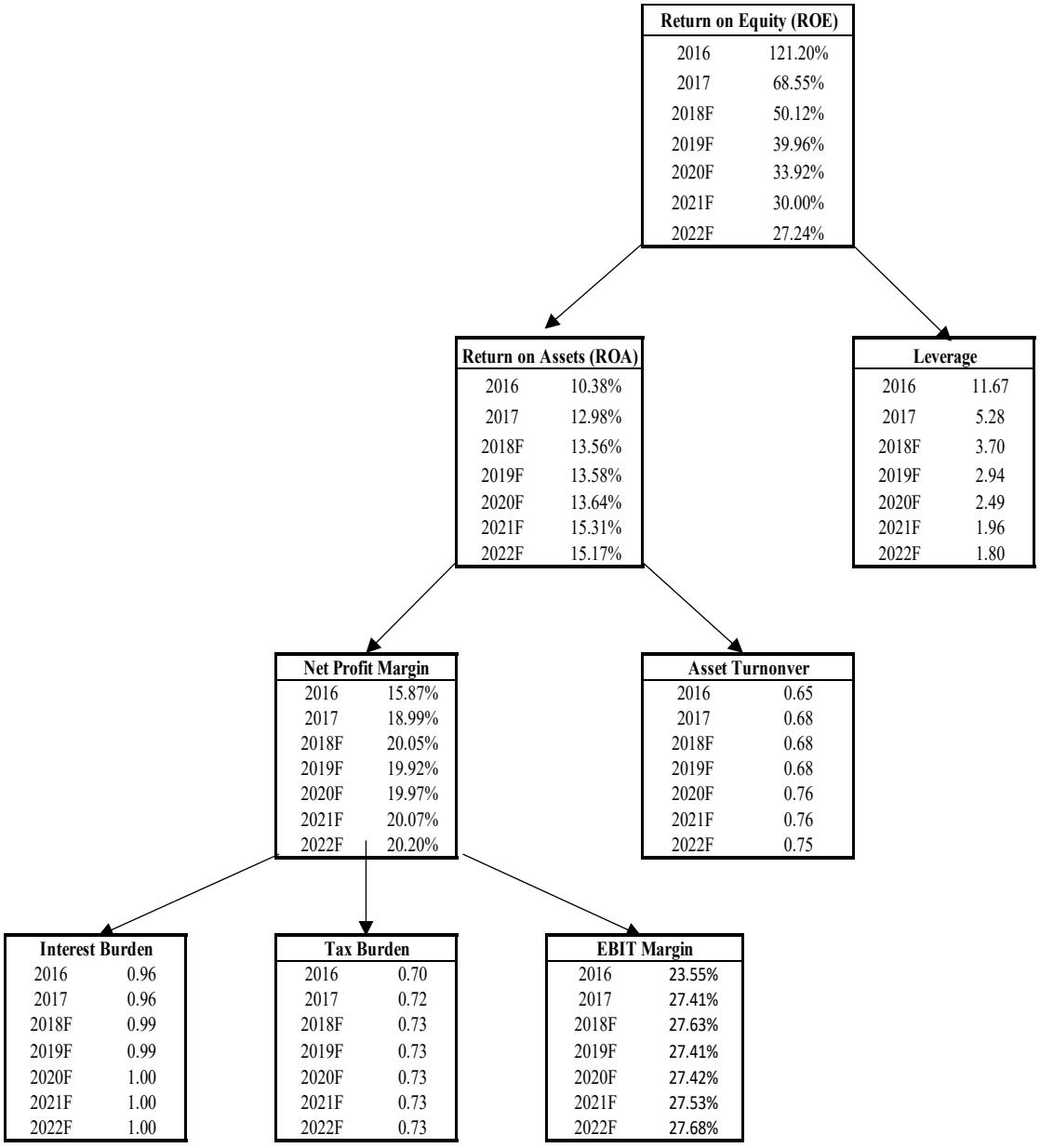
	Change in Terminal WACC (2018F-2022F)						
	3,92%	**4,22%**	**4,52%**	**4,82%**	**5,12%**	**5,42%**	**5,72%**
DCF Price	€184,56	€157,42	€137,05	**€121,21**	€108,54	€98,19	€89,57
Δ to target	52,3%	29,9%	13,1%		-10,5%	-19,0%	-26,1%

	Change in Terminal Growth (2018F-2022F)						
	1,65%	1,80%	1,95%	2,10%	2,25%	2,40%	2,55%
DCF Price	€105,35	€110,11	€115,37	**€121,21**	€127,73	€135,06	€143,35
Δ to target	-13,1%	-9,2%	-4,8%		5,4%	11,4%	18,3%

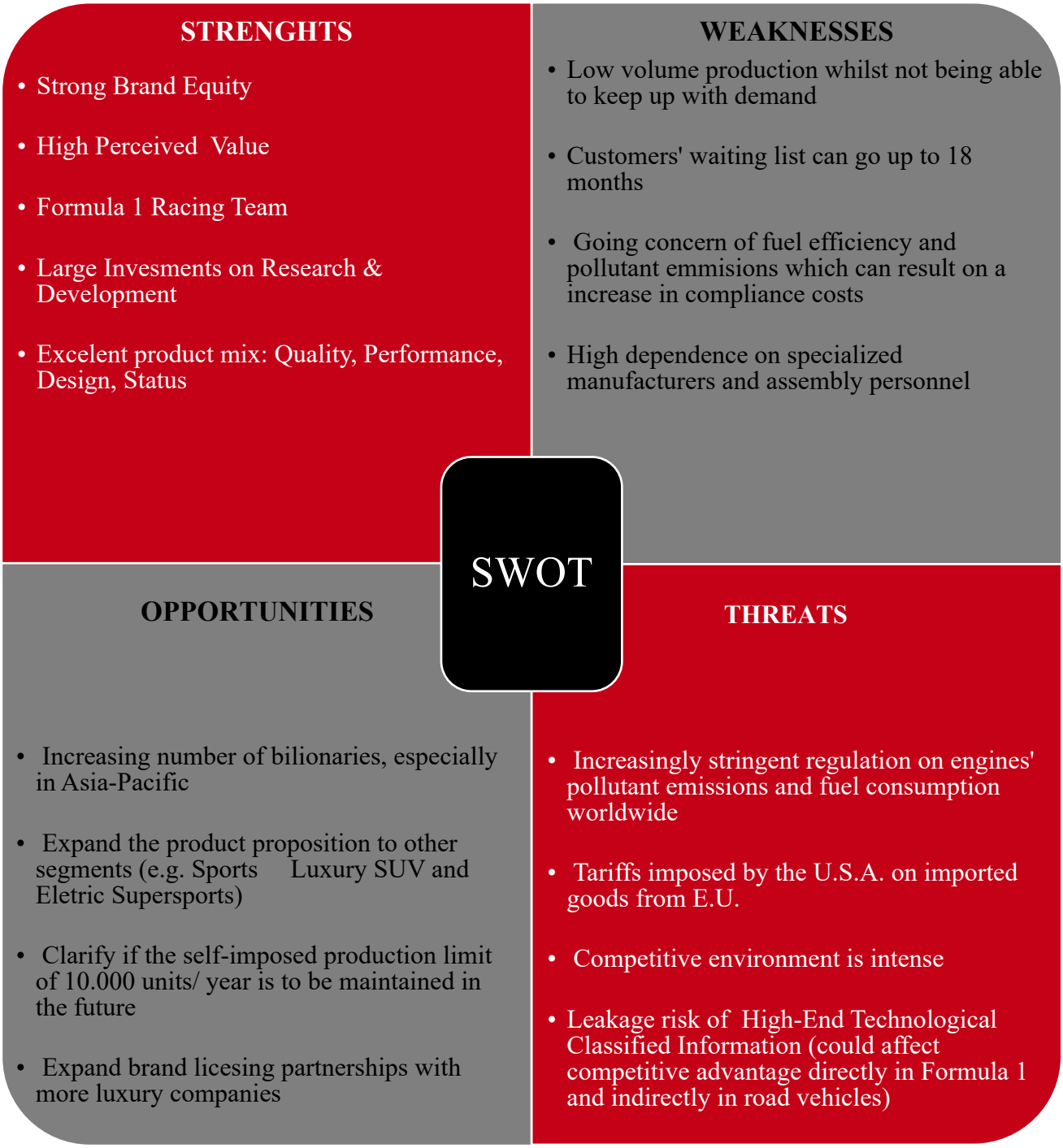
	Change in Terminal Beta (2018F-2022F)						
	0,45	**0,52**	**0,59**	**0,66**	**0,73**	**0,80**	**0,87**
DCF Price	€222,73	€174,68	€143,29	**€121,21**	€104,84	€92,25	€82,26
Δ to target	83,8%	44,1%	18,2%		-13,5%	-23,9%	-32,1%

	Change in Terminal Market Risk Premium (2018F-2022F)						
	4,84%	5,04%	5,24%	5,44%	5,64%	5,84%	6,04%
DCF Price	€144,38	€135,77	€128,09	**€121,21**	€115,00	€109,37	€104,25
Δ to target	19,1%	12,0%	5,7%		-5,1%	-9,8%	-14,0%

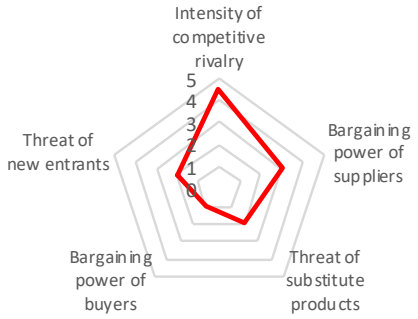
Appendix 16: DuPont Analysis



Appendix 22: SWOT Analysis



Appendix 21: Porter's Five Forces Model



Legend:
Threat to the business:

1. Insignificant
2. Low
3. Moderate
4. Significant
5. High

Final Rating: 2.5

Bargaining power of suppliers: Moderate

Ferrari's business relies in some essential commodities that are necessary for the industrial process, namely: aluminium, composite materials (e.g. carbon- fiber, carbon-ceramic and carbon-titanium) and some precious metals like rhodium and palladium. All these parts are sourced from local suppliers in the region of Modena and most of them have been working with the Ferrari for a long time. All these raw components are essential so that the manufacture process can run smoothly and on time. For that reason, the degree of dependence on the suppliers that provide these particular types of materials is high, although Ferrari carefully chooses only the ones that really can deliver. In addition, the Centre-North of Italy is very strong when it comes to industrial production, so there's a lot of industrial suppliers in that area too, so ultimately overall bargaining power of the suppliers is reduced.

On the other hand, a significant number of components (electronic and mechanic) are sourced from the *FCA* group, more specifically, by *Magnetti Marelli*. Because *Exor* has a considerable position on the *FCA* group and given both Mr. Marchionne and Mr. Elkann ties with it, the bargaining power is low to moderate. Other specific items are sourced from suppliers typically established in Italy and Germany or even in Japan and China.

Threat of substitute products: Low

Luxury automobiles, especially exotic supercars face a low threat of substitution for other products. It's not a car meant to be used on a daily basis, instead it's perceived as a piece of art with a luxury status attached to it. No ordinary automobile or even a sport one is ever going to be able to replace an exotic car. It's a luxury good and seldom it's used for daily transportation or commuting, so it's safe to assume that other means of transportation like: a common car, bus, airplane, train, etc. are not threats to Ferrari's business as they represent a completely different value proposition to the consumer.

Bargaining power of buyers: Insignificant

When it comes to luxury products, the bargaining power of buyers is insignificant. A luxury good essentially portrays a dream of some sort in the buyer. In this business the consumer must "pay to play". There's no bend over from the luxury brands in relation to their consumers when it comes to pricing. Typically, luxury brands enjoy a very high perceived value and brand equity that took them years to build up and that's what justifies the price they charge on their products alongside their performance against the direct competition.

As long as the high perceived value and brand equity is maintained throughout time and the quality, performance, style and novelty of the product line-up is upgraded on a regular basis, buyers have no pricing power whatsoever. Ferrari, as a luxury brand, enjoys all this. It also benefits from a loyal, stable and diversified client base worldwide.

Threat of new entrants: Low

There are several barriers to enter the luxury industry and more specifically, the exotic supercar segment. The first ones are the product perceived value and brand equity which are very difficult to build up. It takes a very long time for a brand to be recognized with those two characteristics, and even so in the quest to try achieving that, it will need to invest a lot in CAPEX and R&D so that it can at least approach the market with a good product proposition. If the value proposed it's well accepted in the market and orders/sales begin to take pace, maybe there's a margin to start entering the market. Two great examples of that are: *Pagani* and *Koenigsegg* but not specifically in the supercar segment, but instead on the hypercar segment. Their product value proposition in that segment has been revolutionary. Other than that, the majority of the new entrants either in the supercar or hypercar segment fail with their product propositions. (The hypercar segment is a niche market, very few automobiles are produced, and the editions are always limited. Ferrari is also present in that segment with its model: La Ferrari).

Intensity of Competitive Rivalry: Significant to High

The competitive environment amongst the exotic supercar segment is significant to high. Ferrari faces 1st line direct competition from Lamborghini, McLaren and Aston Martin and suffers peer pressure from Porsche, Bentley, Audi, Mercedes and Rolls-Royce in some of their models (see appendix 10-1). Ferrari tries to mitigate its competitors by doing what every company would do: introduce a product in the market that is able to deliver a higher value proposition than the competition. One of the bestselling points is the link between Formula 1, as Ferrari applies cutting-edge technology directly derived from their racing cars to the road legal ones with the necessary adaptations. McLaren is also present in Formula 1 but currently is only providing the chassis. Nevertheless, it has been performing quite good in the market. Mercedes is present too and produces both chassis and engines just like Ferrari. However, Mercedes does not engage on the production of exotic supercars *per se,* instead it produces high-end sports car through its sub-division AMG. Nonetheless, Daimler-Mercedes apparently is considering an indirect approach to the exotic supercar segment through Aston Martin (already owns 5% of the capital and supplies some components/engines). Lamborghini is backed by Audi and all the VW group, and for that reasons investing in R&D and CAPEX is more affordable, not to mention the "know-how supply chain" that is shared amongst the group. This is also valid for Porsche and Bentley (VW Group) and Rolls-Royce (BMW). Each brand has its own competitive advantages, but somehow Ferrari continues to outperform when it comes to sales. Nevertheless, it's a fiercely competitive segment.