Business analysis challenge – Part A

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Introduction

Ferrari S.p.A. was originally founded by Enzo Ferrari in 1939, when he was working as the head of Alfa Romeo's Alfa Corse and as a race car driver. World War Two interrupted all motor racing, and it was not until 1947 that the company built and raced its first car. In 1969, the company sold 50% of its shares to Fiat, and then another 40% in 1988. In 2015, there was a spin-off of the company from Fiat into the new Ferrari holding company Ferrari N.V., which holds the racing division Ferrari S.p.A. as well as other lines of businesses.[1] Ferrari is most noted for its Formula One championships, where it has won a record 16 Constructor's Championships, and a record 15 Driver's Championships[2].

Understand industry & market environment, company overview, and company's strategic position:

Industry and market environment:

The automobile manufacturing market (Ferrari holding company's primary market) is projected to grow 9.7% in 2021, even though the CAGR over the past 5 years starting 2016 has been -1.3%, mostly due to lagging sales in China in 2019 and COVID-19 in 2020. The overall market is projected to be $2.7 Trillion globally in 2021.[3] One of the biggest concerns aside from COVID-19 related reduced demand is that "environmental concerns about diesel cars" with its "anticipated regulatory responses" as well as the "growth of ride-hailing and car-sharing schemes" will pressure traditional demand for automobiles.[4] However, it is also important to consider the luxury car market, as Ferrari does not entirely operate in the regular automotive market due to the cost of the vehicles and the luxury brand. The luxury auto market is valued at around USD $410 Billion in 2020 and is projected to grow to USD $566 Billion in 2026, at a CAGR of approximately 5%[5]. Specifically, the company targets the market to be "luxury performance cars as two-door cars powered by engines producing more than 500 hp and selling at a retail price in excess of Euro 150,000 (including VAT)"[6].

Ferrari has pointed out in its financial statements that "growing environmental concerns are leading to the implementation of increasingly stringent emissions regulations and an increase in demand for both hybrid and electric vehicles."[7] On top of that, in a 2021 study conducted by Deloitte on global automotive consumer behaviours, some of the biggest trends in the industry include the fact that while electric vehicles (EVs) have solidified its long-term position, in the short term there are still much uncertainty related to the necessary infrastructure to support he EVs as well as their affordability relative to traditional vehicles. Specifically, younger consumers are feeling pressured in purchasing more expensive EVs due to the cost. In addition, more consumers would still prefer to acquire their vehicles at a dealer rather than purchasing online. Furthermore, consumers still prioritize safety of the vehicle over every other aspect, including features such as "Blind spot warning", "Automatic emergency breaking" over other advanced features such as "built-in Wi-Fi hotspot" or "Semi-autonomous drive mode". Finally, a company's brand and the dealer are two of the biggest factors that influence the consumer's decisions in their purchases.[8]

In another study by Deloitte conducted in 2009 for projections of 2020 and beyond, it was stated that the demand for luxury cars will increase for emerging markets, especially for luxury brands due to the growth

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[1] *History*. Ferrari Corporate. (2019, February 20). https://corporate.ferrari.com/en/about-us/history.
[2] *The Ferrari History*. Enjoy the Ferrari History. (n.d.). https://www.ferrari.com/en-EN/history.
[3] *Industry Market Research, Reports, and Statistics*. IBISWorld. (n.d.). https://www.ibisworld.com/global/market-size/global-car-automobile-manufacturing/.
[4] Raimonde, O. (2019, November 25). *Global car sales expected to slide by 3.1 million this year in steepest drop since Great Recession*. CNBC. https://www.cnbc.com/2019/11/25/global-car-sales-expected-to-slide-by-3point1-million-this-year-in-biggest-drop-since-recession.html.
[5] Ibid.
[6] Ferrari. (2021). 2020 20-F form. https://corporate.ferrari.com/sites/ferrari15ipo/files/ferrari_nv_20-f_2020.pdf
[7] Ibid.
[8] *2021 Global Automotive Consumer Study*. Deloitte United States. https://www2.deloitte.com/us/en/pages/manufacturing/articles/automotive-trends-millennials-consumer-study.html.

of high-net-worth individuals in the developing world and therefore higher disposable income. Specifically, original equipment manufacturers (OEMs) "with strong luxury car portfolios can take advantage of this growing segment by establishing a significant global brand presence and catering to regional needs". However, it was also mentioned that the "current practice of developing specific luxury models for specific markets may no longer be economically feasible and, as discussed above, the development and marketing of luxury models will need to use global platforms to reduce overall expenses and maximize platform revenue", which could "undermine the exclusivity of certain brands and diminish their perceived value"[9]

Company overview and value chain:

Company mission: "We build cars, symbols of Italian excellence the world over, and we do so to win on both road and track. Unique creations that fuel the Prancing Horse legend and generate a 'World of Dreams and Emotions'"[10].

Company vision: "Ferrari, Italian Excellence that makes the world dream"[11]

Leadership team and ownership structure: (see appendix)

Company overview: Ferrari operates in the luxury automobile manufacturers market, where it "designs, engineers, produces, and sells luxury performance sports cars"[12]. However, it also has other businesses that are a segment of its core business. Specifically, "the company licenses its Ferrari brand to various producers and retailers of luxury and lifestyle goods; Ferrari World, a theme park in Abu Dhabi, the United Arab Emirates; and Ferrari Land Portaventura, a theme park in Europe"[13]. In addition, "it provides direct or indirect finance and leasing services to retail clients and dealers; manages race tracks, as well as owns and manages two museums in Maranello and Modena, Italy; and develops and sells a line of apparel and accessories through its monobrand stores."[14]

Value chain analysis:

Support activities:

Firm infrastructure: The company's core infrastructure functions start with the general management. At Ferrari, most of the top executives come from various backgrounds, but many have both engineering and business experience, as well as prior experience at high level positions at Ferrari's previous largest shareholder – Fiat. Aside from the CEO, CFO and Chief Human Resources Officer, the company also has executive positions specifically related to key businesses to administer those functions, such as a Chief Manufacturing Officer, Chief Design Officer, Chief Technology Officer, Chief Brand Diversification Officer, as well as directors with roles related to the racing side of the business. This experienced team helps to support the value chain throughout.

Human resources management: Ferrari creates "career growth path tailored to suit both each individual's characteristics and the company's own goals" and provide "substantial investment in training", including "over 63,000 hours" in 2020 for a growing workforce. The company also has a Skills School to train technicians through "in-house tutors and instructors", allowing "senior employees [to] pass on their skills to the new generation", allowing the company to "preserve its highly specific skill set and store of knowledge"[15]. In addition, there has been feedback that the culture and work experience is highly valued by employees, and non-monetary benefits such as snacks and the physical environment help motivate the employees. While the salary and benefits are fixed, employees still make $53K on average, which is a

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[9] *A New Era Accelerating towards 2020 - An Automotive industry transformed*. Deloitte India. https://www2.deloitte.com/in/en/pages/manufacturing/articles/acceleratingtoards2020.html

[10] *Ferrari DNA*. Ferrari Corporate. (2021, April 20). https://corporate.ferrari.com/en/about-us/ferrari-dna.

[11] Ibid.

[12] S&P Capital IQ. (2021). Ferrari N.V.: Public company profile. Retrieved June 7, 2021, from S&P Capital IQ database.

[13] Ibid.

[14] Ibid.

[15] *People*. Ferrari Corporate. (2021, March 10). https://corporate.ferrari.com/en/about-us/people.

competitive wage[16]. In addition, the company provides training for dealers "for sales, after-sales and technical activities"[17].

Technical development: One of the biggest areas of research and innovation in terms of functional performance comes from Ferrari's support of Formula 1 racing, where even though the company loses 50-100 million annually (in 2015), it allows the company to "develop proprietary engine technologies, lightweight carbon fiber parts, traction control systems, aerodynamic designs and KERS (Kinetic Energy Recovery System) technology that make its vehicles unique and highly sought after compared to the average sports car."[18] In addition, existing technological processes require training from one generation of employees to pass onto the next. The financial statements have also discussed that the company offers in-vehicle technology as well as defend themselves from cyberattacks. Furthermore, the company has developed new hybrid and electric engine technology to offer in its newer models[19].

Procurement: In its financials statements, Ferrari states that it sources a variety of materials and supplies from "numerous suppliers", but for "certain key components with highly technological specifications", it has developed "strongly synergic relationships" with some suppliers called "key strategic innovation partners". Specifically, this includes transmission and brake supplies, as well as for bodyworks and chassis, as well as powertrain and transmissions[20].

<u>Primary activities:</u>

Inbound logistics: Ferrari has great relationships with key suppliers, and have "approximately 800 total suppliers", resulting in "complex supply chain management" to ensure production[21]. However, unlike "most low volume car producers, [Ferrari] operates [its] own foundry and machining department producing serval of the main components of [its] engines"[22]. In addition, the company "maintains sufficient inventory of raw materials and components to ensure the continuity of [its] production lines"[23],

Operations: The assembly line at Ferrari is efficient and flexible that can adjust to various levels of production capacity and different types of cars quickly. There is also a close monitor on production efficiency, and output can be increased with "the increase of weekend shifts to address special peaks in demand" as well as a "second shift on car assembly lines"[24]. In addition, many systems exist internally for operations, including "multiple server locations and a range of software applications" to ensure that operations run smoothly[25].

Outbound logistics: Ferrari has "168 dealers" across the world, where in larger markets the company sells to "either wholly owned subsidiaries or, in China, through a subsidiary partly owned by a local partner" and in smaller markets the company sells to "a single importer/ dealer"[26]. In addition, it takes roughly "three to six days following the completion of production" to ship cars from manufacturing to dealerships, "although [Ferrari] may warehouse cars in local markets for longer periods of time to ensure prompt deliveries in certain regions"[27].

Marketing and sales: To persuade clients to purchase Ferrari, marketing and promotion efforts are directed towards racing activities and specifically the Formula 1 World Championship, "which is the pinnacle of motorsport and is one of the most watched annual sports series in the world, with

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[16] Ong, J. (2020, January 21). *20 Things Employees Have Said About Working For Ferrari*. TheThings. https://www.thethings.com/things-employees-have-said-about-working-for-ferrari/.

[17] Ferrari. (2021). 2020 20-F form. https://corporate.ferrari.com/sites/ferrari15ipo/files/ferrari_nv_20-f_2020.pdf

[18] Rdalal. (2015, December 4). *Ferrari: Innovation on the Road and Track*. Technology and Operations Management. https://digital.hbs.edu/platform-rctom/submission/ferrari-innovation-on-the-road-and-track/.

[19] Ferrari. (2021). 2020 20-F form. https://corporate.ferrari.com/sites/ferrari15ipo/files/ferrari_nv_20-f_2020.pdf

[20] Ibid.

[21] Ibid.

[22] Ibid.

[23] Ibid.

[24] Ibid.

[25] Ibid.

[26] Ibid.

[27] Ibid.

approximately 433 million unique viewers in 2020"[28]. Through careful selection of dealers, and maintenance of high operating standards as well as guidelines, the company ensures that the brand is promoted and preserved after the cars are delivered to the dealers.
Service: The company has a team of "flying doctors", or engineers who travel to service centers to solve difficult technical problems to ensure that customers can continue to enjoy the car and the experience[29]. Aside from offering various options of warranties and programs to encourage good maintenance from buyers, Ferrari also supports secondary markets for cars, and a big part of quality assurance for second-hand buyers comes from the maintenance and services after sales, where certifications are awarded if a car meets the standards for maintenance programs.

Competitive landscape and key competitors:
At the time of this report, the market cap of Ferrari is the closest to Volvo, Hyundai, and Honda (roughly 50-60 billion). However, its core business is to sell luxury performance sports cars, which is different than the core businesses of the listed competitors, as they are more catered towards a generic audience rather than an audience who will pay a premium for the brand and the recognition. Therefore, close competitors will be ones such as McLaren, Porsche, Mercedes Benz, Bugatti, Aston Martin and others, where customers will generally purchase lines for the same reasons as they would for Ferrari's – the luxury brand and high performance. Please see Porter's 5 analysis in the Appendix.

Company strategy:
Strategy: The company's main strategy is to promote an "exclusivity" to limit the number of models and cars it produces and maintaining car waiting lists "to reach the optimal combination of exclusivity and client service"[30]. This strategy allows Ferrari to control prices for the cars, although at the expense of limiting potential sales growth. However, it also allows the company to re-balance demand easily for each market, such as "decrease in shipments in the Americas and the growth in Mainland China, Hong Kong and Taiwan in 2019 compared to 2018"[31]. In addition, the company also has a brand diversification strategy in place, including profiting from non-car activities such as through licensing the brand through products and entertainment, as well as products and services to complement the cars. Moreover, the marketing strategy includes promoting the brand through Formula 1 Championship races, and the growth strategy includes expanding operations in regions with high growth potential and penetrating those new markets, as well as broadening the range of models to capture additional demand. On top of that, the company also plans to "expand hybrid and electric technology" for sports car customers as well as other target customers, and invests heavily in R&D, where it leverages R&D from its racing for its sportscars[32]. Please see business model overview in the appendix.

Conclusion:
Industry position: Ferrari seeks to be a price leader and an industry leader in terms of the quality of the cars it manufactures as well as the services it provides to loyal customers. Its strategy focuses on exclusivity and limiting the supply artificially to control the sales demand, as well as continuously improving through R&D and innovation, allowing it to position itself as an industry leader.
Strategy to accomplish their mission/vision:
Competitive advantage and sustainability of the advantage: Ferrari has a competitive advantage, in that the company has significant pricing power over its customers and can control the supply of the cars to meet its sales targets for the most part. In addition, it has a very strong brand around the world, and it continues to invest in it through licensing it for non-manufacturing activities, as well as through Formula

[28] Ibid.
[29] Ibid.
[30] Ferrari. (2021). 2020 20-F form. https://corporate.ferrari.com/sites/ferrari15ipo/files/ferrari_nv_20-f_2020.pdf
[31] Ibid.
[32] Ibid.

1 Championships. Furthermore, it continues to maintain the quality of its race cars and evolve through developing new lines of cars that match consumer tastes through investments in technology. Lastly, it has strong relationships with its suppliers, especially those with highly advanced technological inputs, as well as strong relationships with its dealers, who also help promote the brand through dealership showrooms and after-sales maintenance across the world and allow the company to maintain its competitive advantage. Because of these key factors, the company has a sustainable competitive advantage, as while some factors such as Formula 1 Championships wins and quality and innovation of race cars can be eroded by competitors, Ferrari's advantages from the relationships with suppliers, as well as the brand power, after-sales services, and licensing, including entertainment revenues earned from museums and theme parks are much more difficult for competitors to replicate.

Assess quality of financial statements & standardize financial statements for company:

Key (principal) accounting policies:

The financial statements for the Ferrari Group (consolidated) have some significant accounting policies, including classification of research and development costs, valuation of existing cars/ inventory, amortization of long lived assets, goodwill impairment, expected credit losses for receivables and doubtful accounts, provisions for product warranties, foreign exchange conversions from global operations, business combinations for the consolidated financial statements, hedge accounting and derivative instruments against financial risks, employee benefits and share compensation and revenue recognition. Please see Accounting Flexibility analysis in the appendix.

Accounting strategy:

Deviations from the industry:

While management determines the amortization related to capitalized development costs and increasing an asset's lifecycle or residual value would result in a reduced amortization charge, the management has noted that "[capitalized] development costs are amortized on a straight-line basis from the start of the production over the estimated lifecycle of the model or the useful life of the related components or other assets (generally between four and eight years)"[33]. Compared to the industry/ competitor, Porsche has useful lives of capitalized development costs between "two to 15 years"[34]. This shows that Ferrari's assessments are in line with their competitors, and even more aggressive in terms of amortizing capitalized development costs in a shorter period. Similarly, depreciation over long term tangible assets is also slightly different than the industry but generally in line. In terms of tangible asset and intangible asset impairment, the impairment tests are done in the same way for the competitors in the industry, and overall competitors have also recognized no impairment to their long term assets or goodwill, showing that Ferrari's assumptions are inline with other companies in the industry. In terms of expected credit losses, both Ferrari and its competitors use the simplified approach. While its competitors such as Porsche recognized "immaterial" impairment amounts, Ferrari's amounts are embedded in a "financial expenses" account. However, it can be assumed to also be immaterial as the primary increase in net financial expenses for the year were from "a decrease in the fair value of investments" and "and increase in net foreign exchange losses"[35]. For inventory, Ferrari uses the FIFO method whereas a competitor such as Porsche uses the weighted average method. This will cause Ferrari's inventory to have a higher balance in current assets and lower COGS while Porsche's to be more uniform for both.

Reporting incentives: COVID-19 has had a significant impact on the operations of the business, which is built on mostly the units of cars that is sold. Due to travel restrictions, there was a significant disruption in both the supply chain and the delivery/ shipping of products, as well as decreased demand due to fewer customers purchasing cars because of the inability to visit dealerships. In addition, a significant part of

[33] Ibid.

[34] Porsche SE. (2021). 2020. https://www.porsche-se.com/fileadmin/downloads/investorrelations/mandatorypublications/annualreport-20/PSE2020_Annual_Report_en.pdf

[35] Ferrari. (2021). 2020 20-F form. https://corporate.ferrari.com/sites/ferrari15ipo/files/ferrari_nv_20-f_2020.pdf

management bonuses relies on performance factors such as "Net Revenues", "Consolidated Adjusted EBIT", and "Industrial Free Cash Flow"[36]. Therefore, there are incentives to over-report revenue, EBIT or under-report losses for the year by management, as well as increasing cash flow to a reasonable amount. However, the company's share compensation package has a three year vesting period based on both short and long term goals, so it is possible that the management will understate income for the year due to COVID-19 affecting the entire industry and book extra provisions and reserves so they can use them to increase profits and cash flows to greater extents in future years. There have been no major covenants that can impact management behaviour, as the company paid back its $700 million 2021 debt before the end of the fiscal year, including interest.

YoY accounting changes: "The company has noted that there are no significant effects on the valuation of assets or liabilities and no significant increases in allowances for credit losses in 2020", and "no material impairment indicators were identified and there were no change sin accounting judgments or other significant accounting impacts relating to COVID-19"[37]. However, there have been some amendments to IFRS standards that have been adopted by Ferrari, including IAS 1 and IAS 8 for the changes in definition of materiality and its application, as well as the effects of the IBOR reform related to hedge accounting requirements via IFRS 9, IAS 39 and IFRS 7. In addition, amendments are also made for IFRS 3 related to whether an acquisition made is of a business or a group of assets, as well as the IFRS 16 adoption related to "Leases for COVID-19-related Rent Concessions"[38], where lessees will account for rent concessions as if they are not lease modifications. Overall, while there is also a review of the Conceptual Framework with various key changes, with the company applying the changes going forward, there will be no effect from the adoption of any of these amendments on the financial statements.

Past accounting errors/ transaction structuring: There has been no past accounting errors/ transaction structuring that was noted.

Quality of disclosure: The quality of disclosures is higher in some areas than others, as while some of the disclosures are clear and have a conclusion that there have been no changes compared to prior years or no material changes needed from accounting policy changes, other disclosures are not explained and supported. Specifically, some policies are only discussed in its definition, but not in its application and was not broken down into specific management estimates. Ideally, more explanations will go into the estimates and assumptions provided to show how management reached the choices that they did for the accounting policies selected. However, the company did address the risk of COVID-19 on all of its operations and how it relates to accounting policy and addressed potential risks with both events that have occurred in the past and will occur in the future that are outside of the business's control. It also provided non-GAAP measures and explained the calculations for these values. Disclosures also included a breakdown of financial statement line items and other items, and comparisons with prior years have also been made frequently for transparent disclosure. The company also disclosed detailed discussions and calculations related to the compensation package for its management, as well as its corporate structure, notable changes, and other useful information.

Potential red flags: One of the potential red flags is that there has been a significant increase in cash flows during the year of 464 million compared to previous years' 100 to 150 million[39]. This is a questionable factor because cash flows is one of the performance factors used to measure management compensation, and management will have an incentive to increase the cash flows for the year to cover for the drop in net income for the year due to the financial effects of COVID-19 on both decreased revenue and increased expenses. In addition, inventory has also increased by 40 million from 2019, which is a sign that the company may be stockpiling raw materials and other parts to maintain its operations for the year when its supply chains and shipping to customers are subject to large disruptions from COVID-19. However, these can also be considered safety precautions to ensure that the business continues to operate

[36] Ibid.
[37] Ibid.
[38] Ibid.
[39] Ibid.

with sufficient cash for any changing needs during uncertain times, as well as enough inventory on hand to continue its production without shutting down due to lack of resources it needs to produce cars.
Standardized financial statements for the past 4 years based on analysis: Based on the presentation of the existing financial statements, as well as the reasonableness of assumptions such as depreciation and amortization policies, the financial statements by Ferrari are already standardized where the statement of comprehensive income is standardized through classification by function, and the statement of financial position standardized accordingly. As there are no major one-time events or adjustments made and no changes to the cash flows, Ferrari's standardized financial statements is adjusted per the Appendix.
Conclusion: Overall, 2020 was a difficult year for the business as COVID-19 impacted both its revenue and expenses. While more information could have been provided, the company remains consistent with its accounting policies and financial statement disclosures. However, there is also a great degree of accounting flexibility based on the accounting policies of the company that management can potentially use to their benefits regarding cash flows and EBIT – two factors that play into the compensation plan.

Analyze standardized financial statements (vs. last 3 years & vs. competitor performance):
ROE breakdown: ROE = Net Income/ Revenue* Revenue/ Avg Assets* Avg Assets/ Avg Equity

	2017	2018	2019	2020
Net profit	15.72%	23.00%	18.55%	17.60%
Asset turnover	0.86	0.76	0.73	0.59
Leverage	7.17	4.21	3.62	3.57
	16-17	17-18	18-19	19-20
Average total assets	3995.3	4496.4	5149.1	5854.2
Average equity	556.9	1068.9	1420.6	1638.2

Net profit margin (Net Income/ Revenue): Net profits has been decreasing due to the decrease of net income in 2020 and 2019 relative to the revenues. The company performed best in 2018 with 23% of net profits versus 17.60% in 2020. This shows that COVID-19 has had a significant impact on sales, reducing the sales revenue while also increasing the costs of the business. Specifically, other operating expense is the biggest factor, where R&D expense and COGS increased significantly from 2018 to 2019 and continues to increase at a slower rate. This shows that the cost of materials has been increasing in COGS, while the R&D expense through various technological innovations and racing investments is reducing net profits. This shows that while the business is still very profitable due to the net profit margin staying consistently above 15%, 2020 has been a difficult year and the growth rate of profits is slowing down, peaking in 2018. However, it is important to comment that the increased R&D expense and COGS may not necessarily be negative to the business, as strong R&D investments now can allow the business to be more adaptable to compete against its competitors in markets such as electric and hybrid, as well as create new models that are both environmentally friendly and high performing to its customers. It also means that it is possible that the increased quality of the goods sold such as through better engines and better components have caused the COGS to increase. Nonetheless, this is a concern in terms of the long-term profitability that the company can continue to generate, especially in a more competitive and faster changing market going forward.
Asset turnover (Revenue/ Avg Assets): Asset turnover has been declining YoY from 0.86 in 2017 to 0.59 in 2020. This decrease shows that the company is not being as efficient with generating income using its average assets, and every dollar of asset is generating less and less income each year. From additional calculations, it can be seen that this trend exists for both current assets and long-term assets, where revenues are not increasing at the same rate that assets are increasing. With a heavy manufacturing focused business and high maintenance costs related to supply chain, inventory, and assembly line, the business must find out ways to increase the income generated from owning of all of its assets. Specifically, the largest increases in asset balances over the years are from Net PPE, Other long-term assets, Inventory, and Cash and cash equivalents. This is likely due to the fact that the company's strategy limits the sales of its cars to preserve their exclusivity, but this strategy means that the company cannot

sell as many cars as customers demanded or decreases in demand will make it difficult to generate profits while the operations and maintenance of the long-term assets will still need to be tended. Therefore, this may result in the company having large balances of cash that is not being put to use to generate income, especially as current assets are almost double of current liabilities. The company needs to determine ways to invest that cash to generate additional income and ensure that it stays lean with the acquisition of long-term assets.

Financial leverage (Avg Assets/ Avg Equity): In terms of leverage, the company is seeing a decreased equity multiplier shows that the company is using less debt to finance its assets. This can both have positive and negative implications, as higher less debt generally means that the company is not paying interest on its investments and is a less risky business. However, this also means that the cost of capital and cost of financing new projects may be higher due to the higher returns demanded by the shareholders versus the debtholders. Generally speaking, lower multipliers are still viewed favorably, showing the safety of the business as an investment.

Conclusion: Overall, ROE has been decreasing YoY, mostly due to the lower equity amounts in previous years compared to higher amounts of equity in later years. However, while the ROE is still above 30%, it is declining yet stabilizing, demonstrating a business that is changing quickly over time.

ROA breakdown: ROA = Net Income + Interest Expense/ Average Assets

	2017	2018	2019	2020
ROA	14.2%	18.0%	14.2%	11.2%
Net income	537.2	786.6	698.7	608.9
Interest	29.3	23.6	32.8	49.1
	16-17	17-18	18-19	19-20
Average total assets	3995.3	4496.4	5149.1	5854.2

Overall, ROA has been decreasing over the years, as although 2020 is a difficult year for the business, the net income has fallen, and the business has had higher average assets. Interest amounts have been increasing but are not significant enough to greatly impact the decreased ROA. The reasonings of the decrease are similar to the reasonings addressed in the “Asset Turnover” section above.

Relevant KPIs and other ratios:

Total shipments of vehicles: The number of cars shipped worldwide is an important metric to determine whether the business is growing or not. In 2020, the business has sold a total of 9,119 cars across the world, down from its 2019 figures 10,131. However, this can largely be faulted to COVID-19, where the lack of outdoors travelling and visitations to showrooms limited sales amounts, especially in regions such as Mainland China, Hong Kong and Taiwan, with the total cars sold dropping from 836 in 2019 to 456 in 2020. Americas also saw a from 2,900 in 2019 to 2,325 in 2020. However, as the trend of car sales were positive from 2018 to 2019 and in most previous years, along with the expanding Asia-pacific market, it can be assumed that the decline in vehicles is only temporary and sales will rebound, supporting the fact that the business will continue to grow.

Cash conversion cycle:

	2017	2018	2019	2020
Avg Inventory	358.9	392.45	405.6	440.35
COGS	1650.9	1622.9	1805.3	1686.3
	0.22	0.24	0.22	0.26
DIO	**79**	**88**	**82**	**95**
Avg A/R	264.25	311.05	330.65	264.75
Revenue	3416.9	3420.3	3766.6	3459.8
	0.08	0.09	0.09	0.08
DSO	**28**	**33**	**32**	**28**
Avg A/P	611.2	630.65	682.65	712.65
COGS	1650.9	1622.9	1805.3	1686.3
	0.37	0.39	0.38	0.42
DPO	**135**	**142**	**138**	**154**
CCC = DIO+DSO-DPO	**-28**	**-20**	**-24**	**-31**

As the company has negative cash conversion cycles, it shows that it is receiving cash from customers before it needs to pay suppliers, resulting in greater likelihood of excess cash. The company should use this amount for projects are high return and worthy of investment.

	2017	2018	2019	2020
Current ratio	1.72	1.93	1.88	1.65
D:E ratio	2.30	1.42	1.36	1.49
Debt %	69.7%	58.7%	57.7%	59.8%
Equity %	30.3%	41.3%	42.3%	40.2%

Current ratio: The current ratio appears to be strong, with current assets at least 1.5x current liabilities and enough to pay off current liabilities. Therefore, liquidity issues should not arise in the company.
Debt to equity ratio: Initially, the company had very high amounts of debt relative to its equity, and as the equity portion has increased compared to debt, it is showing that the business is relying less on debt financing and has become more mature over the years. While the company is still heavily levered, its leverage has been decreased, showing a safer overall investment. Regardless, the company has some debt capacity to increase its debt financing, but it can also finance its long term investments through equity.
Selection of competitor: The closest competitor that Ferrari has will be McLaren, who has similar strategies in terms of participating in Formula 1 Championships as well as manufacturing their own luxury, high-performance cars and spending significant amounts in R&D to innovate their models. However, McLaren does not use IFRS and therefore cannot be selected as a competitor. Therefore, the most similar competitor in terms of scale and brand will be Aston Martin, as the business offers similar value propositions and operates based on some similar strategies. Other competitors such as Mercedes Benz are not selected because it does not fully operate in the luxury vehicles business and its scale from commercial sales voids it to be a close competitor to analyze.

Key Ratios - Aston Martin				
	2017	2018	2019	2020
Current ratio	0.79	0.70	0.64	1.10
D:E Ratio	6.2	1.6	2.9	1.3
ROE				
Net profit	8.47%	-5.72%	-12.89%	-68.54%
Asset turnover	0.60	0.61	0.47	0.24
Leverage	13.9	6.2	5.4	4.4
ROA	0.54	0.56	0.44	0.22

It appears that Aston martin has not only had negative profits – or losses for the last three years, but the business has also had poor asset turnover similar to Ferrari's. However, the financial condition of Aston

Martin is overall must worse than Ferrari's business, where the assets it owns are generating very little profit. In addition, while it has a strong current ratio and a lower D:E ratio, the company has negative retained earnings for the year of 503 million GBP. Therefore, comparatively speaking Ferrari is performing much better than Aston Martin as a competitor.

Conclusion: Overall, the company has been growing quickly in the last three years, but there are issues such as having excess cash from its business that it is not putting to good use to generate higher returns, as well as higher expenses and lower revenues from its "supply-controlled" strategy and the need to increase R&D to keep up with its customers and maintain its competitive advantage. Furthermore, its long-term assets are not being as efficient as they were at generating profit for the business, which is a concerning metric. While COVID-19 will be a temporary problem that the company can recover from, it showed many weaknesses in the company's business model and its strategy to sustain its competitive advantage in the future.

Appendix:

Competitive landscape – Porter's 5 forces:

Threat of new entrants: High – One of the key risks mentioned in the financial statements is that "several other manufacturers have recently entered or are attempting to enter the upper end of the luxury performance car market, including [those] with advanced electric technology", such as Tesla[40]. As these new entrants enter the market, only maintaining the brand image, reputation, innovation, and quality of the cars will Ferrari be able to deter and compete with the new entrants, especially as electric cars become more popular due to the increased consumer focus on buying more environmentally friendly vehicles.

Rivalry of competitors: High – The company has mentioned numerous times in the financial statements that the "market for luxury goods generally and for luxury automobiles in particular is intensely competitive".[41] Specifically, the brand appeal is one of the biggest factors to determine whether a company will survive and thrive in the industry. As a result, the company needs to "continuously renovate and expand the range of [its] models". In addition, success of the racing team in the Formula 1 World Championship is also a concern as Ferrari will need to compete against Mercedes Benz, McLaren and other brands to maintain its status and brand image[42].

Threat of substitutes: High – Similar to the competitive nature of the market, Ferrari faces high threats from substitute products from its competitors if it cannot maintain a strong brand presence and customer loyalty. Specifically, "other international luxury performance car manufacturers own and operate well-known brands of high-quality cars", many of whom are a "part of larger automotive groups and may have greater financial resources and bargaining power with suppliers"[43]. In addition, "particularly in light of [Ferrari's] policy to maintain low volumes in order to preserve and enhance the exclusivity of [its] cars"[44], there are strong reasons why consumers can easily switch to a competitor's vehicles either based on not wanting to pay higher prices for an exclusive car, or to pursue a competitor's brand because of preference.

Power of suppliers: Low – Ferrari has stated that for the 2020 fiscal year, "the purchases from [the] ten largest suppliers by value accounted for approximately 20 percent of total procurement costs, and no supplier accounted for more than 10 percent of [total procurement costs]."[45] Aside from raw materials such as metals, the company procures from numerous suppliers, with no one more than 10% of total costs, the suppliers are numerous and do not have significant power over Ferrari. While Ferrari purchase from "single source suppliers" for the most part, sourcing of highly technological inputs or metals and supplier risk is mitigated through strong relationships with the key strategic innovation partners, mitigating much of the power suppliers hold.

Power of buyers: Low – One of Ferrari's biggest advantages comes from its sales strategy, where the company "[produces and distributes] vehicles in extremely limited quantities" with "extensive waiting lists and long lead-time delivery schedules", causing the supply to be greatly lower than customer demand. "This selling model provides management with significant visibility and control over sales, while also allowing for considerable pricing power due to the exclusivity and scarcity of the vehicles."[46] Therefore, this reduces the buyer's powers and ensures that the business is "uniquely more resilient to fluctuations in the business cycle"[47].

Business model overview and value proposition:

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[40] Ferrari. (2021). 2020 20-F form. https://corporate.ferrari.com/sites/ferrari15ipo/files/ferrari_nv_20-f_2020.pdf
[41] Ibid.
[42] Ibid.
[43] Ibid.
[44] Ibid.
[45] Ibid.
[46] Rdalal. (2015, December 4). *Ferrari: Innovation on the Road and Track*. Technology and Operations Management. https://digital.hbs.edu/platform-rctom/submission/ferrari-innovation-on-the-road-and-track/.
[47] Ibid.

Key activities: One of Ferrari's most important core activities is the manufacturing of cars, where raw materials and technologically advanced parts are carefully sourced either from suppliers or refined domestically. In addition, it uses metrics to track its performance and efficiency on the assembly line, where highly skilled workers produce the cars. Furthermore, it invests in R&D and continues to innovate through new technologies to provide the best-performing cars and lines to its customers. In addition, marketing and promotional investments are also important activities, as the company licenses its brand and participates in racing through the Formula 1 Championship. In sales, it partners with carefully selected dealers to maintain the brand image, where customers can go to showrooms to inspect the vehicles and learn more about the brand power that they are purchasing. Moreover, it also provides high quality after-sales services for maintenance and encourages a second-hand market/ collections market for the vehicles it produces.
Key resources: An efficient manufacturing process from supply chain to manufacturing to assembly line helps with producing quality cars with relatively little time, as well as a well-trained labor force with skilled specialists and technicians to help with not only production but also after-sales maintenance and repairs. Furthermore, the technological assets and the R&D invested hybrid and electric engines compared to the traditional combustion engines are also resources that the company has to offer to compete with its competitors and adhere to regulatory emission requirements[48]. The company has also developed features of autonomous driving technology to respond to customer preferences even though it does not intend to develop self-driving cars, "such as predictive breaking and automatic cruise control"[49]. In addition, the brand itself is a resource, as it is not only recognized worldwide, but Ferrari licenses it to sell merchandise and provide entertainment-related activities aside from being known as a quality premium brand race car company.
Key partners: Key strategic suppliers provide the advanced high technology parts and materials the company needs to manufacture vehicles in the assembly line at its factories, while other miscellaneous suppliers provide raw materials and non-advanced materials for other areas of the supply chain. Additionally, dealerships help promote the brand due to the quality control that Ferrari upholds for dealers. Furthermore, the Formula 1 Championship is also a partner as it helps build the company's brand through massive viewership.
Customer relationships: Ferrari's relationships with its customers come mostly from its brand power. It attracts customers who believe in its brand through marketing and promotions. Ferrari releases new lines and models based on the "varying needs of new customer segments (in terms of sportiness, comfort, on-board space, design)"[50]. At dealerships, trained dealers engage with customers through showrooms and Ferrari observes data related to dealer profitability and financial health. To maintain relationships, it also provides after-sale services such as maintenance programs, warranty extensions, as well as official certifications to prove to second-hand buyers that the car has been well-maintained for 20 years[51]. The company also engages in other brand promotional activities and target existing clients to promote their knowledge about Ferrari cars. In addition, a community is established for customers, and its "MyFerrari App" helps with informing customers about the latest products and provides them access to new features and services provided[52].
Distribution channels: The company budgets for targets for shipment and "seek to manage waiting lists" to "respond appropriately to relative levels of demand, based on [the] order books"[53], while being sensitive to local client expectations". The "Authorized Economic Operator certificate" from the EU

[48] Ibid.
[49] Ibid.
[50] Ibid.
[51] Ibid.
[52] Ibid.
[53] Ibid.

regulatory body helps "expedite customs procedure" during shipping, allowing the company to benefit from special expedited customs treatment"[54], which reduces costs and expedites shipping.
Customer segments: The company targets "end clients seeking high performance cars with distinctive design and state-of-the-art technology"[55]. Specifically, the company is moving towards high growth markets such as Asia-pacific, where there is a growth of individuals who have higher wealth and are interested in Western brands as a luxury product. These individuals are generally passionate about race cars and have the high disposable income to spend on these luxury vehicles. In addition, other customers include those interested in entertainment and racing sectors, such as Formula 1 Championship viewers/ event goers, those who like the merchandise that Ferrari produces, and those are attend theme parks and museums to learn more about Ferrari.
Cost structure: The majority of the costs for Ferrari comes from its "cost of materials, components and labor related to the manufacturing and distribution of cars and spare parts, engines sold to Maserati and engines rented to other Formula 1 racing teams. The remaining costs principally includes depreciation, insurance and transportation costs, as well as warranty and product-related costs."[56] Other major costs include R&D expenditures to improve the "design, performance, advanced technology, safety, efficiency and reliability"[57] of its cars. In addition, the company spends close to 100 million each year on Formula 1 participation, from development and manufacturing of racing cars (non-commercial) to the participation and marketing costs around the event. Other costs include costs of labor from a specialized and well-trained workforce, including benefits and incentive plans for employees and executives after they retire of 60-80 million. Lastly, financing costs for capital expenditures and other interest expenses and miscellaneous costs make up the rest of the cost structure.
Revenue streams: In terms of revenue, the company's core business earns profit through sales of cars. Specifically, cars and spare parts as well as engines to other brands such as Maserati make up most of the core sales revenues at close to $3 Billion per year. The company controls the sales targets each year and re-balances the demand to optimize the sales volume with its strategy of limiting sales to preserve its brand exclusivity and waitlist. However, as a part of the brand diversification strategy, "sponsorship, commercial and brand" and other revenues account for a smaller but still substantial 500-600 million[58], specifically from revenues from entertainment and merchandise sales and management of racetracks.
Value proposition: According to the financial statements, Ferrari's value proposition for cars comes from different models that aim to achieve comfort & versatility, sportiness, performance, or elegance. It strives to deliver high quality vehicles and a brand that is recognizable instantly across the world, associated with luxury, exclusivity, a high social status and the highest standards of quality and excellence.

Accounting flexibility:
IAS 2 Inventory: More flexible – Inventory has the option of being calculated through first-in, first-out (FIFO), weighted average, or specific identification. In this case, the company selected FIFO as their policy, including direct costs of materials and labor as well as indirect costs, which can inflate the cost of remaining inventory and decrease COGS if prices are rising. The net realizable value is the "estimated selling price in the ordinary course of business less estimated costs of completion and the estimated costs for sale and distribution"[59], which can take in significant judgement to measure the inventory value.
IAS 38 Intangible Assets: Less flexible – Research and development costs related to new Formula 1 racing cars are expensed due to the assumption that they will be used for one year only, "unless the

[54] Ibid.
[55] Ibid.
[56] Ibid.
[57] Ibid.
[58] Ibid.
[59] Ibid.

technology will be used for more than one year and the costs meet the capitalization criteria in IAS 38"[60]. Due to the more rigid nature of the standards, there is usually not much flexibility offered for this issue.
IAS 16 Property Plant and Equipment (PPE): More flexible – PPE is recognized initially at cost, "which comprises the purchase price, any costs directly attributable to bringing the assets to the location and condition necessary to be capable of operating in the manner intended by management, capitalized borrowing costs and any initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located."[61] "Subsequent expenditures and the cost of replacing parts of an asset are capitalized only if they increase the future economic benefits embodied in that asset" and all other expenditures are expensed. Depreciation policies are calculated on a straight-line basis over the estimated useful lives of the assets and higher estimates of useful life may be selected to reduce depreciation.
IAS 36 Impairment of Assets: More flexible – Non-current assets with definite useful lives include PPE and intangible assets (mainly consisting capitalized development costs). The recoverable amount of cash generating units (CGUs) and the carrying amount of the asset are used to determine whether an impairment is needed periodically when circumstances indicate potential impairment. Specifically, the "recoverable amount is the higher of the CGU's fair value less costs of disposal and its value in use"[62], and as the value in use is calculated through a discounted cash flow (DCF) model, the discount rate and the estimated future cash flows provide flexibility and requires significant judgement, as changes in both can significantly alter the value in use of the asset. In addition, goodwill impairment has similar issues related to the flexibility of choices that management has in terms of calculating value in use.
IAS 37 Provisions, Contingent Liabilities and Contingent Assets: More flexible – The company has a critical audit matter of establishing provisions "for product warranties at the time the sale is recognized to guarantee the performance of vehicles against defects that may become apparent within a certain period or term" and "periodically initiates recall campaigns to address various client satisfaction, safety and emissions issues related to cars sold"[63]. While the auditors have audited this matter thoroughly through various audit procedures and compared it to prior years, significant estimates were used, developed through historical claims, and therefore making it possible for management to make flexible assumptions.
IFRS 15 Revenue: More flexible – Revenue transaction prices are stated to contain estimates of variable consideration such as "sales incentives and performance based bonuses and product returns"[64], which requires judgement. It is also stated that the "cost of incentives is estimated at the inception of a contract at the expected amount that will ultimately be paid" which has varying components[65]. The company is stated to allocate "the transaction price to the performance obligations passed on the stand alone selling prices (SSP) for each obligation", and "estimates the SSP based on the adjusted market approach"[66]. As the company sells highly specialized products from its cars to its engines, it may require significant judgement and estimates to allocate prices based on the market/ industry price.
IFRS 9 Financial Instruments: More flexible – Expected credit loss requires the use of significant assumptions, where the lifetime expected credit loss need to be estimated and the historical credit loss is used by management to be "adjusted for forward-looking factors specific to [Ferrari's] receives and economic environment"[67], resulting in an area of accounting flexibility.
IFRS 16 Leases: More flexible – Management has the ability to determine the lease term as well as using the right to exercise the extension option on the lease. This allows for some flexibility in terms of

[60] Ibid.
[61] Ibid.
[62] Ibid.
[63] Ibid.
[64] Ibid.
[65] Ibid.
[66] Ibid.
[67] Ibid.

deciding whether to include extension options in the lease term, and these relate to a number of "Ferrari stores, warehouses and machinery and equipment"[68].

Standardized financial statements – Ferrari (2017-2020):

Standardized Income Statement - Ferrari				
	2017	2018	2019	2020
Revenue	3,416.90	3,420.30	3,766.60	3,459.80
COGS	-1,650.90	-1,622.90	-1,805.30	-1,686.30
SG&A	-329.1	-327.3	-343.2	-336.1
Other operating expense	-666.6	-646.5	-703.8	-725.7
Net interest expense	-29.3	-23.6	-32.8	-49.1
Other income	5.0	2.9	3.5	4.6
Other expense			-9.6	-0.1
Income tax expense	-208.8	-16.3	-176.7	-58.2
Net income/ loss	537.22	786.65	698.70	608.90
Standardized Balance Sheet - Ferrari				
	2017	2018	2019	2020
Cash and cash equivalents	652.8	799.6	900.0	1364.4
Accounts receivable	262.0	360.1	301.2	228.3
Inventory	393.8	391.1	420.1	460.6
Other current assets	772.5	926.6	1019.9	1022.6
Total current assets	2081.1	2477.3	2641.2	3075.9
Net PPE	653.5	635.4	868.3	896.9
Intangible assets	817.9	820.5	822.3	826.0
Deferred tax asset	501.9	671.2	874.5	1090.7
Other long-term assets	86.8	247.3	240.1	372.6
Total assets	4141.1	4851.7	5446.4	6262.0
Accounts payable	607.5	653.8	711.5	713.8
Current portion of LT debt	312.2	351.7	401.1	872.9
Other current liabilities	291.0	280.5	289.3	275.8
Total current liabilities	1210.7	1286.0	1402.0	1862.5
LT debt	1494.0	1574.8	1628.1	1789.6
Deferred tax liability	9.9	14.5	77.3	96.2
Other non-current liabilities	642.6	622.7	851.6	724.6
Total liabilities	3357.2	3497.9	3959.1	4472.8
Shareholder's equity	783.9	1353.8	1487.3	1789.2
Total equity	783.9	1353.8	1487.3	1789.2
Total liabilities and equity	4141.1	4851.7	5446.4	6262.0

[68] Ibid.

Standardized Cash Flow Statement - Ferrari				
	2017	2018	2019	2020
Net income	535.4	784.7	695.8	607.8
Depreciation and amortization	260.6	288.7	212.3	246.1
Non-operating gains	44.6	-11.6	338.2	205.8
Net investments in working capital	-60.9	62.6	-9.1	-14.7
Net investments in non-current operating assets	-116.9	-190.4	68.9	-206.7
Capital expenditure	-188.9	-300.8	-352.2	-357
Sale (purchase) of assets	-198.8	-336.1	-349.0	-351.0
Other investing activities	8.3	0	0	0
Interest received (paid)	0	0	0	0
Dividends received (paid)	0	0	0	0
Net debt issuance (repayment)	36.2	83.1	80.0	680.5
Dividends (payments)	-120	-133.1	-192.7	-208.1
Net share issuance (repurchase)	0	-100.1	-386.7	-129.8
Other financing activities	-9.6	-1.0	-1.3	-8.3
Net change in cash	190.0	146.0	104.2	464.5

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