FERRARI

COMPANY REPORT

AUTOMOTIVE INDUSTRY

4 JANUARY 2021

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An Outlook for the Future

Ferrari's Boom

- Our recommendation is to BUY Ferrari's stock, according to our target price of 337€ at the end of 2022.
- Ferrari's two main business units present a great opportunity for investors. Firstly, the sale of cars and spare parts will be the main source of growth due to the introduction of SUVs (a key market trend), and the positive trends in the growth of its target customer base. Secondly, Sponsorship, commercial and brand will provide a stable growth. This segment has been positively affected by the acquisition of Formula 1 by Liberty Media, which has been following a strategic path with the intent to increase viewership and penetrate key markets.
- Ferrari is known for its prohibitive price tags, low volume production strategy and exclusivity. Due to the previous factors, it is mainly compared to luxury companies, notorious for their high multiples. However, even when using these companies as peers for the relative valuation, the value it is still lower than the one from the intrinsic valuation. This represents a risk and should be taken in consideration when investing.

Company description

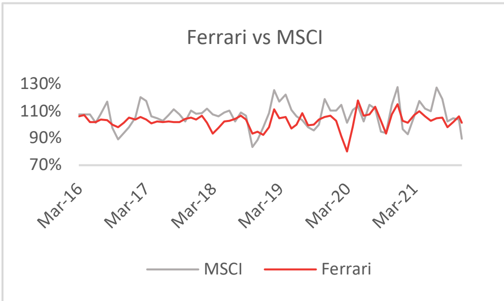
Ferrari is one of the world's leading luxury brand for designing, developing, manufacturing and selling cars. As of the end of 2020, it was present in over 60 markets worldwide through a network of 168 authorized dealers operating in 188 points of sale. Moreover, the brand is highly linked to racing – the F1 World Championship is a crucial segment and source of revenue, bringing prestige and appeal to the brand.

Recommendation:	**BUY**
Price Target FY22:	**337.20 €**
Price (as of 17-Dec-21)	**228.90 €**

Reuters: RACE.MI, Bloomberg: FERRARI NV

52-week range (€)	154.40-248.00
Market Cap (€m)	41,693.8
Outstanding Shares (m)	193.9

Source: Bloomberg



Source: Bloomberg

(Values in € millions)	2020	2021E	2022F
Revenues	3,375	3,864	4,188
Cars and Spare Parts (Rev)	2,835	3,049	3,278
Gross Margin	50%	50%	50%
EBIT	717	882	1,001
EBIT Margin	21%	23%	24%
EPS	3.22	4.02	4.50
DPS	1.10	1.06	1.19
P/E	78.64	56.97	74.16

Source: Analysts estimates

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Overview

Figure 1: Ferrari's Original Factory (Maranello)
Source: Ferrari

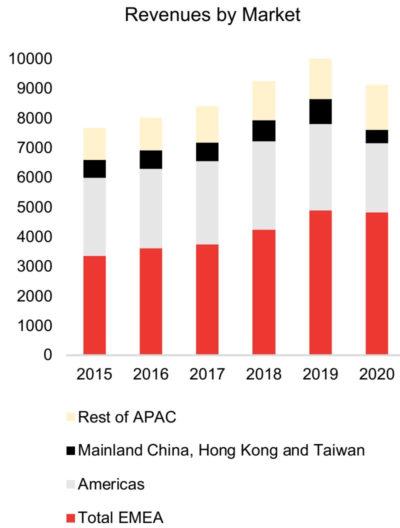

***Figure 2:** Ferrari's Revenues by Market (2015-2020)*
Source: Ferrari, Own Calculations

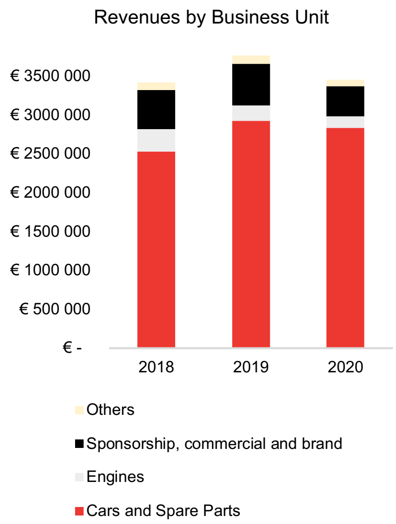

***Figure 3:** Ferrari's Revenues by Business Unit (2018-2020)*
Source: Ferrari, Own Calculations

Ferrari was officially founded in 1947, when the first racing car was released from the iconic Maranello factory. Its origin is intrinsically linked to its founder, Enzo Ferrari, one of the most prestigious race car drivers and entrepreneurs in history. Nowadays, Ferrari is one of the world's leading luxury brand for designing, developing, manufacturing and selling state-of-the-art cars.

The company still maintains its factory in Maranello, Italy. The whole assembly process, from casting the engine components to the installation of the interior and final testing, takes on average, three months. Ferrari sells its cars in over 60 markets worldwide, through a network of 168 authorized dealers operating in 188 points of sale as of the end of 2020. Whilst broadening I product portfolio, Ferrari continues to pursue a low volume production strategy in order to maintain a reputation of exclusivity.

Ferrari operates in multiple locations worldwide, grouped in four areas – EMEA; Americas; Mainland China, Hong Kong and Taiwan; and Rest of APAC. Currently, the main regions are EMEA, in particular Germany and the UK, and the Americas, accounting for ¾ of the car shipments. The EMEA region, together with the Rest of APAC, have been compensating a downward trend in the Americas and Mainland China, Hong Kong and Taiwan.

Since 2015, Ferrari has been listed in the New York Stock Exchange and since in 2016 in the Milan Stock Exchange.

Business Units

The company can be analyzed considering four lines of business – sales of cars and spare parts; engines; sponsorship, commercial and brand; others.

Although Ferrari is, at its core, highly connected to racing, most of its revenues come from the sales of cars and spare parts – more than 70% – which are mainly generated from car shipments, personalization programs, as well as sales of spare parts. This segment was the least affected by COVID-19, as the average revenue per car increased (around 6.5% per year). In recent years, the company has widened its product portfolio to target a larger customer base. However, Ferrari still pursues a low volume production strategy, in order to maintain a reputation for exclusivity and scarcity among purchasers. With waiting times of up to two years for the delivery of a car, the company tries to maintain supply below demand.

The Engines segment generated 4% of Ferrari's revenue in 2020. It mainly includes proceeds from the sale of engines to Maserati and rental to other Formula 1 racing teams. Ferrari has been manufacturing engines for Maserati since 2003. However, this agreement will come to an end in 2022, which will affect not only this business unit, but also sales of cars and spare parts due to the increase in production capacity.

The Formula 1 racing team is an essential part of Ferrari's brand image, the main channel for marketing activities and an important source of technological innovation. It allows Ferrari to promote and market its brand without resorting to traditional advertising activities, therefore preserving the aura of exclusivity. The second business line for revenue generation is identified by Sponsorship, Commercial & Brand accounting for 11% of revenues. It includes proceeds earned by the Formula 1 racing team through sponsorship agreements and the company share of the Formula 1 World Championship commercial revenues, as well as those generated through its brand, including merchandising, licensing and royalty income.

The others segment relates to financial services activities, management of the Mugello racetrack and other sports-related activities.

Shareholder - As of February 15, 2021

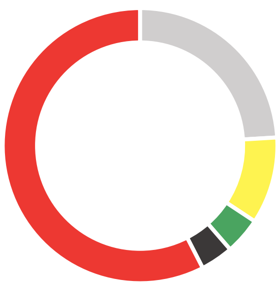

Figure 4: *Ferrari's Shareholder Structure (as of February 15, 2021) Source: Ferrari*

Ownership Structure

As of December 16, 2021, Ferrari has 109,09M issued shares. Due to its loyalty voting program, a relatively large proportion of voting powers are concentrated in a relatively small number of shareholders. As seen in Exhibit 4, its larger shareholder is Exor N.V. with 24% of outstanding common shares (36% voting rights), followed by Piero Ferrari (Enzo Ferrari only living son) with 10% (15% voting rights). Moreover, T Rowe Price Group Inc, BlackRock Inc and Baillie Gifford & Co are among the top shareholders.

On December 21, 2015, Exor and Piero Ferrari, signed an agreement with the goal of exercising a common view on the agenda of any general meeting, and with certain obligations in case of transfers to third parties.

Comparables

Ferrari has a unique position when compared to its peers, leaving the question whether it should be evaluated as a luxury company or a car company. As previously mentioned, the low volume strategy, prohibitive price tags and distinctive business units, separate Ferrari from other auto companies. This point

	RIC	Ranking
AUTO	AML.L	16
	BMWG.DE	12
	VOWG_p.DE	10
	DAIGn.DE	8
	F.N	15
	RENA.PA	14
	HOG	7
	PSHG_p.DE	17
LUXURY	1913.HK	11
	SFER.MI	9
	HRMS.PA	2
	BCU.MI	13
	BRBY.L	4
	CFR.S	1
	PRTP.PA	6
	LVMH.PA	3
	MONC.MI	5

Figure 5: *Ranking of Ferrari's Peers (by weighted standard deviation – gross margin and revenue growth)*
Source: Reuters, Own Calculations

of view is both shared by Ferrari's management and the majority of investors, which insist it should be looked at as a luxury business ("it would occupy a space in the luxury goods sector, which shares its name with Ferrari and maintains the same level of attachment to exclusivity" – Fiat Chrysler CEO Sergio Marchionne; "Ferrari deserves a luxury goods company valuation", "Calling this an automotive company is like calling Tiffany a glass company" – Richard Hilgert).

However, due to this ambiguity, a set of 17 companies was analyzed to understand which had a closer behavior to Ferrari in terms of revenue growth (2019-2020) and gross margin. As seen in Exhibit 5, and in accordance with the initial hypothesis, luxury companies have a lower weighted deviation to Ferrari's values. Hence, Hermes International SCA, Burberry Group PLC, Compagnie Financiere Richemont SA, Kering SA, LVMH Moet Hennessy Louis Vuitton SE and Moncler SpA were chosen as peers.

Financial Analysis

Liquidity

Overall, Ferrari's ability to cover its short-term obligations has been positive in the time frame analysis performed. When compared to 2017, both current assets and current liabilities have been growing. The current ratio shows positive signs to deal with short-term obligations. Moreover, it is visible that the quick ratio supports this argument. Since 2017, the ability of Ferrari to meet its short-term obligations only using cash flow available or assets likely to be converted in cash quickly is above 1 (2020: 1.19). Overall, Ferrari is not dependent of being able to execute its current assets to fulfill its obligations. Hence, it has low executional risk.

Ferrari (Thousands)	2020	2019	2018	2017
Current Assets	€ 3 075 883	€ 2 641 201	€ 2 477 326	€ 2 081 077
Current Liabilities	€ 2 202 765	€ 1 810 210	€ 1 943 372	€ 1 441 308
Current Ratio	1,40	1,46	1,27	1,44
Current Assets	€ 3 075 883	€ 2 641 201	€ 2 477 326	€ 2 081 077
Inventories	€ 460 617	€ 420 051	€ 391 064	€ 393 765
Current Liabilities	€ 2 202 765	€ 1 810 210	€ 1 943 372	€ 1 441 308
Quick Ratio	1,19	1,23	1,07	1,17
Cash & Equivalents	€ 1 362 406	€ 897 946	€ 793 664	€ 647 706
Current Liabilities	€ 2 202 765	€ 1 810 210	€ 1 943 372	€ 1 441 308
Cash Ratio	0,62	0,50	0,41	0,45
Net Working Capital	€ 873 118	€ 830 991	€ 533 954	€ 639 769

Figure 6: *Liquidity Analysis (2017-2020)*
Source: Ferrari, Own Calculations

Ferrari has also increased significantly the amount of Cash & Equivalents in their balance sheet. Although it cannot cover all its short-term obligations it still can off-set 62% in 2020. From a pure risk analysis perspective, the ratios show no executional risk.

Net Working Capital shows the positive amount needed to run the operations daily which is ultimately used in the cash conversion cycle. However, the fact that these ratios are above one might also represent that some investment opportunities are not being taken.

Profitability

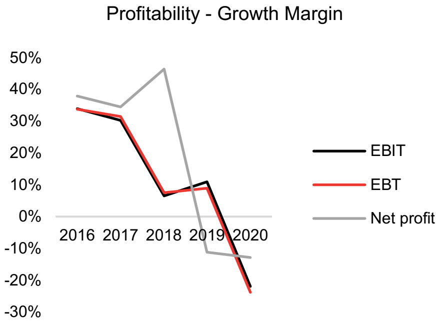

Figure 7: *Profitability Analysis – Growth Margins*
Source: Ferrari, Own Calculations

Ferrari's profit has been growing from 2015 until 2019. As seen, primarily in the Earnings Before Taxes (EBT) in 2019 and 2020, Covid-19 affected the companies' earnings.

Ferrari had outstanding profitability indicators (around 30%) from 2015 to 2017. In 2018, there was a stagnation of the growth rates to a more stable number, with exception of the net profit, which grew even more rapidly. This is explained by the application of the Patent Box tax regimes, whose benefits were recorded within taxes relating to prior periods (2015-2017) in 2018 and amounted to 141 million euros.

Capital Structure

Looking at the Gearing Ratio, it is visible that it has been decreasing since 2017 (from 62.93% to 46.22% in 2020). Its mains driver is the growth of Invested Capital, which had a CAGR of 11.99% from 2017 to 2019. From the numerator side, Net Debt also contributed for this change, as it increased from 2017 to 2020; however, this happened at a slower rate.

Looking at the Debt-to-Equity Ratio, the increase of Net Debt was offset by the increase of the Equity value, which grew 129% from 2017 to 2020. Overall, Ferrari was able to restructure their capital structure having more equity than debt since 2018.

Debt to EBITDA has been growing, with fluctuation in the EBITDA value (2020: 716,127 thousand EUR). This gives us the ability to investigate the level of debt that Ferrari has with their operational activity. Debt to EBITDA reached 2020 being 214.7% whereas in 2017 was at 171,6%. Once again, this was mainly due to the increase of Net Debt. Overall, Ferrari would need more time to pay its obligations considering only their operational activity.

Looking at the Accounting ratios, it is clear that the Solvency ratio increased substantially when compared to 2017. In 2017, the ratio was 23,4% and it reached 40% in 2020. This increase reflects the ability of Ferrari to meet its obligations using capital invested or generated by the firm. Nevertheless, there is still some space for improvement, but the pattern in our timeframe shows a positive trend for Ferrari to face their liabilities. Financial Autonomy ratio has also been increasing reaching 28,6% in 2020, which shows that the independence of Ferrari towards its creditors has been increasing. The autonomy level has improved and makes Ferrari more capable of dealing with downturns, especially if they will need to access more credit.

Analyzing the company's debt structure, which is discriminated in the annual report, the biggest fraction of Debt is composed by Bonds and notes being 67.3% in 2020 (increased from 56,7%, 2019). The second biggest portion is composed by Asset-backed financing (Securitizations). However, there was a decrease in this portion when compared to 2019 (2020: 27.9%, 2019: 37.7%). Moreover, in 2020, the composition of Debt is made of 33% short term debt (due in 1 year), 56% Debt between 1 year and 5 years and finally 12% made beyond 5 years. Comparing it with 2019, short term Debt increased (2019: 20%) and Debt between 1 year and 5 years decreased (2019: 65%).

Cost Structure and Accounting Ratios	2018	2019	2020
GEARING RATIO			
Net Debt (Invested Capital - Equity)	€ 1 315 861	€ 1 394 913	€ 1 537 469
Invested Capital	€ 2 669 700	€ 2 882 201	€ 3 326 673
Gearing Ratio	49,3%	48,4%	46,2%
D/E			
Net Debt	€ 1 315 861	€ 1 394 913	€ 1 537 469
Equity	€ 1 348 722	€ 1 481 290	€ 1 785 186
D/E	0,98	0,94	0,86
DEBT TO EBITDA			
Net Debt	€ 1 315 861	€ 1 394 913	€ 1 537 469
EBITDA	€ 826 507	€ 917 446	€ 716 127
Debt to EBITDA	1,59	1,52	2,15
SOLVENCY			
Equity	€ 1 348 722	€ 1 481 290	€ 1 785 186
Liabilities	€ 3 497 894	€ 3 959 084	€ 4 472 843
Solvency	0,39	0,37	0,40
FINANCIAL AUTONOMY			
Equity	€ 1 348 722	€ 1 481 290	€ 1 785 186
Assets	€ 4 851 733	€ 5 446 372	€ 6 262 047
Financial Autonomy	0,28	0,27	0,29

Figure 8: *Cost Structure and Accounting Ratios*
Source: Ferrari, Own Calculations

Market Overview

Macroeconomic outlook and sector evolution

Any analysis of the Macro environment of a company must begin with an analysis of the size of its potential customers. For Ferrari, we don't think it makes sense to analyze the growth in population of the markets where it operates, or even the forecasted growth in salaries and purchasing power. Ferraris are extremely expensive, with an average sales price of €320.000 and so we believe it makes sense to focus our analysis on Ultra-high net worth individuals. These are the segment who have the money to buy Ferraris, and so it's worth it to look at how their numbers are likely to evolve.

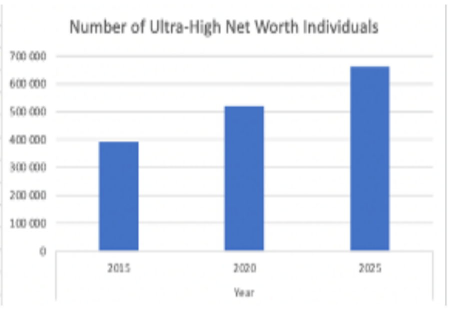

Figure 9: *Number of Ultra-High Net Wirth Individuals (2015-2025)*
Source: The Wealth Report

Ultra-High Net Worth Individuals

UHNW individuals are those whose investable assets are over $30million

Asia is expected to host 25% of UHNWI by 2025, up from 17% in 2015, and China is expected to see a growth of 246% until 2025 in the number of these individuals.

Additionally, there has been a 33% increase between 2015 and 2020 and according to The Wealth Report this number is expected to increase to 663.483 in 2025, representing a 27% increase from 2020

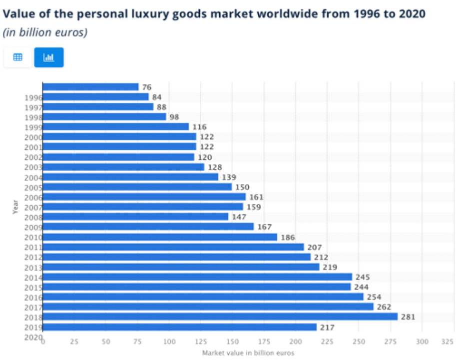

Figure 10: *Value of the personal luxury goods market (1996-2020)*
Source: Statista

Luxury goods Industry

A Ferrari is in some sense a status symbol more than it is a car, and so, we believe it also makes sense to look at the outlook for the more broader luxury goods industry, and not just the luxury market vehicle, as this can also be an indicator of broader trends in the market, seeing as their target demographics are similar.

The industry has seen extremely robust growth and is forecasted to grow at an average annual rate of 6% for the period between 2021-2025. This is in line with our predictions for the growth of Ultra-High net worth individuals, which will also grow at approximately the same rate in this period.

Covid-19 and Global Chip Shortage

Starting in late 2020, after the onset of covid-19, the world's global chip manufacturing capacity began to outpace the demand. This resulted from the convergence of a few factors; The Us-China trade war, the Taiwan drought, and the Renesas Electronics Corporation fire, but the main one was the pandemic.

Though they might sometimes go unnoticed, chips have become ubiquitous in all sorts of products in our day to day lives, one of which is Cars. As it turns out, Cars have at least two dozen chips, which help in controlling systems such as infotainment screens, fuel management, cruise control etc.

As a result of the chip shortage, the latest forecasts expect a cut of $210 billion in revenue in 2021, up from forecasts of $60billion in May. This represents 7.7 million units of production, which account for roughly 10% of the global car production annually.

These losses in sales, however, are not evenly distributed among manufacturers, and more importantly, among segments. This impact is expected to hit cars in the lower segments, while sparing or even boosting those in higher segments.

Both Mercedes and BMW have been able to boost profits in their luxury segments, by increasing revenue by car, while lowering volume of sales. The companies have realized that pursuing volume in this segment is not a cost-effective strategy and keeping supply slightly below demand allows them to charge more by car, this compensating for the loss in volume.

The global chip shortage is predicted to last until the end of 2022, but predictions for the resolution of the issues have suffered delay after delay, and some such as Intel CEO Pat Gelsinger warn the supply issues will not be resolved before 2023. IBM CEO Arvind Krishna predicts a possible end only in 2024. The effects of this on Ferrari are not clear. On the one hand, the luxury market seems to be the only one thriving in the auto industry under these conditions. On the other, this switch from other brands to focus more on their more premium segments could lead to Ferrari facing more competition in this segment.

Electric transition

Ferrari is set to launch its first BEV in 2025, but the company is afraid that the ICE ban set to happen by 2035 could harm its sales.

Italy’s government is seeking to grant exemption to supercar makers, including Ferrari and Lamborghini.

However, it’s unclear whether the switch to electric would harm Ferrari. Porsche introduced its first electric model, the Taycan in 2019 and its sales in the first three quarters of 2021 surpassed the 911, which had traditionally been their flagship model.

Rolls Royce and Bentley have both announced they will switch to an all-electric offering by 2030. Jaguar takes it even further, promising to go all-electric by 2025.

Still, electric motors are much more alike one another than petroleum powered ones, so it is possible that the luxury car segment will lose out in the future, especially if brands are unable to position themselves appropriately. Electric cars are known achieving quicker speeds at lower price points when compared to traditional Internal combustion engine vehicles

This could especially be a problem for brands like Lamborghini and Ferrari, as their luxury status comes more from the sportiness and speed of these vehicles, whereas the luxury status of Bentley and Rolls Royce comes from the luxury of their interiors and comfort for passengers and drivers. Hence the actions from the Italian government, which also helps to explain why the Italian government is alarmed. However, the results from Porsche's Taycan seem to point in the opposite direction of this pessimism.

Formula 1

Enzo Ferrari is famously quoted as saying that the company only sells "regular" cars, in order to be able to afford to go racing. Regardless, from a business perspective, the majority of Ferrari's revenue comes from its business selling "regular" cars, and thus it makes sense to look at how the racing side of the business affects the rest of it. From this perspective, Formula 1 has long represented a major component of Ferrari's marketing strategy. Scuderia Ferrari is by far the most recognizable of the brands that compete in the sport, and also the first contact of many with the Ferrari brand.

F1 represents a significant portion of Ferrari's revenues, in 2019 it accounted for almost 15% of revenues, although this decreased slightly in 2020, due to the pandemic's effects on the sport, which saw the number of races reduced from 21 to 17, and no spectators allowed in almost any races, which meant a 27% decrease in revenue.

In 2021, there are an historic 22 races, and spectators were allowed again in most of the races. Furthermore, the number of races for 2022 will increase to 23, and this number is not expected to go down for the near future.

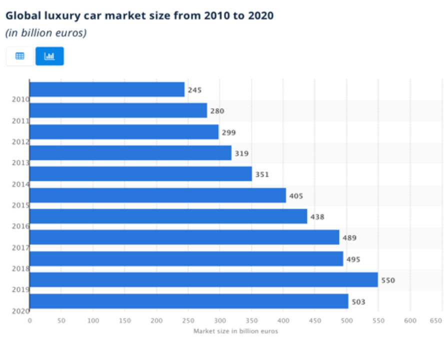

Figure 11: *Global Luxury Car Market (2010-2020)*
Source: Statista

Luxury Car Industry

Ferrari belongs to the auto industry, but in order to make a more meaningful analysis able to draw more conclusions, we believe it makes more sense to analyze the luxury car industry, as the fate of the premium segment doesn't necessarily correlate with the rest of the industry.

The industry has been growing quite fast since 2010, roughly doubling in size since 2010.

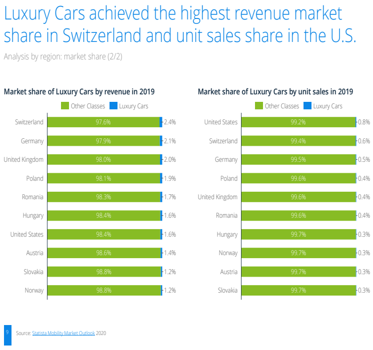

Figure 12: *Luxury Cars Market Share – by revenue and unit, 2019*
Source: Statista

The differences between markets are interesting, since luxury vehicles still represent a small number of sales in Asia. Asia is the geographical area with the highest expected increase in amount of Ultra-high net worth individuals. China alone will see a growth of 246% in the numbers of these individuals, and Asia will host 25% of them by 2025.

Ferrari's unit sales in 2019 grew by 13.1% globally, but in China they grew by 20.3%. The market seems to represent a unique opportunity for growth, considering the sheer size of it, and the fact that sales still represent a negligible portion of the country's car industry.

Asia has been a particularly hot spot of growth for Ferrari and we expect it to remain so in the future. However, unlike with most car companies, and even most other companies in general we don't believe it makes sense to analyze future growth in any one market in particular.

The growth of sales in China can be explained by the growth in UHNWI that this country has experienced. Similarly, the fact that Ferrari sells very few cars in Africa does not in itself represent a great opportunity, seeing as the continent is not expected to host a significant share of the world's richest any time in the near future. Therefore, we believe that the approach that makes the most sense is to analyze the growth of the number of UHNWI, and not to do a deep dive into each country's particular dynamics.

Key Drivers

Ultra-High Net Worth Individuals

The correlation in the past between the growth of these individuals and luxury car sales has been very high.

From 2015 to 2019 the number of UHNWI worldwide grew from 392.038 to 509.252, an increase of 30%. In the same period, the revenue of luxury car sales worldwide went from €405 billion to €550 billion, an increase of 35%.

The revenue in luxury car sales very slightly outpaced the growth of UHNWI, however, considering the exceptional increase from 2018 to 2019 in luxury car sales, and the subsequent slump in sales in 2020, we believe it makes sense to forecast the growth of luxury car sales along with the projection for the growth in number of UHNWI, seeing how tightly they have correlated in the past.

Formula 1 acquisition by Liberty Media

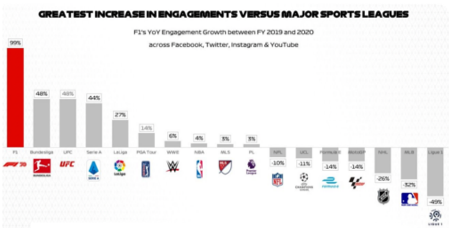

Figure 13: *Engagement Growth across Facebook, Twitter, Instagram and YouTube*
Source: Formula1.com

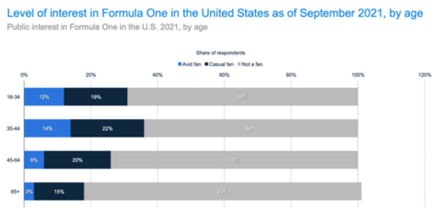

Figure 14: *Level of Interest in F1 in the US, by age (September 2021)*
Source: Statista

Figure 15: *Liberty Media stock price*
Source: Google

In 2017 Liberty Media acquired a controlling share in Formula 1 and has since then followed a strategic path with the intent to increase viewership and penetrate key markets.

As part of this strategy, F1 started to bet on social media, which was neglected by its previous owners. This has been an amazing success, and the company saw a great deal of growth in this area. In 2020 F1 was by far the sport with the largest increase in engagement on social media, doubling their numbers YoY.

As part of this policy to engage younger audiences Liberty Media has partnered with Netflix to produce a series documenting each championship since 2018. This has arguably been the root cause of F1s success in the last few years, with multiple articles being written about how it has helped extend the reach of F1. The Netflix series has reached an estimated 50 million viewers and is a large part of the reason for the increased reach F1 is experiencing.

Reaching younger audiences was not the only goal set by Liberty Media, however. Their plans also included penetrating new markets, in particular the US.

The US is seen as being a huge untapped market for Formula 1, because the level of interest there is well below most western countries, and the country has a population of 330 million.

ESPN reported the sport's viewership had grown from around **547,000** people in 2018, when the Netflix show launched, to almost **1 million** in 2021. It is expected that Formula 1 will continue to grow in the country for the foreseeable future.

Since the beginning of 2017, after the acquisition by Liberty Media, F1's stock price has grown by almost 80%, further confirming the positive outlook the market predicts for F1.

Increase in f1 success doesn't necessarily translate into higher revenues for Ferrari, in the case where the company falters in their car development, and consequently becomes less relevant as their team's performance worsens. Not only due to decreases in sponsorship, but it would also make it less likely that they would be able to sell their engines to other F1 teams, which is also a portion of their revenue.

However, all else being equal, we expect that an increase in the success of Formula 1 can translate into an increase in profits for Ferrari.

Additionally, in 2021 Formula 1 introduced a cost cap measure, which was aimed at reducing the difference in spending between the teams. The spending on the development of the car for 2021 was capped at €145 million. For the 2022 car the cap will go down to €135 million and is expected to stay there for the foreseeable future. The impact that this will have on Ferrari's R&D is not very clear, however, for a couple of reasons: Firstly, Ferrari doesn't split it's R&D expenses between Formula 1 and road cars. Secondly, the way that the cost cap will be introduced carries with it many exceptions regarding what counts as costs, for example salaries of engineers executives and drivers. The estimates for Ferrari's R&D spending on F1 vary all the way from €400 million to €600million. The problem here is determining what counts for the cost cap. As such, we decided to conservatively determine a reduction of €40million and €50million for 2021 and 2022 respectively.

Engines

Engine sales represent a small proportion of Ferrari's core sales, but still account for between 9% and 5% of the company's sales depending on the year. This segment can be divided in two different parts: The first and most important is the sale of engines to Maserati, representing around 70% of sales, and the second part are the engine rentals to other F1 teams, Alfa Romeo and Haas.

Starting from 2023 Ferrari will no longer sell engines to Maserati, which will represent a significant decrease in the sales in this segment, whereas the other component is likely to experience a slight increase. Ferrari's engine revenues are mostly dependent on the number of teams that rent their engines and in the number of races that happen per year. As for the teams, they are likely to remain the same for the foreseeable future, however the number of races was a historical record 22 this year and is set to increase to 23 next year and remain there for the foreseeable future, thus increasing slightly revenues, but not nearly enough to compensate for the losses from losing Maserati as a customer.

SUV

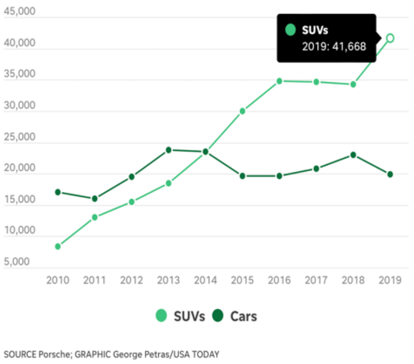

Figure 16: *SUV Sales US (Porsche)*
Source: Porsche

Ferrari is set to deliver an SUV in 2023, called *Purosangue*, this is something that had long been feared would compromise the brand's Image, but many recent examples have shown this not to be so, at least in terms of sales. Porsche introduced its first SUV in 2003, the Cayenne, and at the time there were similar worries that this would dilute the company's brand.

In Porsche's case, the sales of SUVs have been said by many to have saved the company. They now represent more than half of the company's sales at 67%, where the sales for the rest of the cars have remained relatively stable, only growing 17% since 2010, whereas SUV sales have grown 400% in the same period.

Two other examples of luxury sport car brands that have introduced SUVs in recent years are Lamborghini and Aston Martin. The results have been extremely positive to say the least.

Lamborghini which is more comparable to Ferrari in terms of branding and in terms of the prices of their cars than Porsche, have also introduced an SUV recently, starting sales of the model in late 2018. The car represents already more than half the sales of the company. This year through September, it accounted for 59% of Sales. That is an astounding number, after only 3 years in the market.

Aston Martin too has seen tremendous success with the introduction of its SUV in July 2020. Between January and June of 2021 Aston Martin saw an increase in sales of more than 124%, led by its SUV model, which account for more than half of sales. They are planning on introducing further SUV models.

Based on these examples from the industry, we can predict that the introduction of an SUV will have a significant impact on Ferrari's sales. We conservatively estimate that the new model will lead to an increase of 10% in sales in 2023, 20% in 2024, and thereafter increasing 5% per year until reaching the value of 35% in 2027. These values are low compared to the examples we have seen from Lamborghini, Aston Martin, and Porsche.

Ferrari Roma

The SUV which is expected to be revealed in 2022 is not the first departure from the brand from its traditional market. Already in 2020 Ferrari has made strides in this direction, with the introduction of the Ferrari Roma. For years the company guided its decisions according to what they believed was a continuation of the spirit of its founder, Enzo Ferrari. To him, it was unthinkable to have the company produce a four-door car.

At a starting price of $218.670 the Roma is the most affordable Ferrari yet produced, compared to an average selling price of $360.000 in 2020. The company expects that for 70% of the owners of the Roma this will be their first Ferrari. The company has said they are targeting Porsche 911 and Aston Martin customers, although the car is substantially more expensive than the 911, which starts at $100.000 in the U.S.

Thus, we estimate that the Ferrari Roma will also have an outsized impact on Ferrari, much like the SUV model, and we believe it makes sense to look at it separately from other models. The model will bring in new customers which would have otherwise not considered a Ferrari. We estimate an increase of 5% in sales with the introduction of the Roma.

Intrinsic Valuation

The research developed showed a price per share of 337.20€ by 2022. In order to reach this number, a Discounted Cash Flow analysis was performed, which required the estimation and forecast of the financial statements. As Ferrari operates in different industries, the forecasts had to be done segmenting the company according to business units.

Weighted Average Cost of Capital

The cost of equity was calculated using the CAPM. It accounted for Italy 10-Year Government Bonds (risk-free rate) and a Market Risk Premium of 6% (Source: IESE, Social Science Research Network, Italy, June 2021).

COST OF EQUITY	
Beta Unlevered (median)	0,66
Tax Rate	20,40%
Net Debt/Equity	52%
Beta Debt	-11,14%
Beta Relevered	0,98
Cost of Equity	6,75%

Figure 17: *Cost of Equity*
Source: Own Calculations

Ferrari's beta was calculated by doing a regression between the market risk premium (MSCI world) and Ferrari risk premium return (deducted 10 years bonds US). It accounted for 260 data points of weekly data from January 2016 and December 2020. The regression resulted on a raw beta of 0,71 with a standard error of 0,09. As it is lower than one, it is less sensitive to market changes, being less volatile.

To improve the beta estimation by decreasing the effect of idiosyncratic shocks, weekly data from the same period was regressed against the market portfolio for the segment peers. A cross-check beta resulted from the median of the 7 unlevered betas (Ferrari and its peers), relevered for Ferrari's target capital structure. This yielded a beta of 0.98 and a cost of equity of 6.75%.

COST OF DEBT	
	Ferrari
ISIN	XS2180509999
Coupon	1,50%
Maturity	27/05/2025
Today	16/12/2021
Days	1258
Years To Maturity	3,446575342
Current Price	103,56
Payment Period	1
YTM	0,004555396
Credit Rating (S&P Global)	A-
Probability of Default	1,92%
Loss Given Default	55,90%
Cost of Debt	0,002115257
Implied Beta Debt	-11,14%

Figure 18: *Cost of Debt*
Source: Own Calculations

The cost of debt (0.21%) was calculated using Ferrari's corporate bonds (ISIN: XS2180509999), its S&P rating (A-) and Moody's Annual Default Study, based on the average of the bond approach.

Based on the computed parameters, the weighted average cost of capital (WACC) is 4.48%.

Forecasts

Following the key drivers' analysis, we reached the conclusion that Ferrari's future as a company will be affected by the growth of their legacy line-up of vehicles; the introduction of two new models which depart substantially from their classic offerings; the cost cutting measures introduced in formula 1 and the departure of Maserati as a client.

In order to determine the evolution of Ferrari's classic line-up of vehicles we first looked at their market share which has hovered between 0.51% in 2015 and 0.56% in 2020 and forecasted that this would remain at 0.56% until 2030. More key for the valuation was the determination of the evolution of the market size.

We believe that the target market for Ferrari consists in the population of Ultra High Net worth Individuals, those with investable assets above €30 million. The data corroborates this as the growth in the number of these individuals between 2015 and 2019 (30%) closely tracked the growth in revenue from the sale of luxury cars (35%). As such, we calculated the growth in the sales of their classic line-up at an increase of 4.93% per year until 2030, which is consistent with the estimates for the increase in UHNWI for the period of 2020-2025, after which we couldn't find any estimates, and therefore assumed a continuation of this level of growth until 2030. Thus, we estimate their legacy line-up will increase its' sales from €2.9 billion in 2019 to €6.4 billion in 2030.

We estimate that the Ferrari Roma will lead to an increase in sales of 2.5% this year and 5% from 2022 to 2030, whereas the introduction of the SUV segment will lead to an increase of 10% in 2023, 20% in 2024, and thereafter an increase of 5% each year until reaching 35% in 2027, where it will remain until 2030.

Ferrari will stop selling engines to Ferrari in 2023, and this will represent a disappearance of around €200 million in revenue per year. Revenue sales to other Formula 1 teams will increase slightly, mostly due to the projected increase in the number of races. Revenues from Formula 1 will also increase slightly, from €538 million in 2019 to €805 million in 2030, in part due to an increase in the number of races. Additionally, we also estimate that Ferrari saved €40 million in R&D costs in 2021 and €50 million in 2022 and thereafter until 2030 due to the introduction of the cost cap.

The cost of sales has hovered between 58% and 52% since 2015 and therefore we estimate that it will remain stable at 50% until 2030.

Sensitivity Analysis

In order to make a more grounded buy/sell recommendation we decided to perform a few different sensitivity analyses on the most impactful forecasts and assumptions, in order to better protect investors from possible downturns or failures in our own assumptions.

Firstly, we created a data table crossing terminal growth rate (g) and Weighted average cost of capital. Here it would take a change in 1% in the WACC value in order to change our recommendation from a buy to a hold, or a reduction of 1% in terminal growth rate to change the recommendation from buy to hold. In only 3 out of the 25 scenarios would a sell recommendation be warranted.

		g				
	€ 337,20	1,50%	2,00%	2,50%	3,00%	3,50%
Wacc	3,50%	€313,20	€432,71	€671,75	€1 388,85	#DIV/0!
	4,00%	€261,94	€330,53	€444,83	€673,45	€1 359,31
	4,47%	€224,18	€269,01	€336,61	€450,19	€680,85
	5,00%	€191,69	€221,58	€263,42	€326,19	€430,80
	5,50%	€168,07	€189,52	€218,11	€258,15	€318,21

Figure 19: *Sensitivity Analysis*
Source: Own Calculations

Besides this we also looked at 3 of our most impactful forecasts to see how they would affect the company if they didn't meet or exceeded our expectations.

Firstly, we looked at the impact from the growth of UHNWI in our forecasted price, seeing as how the growth in the number of these individuals has a large impact on the sales of legacy cars and, which represent the largest source of revenues for Ferrari. Our expected value for the growth of these individuals is 4.93% per year, our low growth scenario puts their growth at 2.5% and the highest estimate at 7.5%. From this analysis we were able to confirm the soundness of our buy recommendation as the worst-case scenario (€276 per share] is still well above the current price of the company on the market (€228 per share).

	Sensitivity to growth of UHNWI		
	Low growth of UHNWI	Expected growth of UHNWI	High growth of UHNWI
Share Value	€276,75	€337,20	€411,26

Figure 20: *Sensitivity Analysis*
Source: Own Calculations

Our second analysis consisted in applying a multiple to our SUV projections whereby, we applied a 50% reduction in our low growth scenario and a 50% increase in our high growth scenario, which would put Ferrari's SUV sales closer to the numbers achieved by Porsche, Lamborghini and Aston Martin. From this analysis we were able to confirm the soundness of our buy recommendation as the low growth scenario (€292 per share) still represents a 28% upside potential. We consider the high estimate to be particularly important in this scenario, as we believe that our estimates for the introduction of the SUV to be quite conservative seeing the success that Porsche, Lamborghini and Aston Martin had with the introduction of their SUVs.

	Sensitivity to success of SUV introduction		
	Low growth of SUV sales	Expected growth of SUV sales	High growth of SUV sales
Share Value	€292,96	€337,20	€381,39

Figure 21: *Sensitivity Analysis*
Source: Own Calculations

Our third analysis consisted in looking at how a change in the percentage represented by cost of sales would affect Ferrari. Ferrari's cost of sales has wobbled between 48% and 52% since 2015, but for this analysis we used more extreme deviations (55% for the high estimate and 45% for the low), as we were particularly interested in what would happen in a significantly negative scenario where cost of sales increased a lot. Still, if this is the only variable changing, the target price would still be left at €274 per share (20% upside).

	Sensitivity to cost increase		
	High cost of sales	Status quo cost of sales	Low cost of sales
Share Value	€274,70	€337,20	€399,88

Figure 22: *Sensitivity Analysis*
Source: Own Calculations

Our fourth analysis consists of a table where we cross-check the second and third scenarios, as we consider these forecasts to be the most important ones in determining the future of the company. The conclusion supports our buy recommendation, seeing as even in the worst-case scenario the target price would remain above the current price of €228 per share.

Scenarios		Growth of UHNWI		
		Low growth of UHNWI	Expected growth of UHNWI	High growth of UHNWI
Success of SUV introduction	Low	€239,72	€292,96	€358,18
	Expected	€276,75	€337,20	€411,26
	High	€313,75	€381,39	€464,26

Figure 23: *Sensitivity Analysis*
Source: Own Calculations

Finally, for our fifth and last scenario, we decided to combine all of the factors above (Growth of UHNWI, success of SUV introduction, and variance in cost of sales) into three scenarios: Downturn, expected, and Upturn. In this instance our expected scenario corresponds to the price that we actually expect the share should be worth from our CDF analysis, in the downturn we combine the negative forecast deviances from the three factors, and in the upturn we combine the positive forecast deviances. Our downturn scenario presents a negative picture, which although extremely unlikely from our estimations, could serve as a warning to the most risk averse investors.

Absolute scenarios	Downturn scenario	Expected Scenario	Upturn Scenario
	€193,26	€337,20	€549,20

Figure 24: *Sensitivity Analysis*
Source: Own Calculations

Relative Valuation

Multiples

To complement the DCF approach, a relative valuation was performed using data from the 6 previously chosen peers – all luxury companies. When looking at these companies it is clear their multiples are amplified when compared to automakers – in fact a relative valuation using different comparable (a mix of automakers and luxury companies) resulted on massive discrepancy between Ferrari's implied share price and its value today, which corroborates the idea that Ferrari differentiates from other car companies.

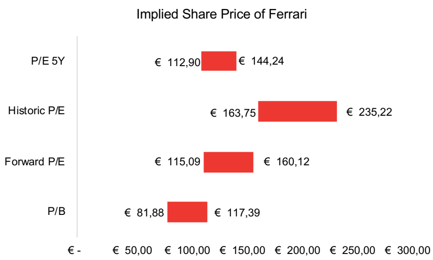

Figure 25: *Relative Valuation*
Source: Own Calculations

This valuation method was based on equity multiples: P/E (price-to-earning) and P/B (price-to-book) of the luxury sector. The P/E represents a company's share price as a multiple of its earnings. Due to structural changes in the industry and the economy, Five-Year Price-to-Book, Historic Price-to-Book, Forward-looking Price-to-Earnings were used to incorporate the past, present and future of the market and of analyst expectations. The P/B measures the firm's market capitalization relative to its book value.

Company Name	Market Cap (Millions)	
Ferrari	€	36 408,40
Hermes International SCA	€	92 858,90
Burberry Group PLC	£	5 364,40
Compagnie Financiere Richemont SA	€	28 295,30
Kering SA	€	74 254,20
LVMH Moet Hennessy Louis Vuitton SE	€	257 440,40
Moncler SpA	€	12 673,70

Figure 26: *Market Capitalization*
Source: Own Calculations

The median of the four multiples implied a share price of 157€ in 2022, which is lower than the derived intrinsic value. This is largely influenced by the P/B multiple, linked to the lowest valuation due to outliers' behavior (Exhibit 26).

Final recommendation

The outlook for the growth of Ultra High Net Worth Individuals forebodes an extremely positive outlook for the future of Ferrari, should the company be able to maintain its' market share for luxury vehicles. The market size is set to grow at a fast pace, seeing as the increase in wealthy individuals has been the main driver for the increase in the sale of luxury vehicles. Additionally, after the success of many of its rivals in introducing SUVs to their line-ups, Ferrari can be confident that they too can expect a considerable amount of success with this new addition to their offerings. For the most risk averse, there is a downturn scenario where we estimate that the value of the share could fall below its' current value, and multiple valuations also fall below our own estimates. However, for the large majority of the scenarios that we analyzed, Ferrari seems to present a very good opportunity. The final recommendation is to "BUY".

Appendix

Financial Statements

Income Statement

(€ thousand)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Core Business:													
Net revenues:	€ 3 325 492,00	€ 3 662 267,00	€ 3 375 827,00	€ 3 863 799,75	€ 4 187 736,74	€ 4 544 052,88	€ 5 086 113,69	€ 5 491 118,62	€ 5 924 557,56	€ 6 388 262,07	€ 6 675 886,54	€ 6 977 254,17	€ 7 293 034,45
Cars and spare parts	€ 2 535 245,00	€ 2 925 721,00	€ 2 835 170,00	€ 3 049 246,88	€ 3 277 537,28	€ 3 766 567,89	€ 4 295 834,98	€ 4 687 815,90	€ 5 107 996,39	€ 5 558 203,80	€ 5 832 088,22	€ 6 119 468,49	€ 6 421 009,63
Existing Models and spare parts	€ 2 535 245,00	€ 2 925 721,00	€ 2 835 170,00	€ 2 974 875,01	€ 3 121 464,07	€ 3 275 276,42	€ 3 436 667,98	€ 3 606 012,23	€ 3 783 701,03	€ 3 970 145,57	€ 4 165 777,30	€ 4 371 048,92	€ 4 586 435,45
New Models	€ -	€ -	€ -	€ 74 371,88	€ 156 073,20	€ 491 291,46	€ 859 167,00	€ 1 081 803,67	€ 1 324 295,36	€ 1 588 058,23	€ 1 666 310,92	€ 1 748 419,57	€ 1 834 574,18
SUV	€ -	€ -	€ -	€ -	€ -	€ 327 527,64	€ 687 333,60	€ 901 503,06	€ 1 135 110,31	€ 1 389 550,95	€ 1 458 022,06	€ 1 529 867,12	€ 1 605 252,41
Ferrari Roma	€ -	€ -	€ -	€ 74 371,88	€ 156 073,20	€ 163 763,82	€ 171 833,40	€ 180 300,61	€ 189 185,05	€ 198 507,28	€ 208 288,87	€ 218 552,45	€ 229 321,77
% Revenues (Cars)	76%	80%	84%	79%	78%	83%	84%	85%	86%	87%	87%	88%	88%
Growth Rate of UHNWI	-	*4,93%*	*2,44%*	*4,93%*	*4,93%*	*4,93%*	*4,93%*	*4,93%*	*4,93%*	*4,93%*	*4,93%*	*4,93%*	*4,93%*
HICP	*1,50%*	*1,50%*	*1,50%*	*2,60%*	*3,20%*	*1,80%*	*1,80%*	*1,80%*	*1,80%*	*1,80%*	*1,80%*	*1,80%*	*1,80%*
Engines	€ 284 546,00	€ 198 308,00	€ 150 655,00	€ 214 404,98	€ 242 403,20	€ 66 722,45	€ 66 722,45	€ 66 722,45	€ 66 722,45	€ 66 722,45	€ 66 722,45	€ 66 722,45	€ 66 722,45
% Revenues	9%	5%	4%	6%	6%	1%	1%	1%	1%	1%	1%	1%	1%
HICP	1,50%	1,50%	1,50%	2,60%	3,20%	1,80%	1,80%	1,80%	1,80%	1,80%	1,80%	1,80%	1,80%
Sponsorship, commercial and brand	€ 505 701,00	€ 538 238,00	€ 390 002,00	€ 600 147,89	€ 667 796,26	€ 710 762,54	€ 723 556,26	€ 736 580,27	€ 749 838,72	€ 763 335,82	€ 777 075,86	€ 791 063,23	€ 805 302,36
% Revenues	15%	15%	12%	16%	16%	16%	14%	13%	13%	12%	12%	11%	11%
# of GP/year	21	21	17	22	23	23	23	23	23	23	23	23	23
Average revenue/GP	€ 24 081,00	€ 25 630,38	€ 22 941,29	€ 27 279,45	€ 29 034,62	€ 30 902,72	€ 31 458,97	€ 32 025,23	€ 32 601,68	€ 33 188,51	€ 33 785,91	€ 34 394,05	€ 35 013,15
Cost of Sales	€ 1 622 905,00	€ 1 805 310,00	€ 1 686 324,00	€ 1 931 899,88	€ 2 093 868,37	€ 2 272 026,44	€ 2 543 056,85	€ 2 745 559,31	€ 2 962 278,78	€ 3 194 131,04	€ 3 337 943,27	€ 3 488 627,09	€ 3 646 517,22
% of revenue	49%	49%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Core SG&A	€ 167 819,00	€ 173 512,00	€ 171 900,00	€ 191 597,55	€ 207 660,89	€ 225 329,85	€ 252 209,48	€ 272 292,81	€ 293 786,12	€ 316 780,23	€ 331 042,91	€ 345 987,09	€ 361 645,95
% of revenue	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
R&D costs	€ 643 038,00	€ 699 211,00	€ 707 385,00	€ 667 385,00	€ 678 741,32	€ 690 958,66	€ 703 395,92	€ 716 057,05	€ 728 946,07	€ 742 067,10	€ 755 424,31	€ 769 021,95	€ 782 864,34
% of revenue	19%	19%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%	21%
Other expenses, net	€ 3 195,00	€ 4 991,00	€ 18 475,00	€ 10 041,13	€ 10 882,96	€ 11 808,95	€ 13 217,64	€ 14 270,15	€ 15 396,56	€ 16 601,62	€ 17 349,09	€ 18 132,28	€ 18 952,92
% of revenue	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Core Profit before taxes	**€ 888 535,00**	**€ 979 243,00**	**€ 791 743,00**	**€ 1 062 876,20**	**€ 1 196 583,19**	**€ 1 343 928,98**	**€ 1 574 233,81**	**€ 1 742 939,30**	**€ 1 924 150,03**	**€ 2 118 682,08**	**€ 2 234 126,95**	**€ 2 355 485,77**	**€ 2 483 054,01**
Statutory Taxes	€ 221 367,12	€ 245 838,24	€ 198 809,04	€ 255 090,29	€ 287 179,97	€ 322 542,95	€ 377 816,11	€ 418 305,43	€ 461 796,01	€ 508 483,70	€ 536 190,47	€ 565 316,59	€ 595 932,96
Statutory Tax Rate	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
Core Adjustments	-€ 176 389,00	-€ 33 432,00	-€ 101 933,00	-€ 104 583,26	-€ 107 929,92	-€ 109 872,66	-€ 111 850,37	-€ 113 863,68	-€ 115 913,22	-€ 117 999,66	-€ 120 123,65	-€ 122 285,88	-€ 124 487,02
Core Profit after Taxes	**€ 877 384,88**	**€ 811 919,76**	**€ 731 494,96**	**€ 912 369,17**	**€ 1 017 333,15**	**€ 1 131 258,68**	**€ 1 308 268,06**	**€ 1 438 497,55**	**€ 1 578 267,24**	**€ 1 728 198,04**	**€ 1 818 060,14**	**€ 1 912 455,07**	**€ 2 011 608,07**
Non-Core Business													
Interest and other financial income (in Net revenues)	€ 94 829	€ 104 348	€ 83 963	€ 94 380	€ 94 380	€ 94 380	€ 94 380	€ 94 380	€ 94 380	€ 94 380	€ 94 380	€ 94 380	€ 94 380
% of receivables from financing activities + Investments													
Non-Core SG&A	*€ 159 522*	*€ 169 667*	*€ 164 226*	*€ 184 104*	*€ 199 539*	*€ 216 517*	*€ 242 346*	*€ 261 644*	*€ 282 296*	*€ 304 391*	*€ 318 096*	*€ 332 456*	*€ 347 502*
% of revenue	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*
Total financial income from industrial activities	€ 2 122	€ 5 806	€ 1 127	€ 3 294	€ 3 570	€ 3 874	€ 4 336	€ 4 681	€ 5 050	€ 5 446	€ 5 691	€ 5 948	€ 6 217
% of revenue	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Result from investments	*€ 2 665*	*€ 3 522*	*€ 4 647*										
% of investments													
Non-Core Profit before taxes	**-€ 59 906**	**-€ 55 991**	**-€ 74 489**	**-€ 86 431**	**-€ 101 590**	**-€ 118 264**	**-€ 143 630**	**-€ 162 583**	**-€ 182 866**	**-€ 204 566**	**-€ 218 025**	**-€ 326 508**	**-€ 341 285**
Statutory Taxes	-€ 14 377	-€ 13 438	-€ 17 877	-€ 20 743	-€ 24 382	-€ 28 383	-€ 34 471	-€ 39 020	-€ 43 888	-€ 49 096	-€ 52 326	-€ 78 362	-€ 81 908
Statutory Tax Rate	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
Non-Core Adjustments	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Non-Core Profit after Taxes before OCI	**-€ 45 529**	**-€ 42 553**	**-€ 56 612**	**-€ 65 687**	**-€ 77 208**	**-€ 89 880**	**-€ 109 159**	**-€ 123 563**	**-€ 138 978**	**-€ 155 470**	**-€ 165 699**	**-€ 248 146**	**-€ 259 377**
Total comprehensive income/(loss), net of taxes	-€ 3 143	-€ 632	€ 17 122	€ 5 093	€ 5 520	€ 5 989	€ 6 704	€ 7 238	€ 7 809	€ 8 420	€ 8 799	€ 9 197	€ 9 613
% of revenue	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Non-Core Result	**-€ 48 671,56**	**-€ 43 185,16**	**-€ 39 489,64**	**-€ 60 594,46**	**-€ 71 688,30**	**-€ 83 891,03**	**-€ 102 454,95**	**-€ 116 325,12**	**-€ 131 169,07**	**-€ 147 049,53**	**-€ 156 899,78**	**-€ 238 949,49**	**-€ 249 764,00**
Total financial expenses	€ 59 513	€ 92 971	€ 86 847	€ 79 777	€ 79 777	€ 79 777	€ 79 777	€ 79 777	€ 79 777	€ 79 777	€ 79 777	€ 79 777	€ 79 777
% of Debt previous year													
Financing Result before taxes	**€ 59 513**	**€ 92 971**	**€ 86 847**	**€ 79 777**	**€ 79 777**	**€ 79 777**	**€ 79 777**	**€ 79 777**	**€ 79 777**	**€ 79 777**	**€ 79 777**	**€ 79 777**	**€ 79 777**
Statutory taxes	-€ 14 283	-€ 22 313	-€ 20 843	€ 19 146	€ 19 146	€ 19 146	€ 19 146	€ 19 146	€ 19 146	€ 19 146	€ 19 146	€ 19 146	€ 19 146
Statutory Tax Rate	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
Financing Adjustments	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -	€ -
Financing Result after taxes	**-€ 45 230**	**-€ 70 658**	**-€ 66 004**	**€ 98 923**	**€ 98 923**	**€ 98 923**	**€ 98 923**	**€ 98 923**	**€ 98 923**	**€ 98 923**	**€ 98 923**	**€ 98 923**	**€ 98 923**
Total Result attributable to:	**€ 783 483,44**	**€ 698 076,64**	**€ 626 001,60**	**€ 950 698,19**	**€ 1 044 568,33**	**€ 1 146 291,13**	**€ 1 304 736,59**	**€ 1 421 095,90**	**€ 1 546 021,65**	**€ 1 680 071,99**	**€ 1 760 083,84**	**€ 1 772 429,05**	**€ 1 860 767,55**
Owners of the parent	€ 781 585,00	€ 695 075,00	€ 625 053,00	€ 949 749,19	€ 1 043 619,33	€ 1 145 342,13	€ 1 303 787,59	€ 1 420 146,90	€ 1 545 072,65	€ 1 679 122,99	€ 1 759 134,84	€ 1 771 480,05	€ 1 859 818,55
Non-controlling interest	€ 1 899,00	€ 3 001,00	€ 949,00	€ 949,00	€ 949,00	€ 949,00	€ 949,00	€ 949,00	€ 949,00	€ 949,00	€ 949,00	€ 949,00	€ 949,00

Balance Sheet

(€ thousand)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Core Business													
Operating Cash	€ 171 016,05	€ 188 330,75	€ 172 989,50	€ 197 994,98	€ 214 594,67	€ 232 853,59	€ 260 630,73	€ 281 384,64	€ 303 595,61	€ 327 357,49	€ 342 096,40	€ 357 539,56	€ 373 721,28
% of net revenues	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*	*5%*
PP&E	€ 850 550,00	€ 1 069 652,00	€ 1 226 630,00	€ 1 173 561,29	€ 1 271 951,46	€ 1 380 176,22	€ 1 544 817,67	€ 1 667 830,80	€ 1 799 480,27	€ 1 940 322,36	€ 2 027 683,24	€ 2 119 218,36	€ 2 215 131,07
	26%	29%	36%	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%
Industrial Building	*26%*	*23%*	*20%*	*23%*	*23%*	*23%*	*23%*	*23%*	*23%*	*23%*	*23%*	*23%*	*23%*
Plant, machineries and equipment	*43%*	*50%*	*45%*	*46%*	*46%*	*46%*	*46%*	*46%*	*46%*	*46%*	*46%*	*46%*	*46%*
Under Construction	*25%*	*19%*	*27%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*	*24%*
Other (Land + Other Assets)	*6%*	*8%*	*8%*	*8%*	*8%*	*8%*	*8%*	*8%*	*8%*	*8%*	*8%*	*8%*	*8%*
Intangible assets	€ 645 797,00	€ 837 938,00	€ 979 290,00	€ 918 409,66	€ 995 408,18	€ 1 080 103,09	€ 1 208 948,77	€ 1 305 216,81	€ 1 408 243,50	€ 1 518 464,20	€ 1 586 831,38	€ 1 658 465,25	€ 1 733 524,95
% of net revenues	19%	23%	29%	24%	24%	24%	24%	24%	24%	24%	24%	24%	24%
Inventories	€ 391 064,00	€ 420 051,00	€ 460 617,00	€ 480 907,37	€ 521 226,15	€ 565 575,00	€ 633 042,53	€ 683 451,42	€ 737 399,35	€ 795 114,27	€ 830 913,42	€ 868 423,10	€ 907 726,66
Holding Period	*88*	*85*	*100*	*91*	*91*	*91*	*91*	*91*	*91*	*91*	*91*	*91*	*91*
Trade Receivables	€ 211 399,00	€ 231 439,00	€ 184 260,00	€ 227 332,02	€ 246 391,30	€ 267 355,66	€ 299 248,56	€ 323 077,59	€ 348 579,57	€ 375 862,27	€ 392 785,05	€ 410 516,44	€ 429 095,81
Collection Period	*23*	*22*	*19*	*21*	*21*	*21*	*21*	*21*	*21*	*21*	*21*	*21*	*21*
Other current assets	€ 64 295,00	€ 92 830,00	€ 76 471,00	€ 86 721,95	€ 98 334,96	€ 103 875,38	€ 116 617,83	€ 126 789,84	€ 136 024,46	€ 146 883,36	€ 153 639,09	€ 160 398,14	€ 167 728,73
% of net revenues	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Provisions	€ 182 539,00	€ 165 572,00	€ 155 335,00	€ 188 186,35	€ 203 963,69	€ 221 318,07	€ 247 719,14	€ 267 444,90	€ 288 555,54	€ 311 140,27	€ 325 149,02	€ 339 827,13	€ 355 207,20
% of net revenues	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Trade payables	€ 653 751,00	€ 711 539,00	€ 713 807,00	€ 785 804,21	€ 851 685,23	€ 924 151,38	€ 1 034 393,56	€ 1 116 761,85	€ 1 204 912,93	€ 1 299 219,31	€ 1 357 715,23	€ 1 419 006,18	€ 1 483 228,31
Payable Period	*147*	*144*	*155*	*148*	*148*	*148*	*148*	*148*	*148*	*148*	*148*	*148*	*148*
Other liabilites	€ 589 743,00	€ 800 015,00	€ 687 462,00	€ 772 026,66	€ 836 752,58	€ 907 948,18	€ 1 016 257,47	€ 1 097 181,59	€ 1 183 787,12	€ 1 276 440,02	€ 1 333 910,33	€ 1 394 126,66	€ 1 457 222,78
% of net revenues	18%	22%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
Employee benefits	€ 86 575,00	€ 88 116,00	€ 59 985,00	€ 67 819,39	€ 77 125,40	€ 86 518,52	€ 90 718,13	€ 95 121,59	€ 99 738,79	€ 104 580,11	€ 109 656,43	€ 114 979,15	€ 120 560,24
# of employees	3651	4164	4428	4879	5377	5925	6103	6286	6475	6669	6869	7075	7287
# of employees growth rate		14%	6%	10%	10%	10%	3%	3%	3%	3%	3%	3%	3%
Average Benefits/Employee	€ 23,71	€ 21,16	€ 13,55	€ 13,90	€ 14,34	€ 14,60	€ 14,86	€ 15,13	€ 15,40	€ 15,68	€ 15,96	€ 16,25	€ 16,54
Invested Capital - Core Business	**€ 821 513,05**	**€ 1 074 998,75**	**€ 1 483 668,50**	**€ 1 271 090,65**	**€ 1 378 379,81**	**€ 1 490 002,78**	**€ 1 674 217,79**	**€ 1 811 241,17**	**€ 1 956 328,36**	**€ 2 112 624,24**	**€ 2 207 517,58**	**€ 2 306 621,74**	**€ 2 410 709,96**
Non-core Business													
Goodwill	€ 785 182,00	€ 785 182,00	€ 785 182,00	€ 785 182,00	€ 785 182,00	€ 785 182,00	€ 785 182,00	€ 785 182,00	€ 785 182,00	€ 785 182,00	€ 785 182,00	€ 785 182,00	€ 785 182,00
Investments and other financial assets	€ 32 134,00	€ 38 716,00	€ 42 841,00	€ 42 841,00	€ 42 841,00	€ 42 841,00	€ 42 841,00	€ 42 841,00	€ 42 841,00	€ 42 841,00	€ 42 841,00	€ 42 841,00	€ 42 841,00
% of net revenues	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Deferred tax assets	€ 60 744,00	€ 73 683,00	€ 152 221,00	€ 107 512,99	€ 116 526,77	€ 126 441,52	€ 141 524,75	€ 152 794,30	€ 164 855,05	€ 177 757,96	€ 185 761,31	€ 194 147,08	€ 202 933,90
% of net revenues	2%	2%	5%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Receivables from financing activites	€ 878 496,00	€ 966 448,00	€ 939 607,00	€ 1 038 586,13	€ 1 125 660,12	€ 1 221 437,60	€ 1 367 143,09	€ 1 476 008,08	€ 1 592 516,10	€ 1 717 159,48	€ 1 794 472,70	€ 1 875 480,06	€ 1 960 361,54
% of net revenues	26%	26%	28%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
Current financial assets	€ 10 174,00	€ 11 409,00	€ 40 084,00	€ 23 245,28	€ 25 194,14	€ 27 337,80	€ 30 598,93	€ 33 035,51	€ 35 643,15	€ 38 432,87	€ 40 163,27	€ 41 976,35	€ 43 876,14
% of net revenues	0%	0%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Current tax receivables	€ 128 234,00	€ 21 078,00	€ 12 438,00	€ 61 821,82	€ 67 004,89	€ 72 706,05	€ 81 379,16	€ 87 859,35	€ 94 794,49	€ 102 213,88	€ 106 815,95	€ 111 637,91	€ 116 690,48
% of net revenues	4%	1%	0%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Deferred tax liabilities	€ 39 142,00	€ 82 208,00	€ 113 474,00	€ 87 362,16	€ 94 686,51	€ 102 742,97	€ 114 999,19	€ 124 156,53	€ 133 956,77	€ 144 441,32	€ 150 944,63	€ 157 758,68	€ 164 898,61
% of net revenues	1%	2%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Current tax payables	€ 7 635,00	€ 7 106,00	€ 15 895,00	€ 11 520,18	€ 12 486,02	€ 13 548,40	€ 15 164,60	€ 16 372,15	€ 17 664,47	€ 19 047,04	€ 19 904,61	€ 20 803,16	€ 21 744,68
% of net revenues	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Invested Capital - Non-Core Business	**€ 1 848 187,00**	**€ 1 807 202,00**	**€ 1 843 004,00**	**€ 1 960 306,87**	**€ 2 055 236,39**	**€ 2 159 654,59**	**€ 2 318 505,14**	**€ 2 437 191,56**	**€ 2 564 210,54**	**€ 2 700 098,83**	**€ 2 784 386,98**	**€ 2 872 702,56**	**€ 2 965 241,76**
Total Invested Capital	**€ 2 669 700,05**	**€ 2 882 200,75**	**€ 3 326 672,50**	**€ 3 231 397,53**	**€ 3 433 616,20**	**€ 3 649 657,37**	**€ 3 992 722,93**	**€ 4 248 432,73**	**€ 4 520 538,90**	**€ 4 812 723,07**	**€ 4 991 904,56**	**€ 5 179 324,31**	**€ 5 375 951,72**
Net Debt and Other Claim:													
Excess Cash	622647,95	709615,25	1189416,5	0	0	460404,7676	1077546,165	1867761,35	2733608,788	3678128,656	4794593,259	5911913,919	7085102,941
Debt	1927167	2089737	2724745	733370,5265	167039,5336	0	0	0	0	0	0	0	0
Other financial liabilites	11342	14791	2140	9424,333333	9424,333333	9424,333333	9424,333333	9424,333333	9424,333333	9424,333333	9424,333333	9424,333333	9424,333333
Total Debt	1938509	2104528	2726885	742794,8599	176463,8669	9424,333333	9424,333333	9424,333333	9424,333333	9424,333333	9424,333333	9424,333333	9424,333333
Net Debt - Financing Invested Capital	1315861,05	1394912,75	1537468,5	742794,8599	176463,8669	-450980,4342	-1068121,831	-1858337,016	-2724184,455	-3668704,322	-4785168,926	-5902489,586	-7075678,607
Non-controlling interest	€ 5 117,00	€ 5 998,00	€ 4 018,00	€ 4 018,00	€ 4 018,00	€ 4 018,00	€ 4 018,00	€ 4 018,00	€ 4 018,00	€ 4 018,00	€ 4 018,00	€ 4 018,00	€ 4 018,00
Financing Invested Capital	€ 1 310 744,05	€ 1 388 914,75	€ 1 533 450,50	€ 738 776,86	€ 172 445,87	-€ 454 998,43	-€ 1 072 139,83	-€ 1 862 355,02	-€ 2 728 202,45	-€ 3 672 722,32	-€ 4 789 186,93	-€ 5 906 507,59	-€ 7 079 696,61
Common Equity (attributable to Ferrari)	€ 1 358 956,00	€ 1 493 286,00	€ 1 793 222,00	€ 2 492 620,67	€ 3 261 170,34	€ 4 104 655,80	€ 5 064 862,76	€ 6 110 787,74	€ 7 248 741,36	€ 8 485 445,39	€ 9 781 091,49	€ 11 085 831,89	€ 12 455 648,32
D/E	97%	93%	86%	30%	5%	11%	21%	30%	38%	43%	49%	53%	57%
Transactions to shareholders		-195461,4592	-212840,544	-250350,5237	-275069,6597	-301856,6646	-343580,6361	-374221,9213	-407119,0348	-442418,9586	-463488,7445	-466739,6508	-490002,1227
Payout Ratio	17%	28%	34%	26%	26%	26%	26%	26%	26%	26%	26%	26%	26%

References

https://content.knightfrank.com/research/83/documents/en/the-wealth-report-2021-7865.pdf
https://www.cnbc.com/2021/09/23/chip-shortage-expected-to-cost-auto-industry-210-billion-in-2021.html
https://www-statista-com.eu1.proxy.openathens.net/statistics/200002/international-car-sales-since-1990/
https://www.irishtimes.com/business/manufacturing/luxury-car-brands-plan-to-profit-from-chip-crisis-1.4672430
https://www.crn.com/news/components-peripherals/ibm-ceo-arvind-krishna-chip-shortage-more-likely-continuing-until-2023-or-2024
https://daxueconsulting.com/ferrari-in-china/
https://www.reuters.com/business/autos-transportation/luxury-carmaker-rolls-royce-switch-all-electric-range-by-2030-2021-09-29/
https://www.roadandtrack.com/car-culture/a38090275/biggest-threat-from-electric-cars/
https://europe.autonews.com/environmentemissions/ferrari-and-lamborghini-should-be-exempt-europes-ban-combustion-engine-cars
https://www.businessinsider.com/wall-street-does-not-understand-ferrari-business-2017-10
https://www.nytimes.com/2021/07/16/sports/autoracing/drive-to-survive-netflix-formula-one.html
https://www.vox.com/22652554/drive-to-survive-f1-racing-netflix
https://www.reuters.com/business/autos-transportation/aston-martins-first-suv-helps-push-up-sales-by-more-than-200-2021-07-28/
https://eu.usatoday.com/story/money/cars/2020/01/22/porsche-cayenne-macan-suvs-911-cars/4502342002/
https://www.wsj.com/articles/a-ferrari-suv-investors-should-hope-so-1501766850
https://en.wikipedia.org/wiki/Ferrari_Roma#Market
https://www.nytimes.com/2021/01/14/business/ferrari-2021-lineup.html?

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Hold	Expected total return (including expected capital gains and expected dividend yield) between 0% and 10% over a 12-month period.
Sell	Expected negative total return (including expected capital gains and expected dividend yield) over a 12-month period.

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