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CASE STUDY:

Ferrari's separation from Fiat Chrysler Automobiles

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Abstract

The following case-study describes the circumstances surrounding Ferrari's separation from Fiat Chrysler Automobiles (FCA). This paper's structure is divided between the narrative and a teaching note. The case narrative describes all the events that result in Ferrari's full separation from FCA and FCA's recent most changes. The teaching note intends to analyse the possibility of investing in Ferrari's IPO, the process of its separation and at the same time analysing FCA's restructuring.

Key words: Spin-off; IPO; Ferrari; Fiat Chrysler Automobiles

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Case Study

Ferrari's IPO and Fiat Chrysler Automobiles (FCA)

How to value Ferrari and deal with the company's stake in FCA?

It is Friday, October 9th, 2015 and Ferrari's road show will start next week. Marco Vestri, chairman, CEO and founder of MV Investments faces a major decision regarding the opportunity to invest in Ferrari's IPO, which was presented to him by a senior analyst a few weeks ago. Beyond that, Vestri also believes that it is time to re-evaluate the company's holdings in FCA due to recent corporate changes such as the demerger of its industrial activities, the alliance with Chrysler and now Ferrari's separation.

Currently, MV Investments is a prestigious and reputable hedge fund known for taking part in all the major deals in the automotive industry. In 1990 for example, Vestri was sufficiently impressed by Fiat's Panda Elettra, the first mass-produced electric vehicle, that he decided to acquire 2% of Fiat's stock. Although the Panda Elettra ended up being a commercial failure, Marco believed in the company's future and by 2000 had increased the stake to its current 5% holding.

Will Ferrari's IPO be the next big deal in the automotive industry? If so, Marco will certainly want to be a part of it, but a few questions remain to be answered. Will the IPO reflect Ferrari's fundamentals or simply the hype coming from the asset managers (most of them wishing to own the company's cars many of whom probably lust after the Ferrari product)? Considering the small size of the offer, is it possible that Ferrari's stock ends up being a small-stock[1] or even an orphan stock[2]? Will most of FCA's shareholders, who are destined to receive the stock as a result of the spin-off that follows the IPO, decide to sell their shares? Will this IPO be underpriced, resulting in potential short-term gains? Will this spin-off generate a long-term over-performance, as suggested in the academic literature of this type of divestiture?

[1] Stock of a company that has a small market capitalization.
[2] A stock that is mostly ignored by investors.

Ferrari's roadshow will be in town next week and Vestri wants to be ready for the meeting to effectively understand if the IPO is a good opportunity. At Vestri's request, a big part of his staff work throughout the weekend in order to do the necessary analysis and help him decide on these two matters.

Fiat S.p.A

On July 11th, 1899 Fiat S.p.A was founded in Turin, Italy and the first car built was the Fiat 4 HP[i] (**Exhibit 1**). In 1903 the company went public while it also initiated the production of its first vehicles for transportation of goods. Throughout the years, production kept expanding, new models were created, and the company entered more markets.

In 1908 Fiat began to manufacture aircraft engines and in 1919 entered the Italian agriculture market with its first tractor, the "702". By 1949, the company had grown to require 71.000 employees. Fiat launched Italy's first diesel-powered passenger car in 1953. Fiat's acquisition of 50% of Ferrari in 1969 was seen as an opportunity to expand the business and add to its product line. Keeping its eye on the future, as mentioned earlier, in 1990 Fiat launched the Panda Elettra.

Fiat is a company with a long and proud history and has always been quite a big player in the industry (7th top manufacturer in 2014 – **Exhibit 2**).

The prancing horse (*Cavallino Rampante*) - Ferrari

Ferrari's history is linked to the life of its founder, Enzo Ferrari[ii] (**Exhibit 3**). In 1924, at 26 years of age, he became a racing driver for Alfa Romeo. Only five years later, he formed Scuderia Ferrari, Alfa Romeo's racing division. However, in 1938, Alfa Romeo created the Alfa Corse to bring its racing division back "in house" and put Enzo in charge of the new racing initiative. Enzo left Alfa Romeo a year later under the provision that he wouldn't use the Ferrari

name in association with races or racing cars for at least four years. So, on September 13th, 1939 Ferrari opened Auto Avio Costruzioni, the company that would eventually become the greatest name in auto racing. Although the 1939 date is often used as the founding of Ferrari, it was not until 1947 when Ferrari's real story began with the launch of the 125 S (**Exhibit 4**), the first car to be graced with Ferrari's now ubiquitous prancing horse logo. Enzo, through the sale of his automobiles, was able to fund Scuderia Ferrari, which was resurrected to be the racing division of his own company (the same name that Ferrari's racing division still uses today).

During the 1950s Ferrari become known worldwide due to its success in the Formula One[iii]. By 1960, however, due to the importance of developing the industrial side of the business, Enzo Ferrari implemented significant changes to the company, restructuring it from a family run business to become a limited company in 1960. In 1969 Ferrari again made major changes when it agreed to sell 50% of its equity to Fiat in order to increase its competitiveness; the immediate effect was to increase available investment funds and the possibility to use Fiat's plants. In the late 1960s commercial sponsorships arrived to Formula One. Ferrari, famous for its plain red cars, was initially quite resistant to sponsorships, however, its reluctance gradually waned and eventually even Ferrari agreed, and logos began to appear on Ferrari's one seater. Initially the cars only sported a few logos of some of the F1 technical partners, such as Magneti, Brembo and Agip. It took until 1977 before the logo of the Fiat group, 50% owners of the Ferrari company since 1969, appeared on the famed red Formula ones. Enzo passed away in 1988, the year in which Fiat increased its stake in Ferrari to 90%[iv] - paying around $13.6 million, with the remaining 10% staying in the hands of Enzo's son, Piero Ferrari.

The new millennium was marked by a great sporting success for Ferrari, perhaps in no better way than through the example of its most well-known racing driver Michael Schumacher, who won the Formula One championship for Ferrari from 2000 to 2004. More recently, presence of Ferrari's auto product lines in emerging markets - such as the Middle East, China,

Japan and the rest of the Far East - was boosted as the company's position in the US, UK and German markets were consolidated.

Chrysler

Chrysler was founded in 1925 in Detroit[v], Michigan, United States of America by Walter Chrysler. He and his team ensured that the products of Chrysler's brand would be "affordable luxury vehicles known for innovative, top-flight engineering"[vi]. Within a decade of being founded, Chrysler had earned the moniker of Detroit's "engineering company" for innovative design solutions such as a wheel with a ridged rim designed to keep a deflated tire from flying off the wheel, an engineering advancement adopted by the auto industry worldwide.

In 1998 Chrysler and its subsidiaries merged with the German-based Daimler-Benz AG, creating the combined entity DaimlerChrysler AG. However, on May 14th, 2007, DaimlerChrysler AG (thereafter renamed Daimler AG) announced the sale of the Chrysler Group (renamed Chrysler LLC) to Cerberus Capital Management, an American private equity firm. With the financial crisis of 2007-2009 this already frail company was pushed to file for Chapter 11 on April 30th, 2009[vii] to be able to continue to operate as a going concern, while renegotiating its debt structure and other obligations.

Fiat Chrysler Automobiles N.V. (FCA)

Fiat Investments N.V. was incorporated in the Netherlands - for tax purposes - as a public limited liability company on April 1st, 2014. The objective of this company was to carry out the reorganization of the Fiat group (Fiat S.p.A.) following its recently completed acquisition of Chrysler on January 21st, 2014. Upon effectively merging Fiat S.p.A. into Fiat Investments N.V. this new holding company was renamed Fiat Chrysler Automobiles on October 12th, 2014[viii]. The objective was to become a leading global automaker as a single

integrated automaker so after Fiat completed the acquisition of Chrysler, they were merged into FCA (in **Exhibit 5** you have information of FCA and its peers).

Currently, FCA is a multinational corporation which designs, engineers, manufactures and sells vehicles and related parts and services, components and production systems worldwide. It has 165 manufacturing facilities, 85 R&D centers, dealers and distributors in more than 150 countries and around 228.690 employees (data at December 31st, 2014)[ix]. It has a wide range of brands: Abarth, Alfa Romeo, Chrysler, Dodge, Fiat, Fiat Professional, Jeep, Lancia, Ram, SRT, Maserati and Mopar (parts and service), Comau (production systems), Magneti Marelli (components) and Teksid (iron and castings). The group also provides retail and dealer finance, leasing and rental services which support the car business. This is done through subsidiaries, joint ventures and commercial agreements with specialized financing services providers[x]. (You can find FCA's financials in **Exhibit 6** and **Exhibit 7**.)

Dynamics of the automotive industry

The automotive industry was affected by the global financial crisis of 2007-2009, an industry which was already weakened by an increase in the price of automotive fuels due to the energy crisis. Both European and Asian automobile manufacturers were affected, but the biggest impact was felt in America namely on the big three (General Motors, Chrysler and Ford). General Motors and Chrysler, headquartered in Detroit are linked to the Detroit crisis which lead the city itself to file for Chapter 9 bankruptcy[xi].

Through the nationalization of both General Motors and Chrysler - they filed for bankruptcy Chapter 11 - the US President Barack Obama intervened to restructure these two companies and according to Massachusetts Governor Deval Patrick, "[he] saved the American auto industry from extinction."[xii]

Looking at sales statistics provided by Organisation Internationale des Constructeurs d'Automobiles[xiii] (OICA), despite anomalous decreases in 2008 and 2009, car sales have continuously increased from 2005 to 2014, reaching 88 million automobiles sold in 2014 (see **Exhibit 8**). For this continued growth to be possible, prices had to be cut which affected profit margins leading to the consolidation of this competitive industry[xiv].

Luxury cars market

The luxury performance car market has not yet returned to pre-recession levels. However, as shown in the **Exhibit 9**, Ferrari's sales in recent years have proven less volatile than the its competitors. Ferrari believes this is due to their strategy of maintaining low production volumes compared to consumer demand, as well as the wider range of models and more frequent product launches compared to the competitors. An interesting statistic to consider is the number of high net worth individuals which as you can see in **Exhibit 10** has steadily increased - this can help explain why Ferrari has been able to maintain its sales at a more or less constant level since a big portion of its target are these type of individuals.

FCA's restructuring

Even though Chrysler's acquisition was only completed in 2014, the connection between Fiat and Chrysler actually started in 2009 when Chrysler filed for Chapter 11 on April 30th. After the initial transaction on June 10th, 2009, that resulted from the bankruptcy filing, Fiat held a 20% ownership in Chrysler with the remaining 80% belonging to the Chrysler's employees Voluntary Employees' Beneficiary Association (VEBA) Trust[3], the U.S. Treasury and the Canadian Government. The Fiat-Chrysler alliance was announced as a "global strategic alliance" and its objectives were to share products, platforms, technology, globalized distribution, procurement[4] and world class manufacturing.

[3] A trust fund whose purpose is to provide employee benefits.
[4] Joint purchasing programs designed to yield savings through negotiations with common suppliers.

Fiat continued increasing its stake in Chrysler and on January 21st, 2014, the acquisition was complete with Chrysler becoming an indirect wholly owned subsidiary of Fiat after the purchase of VEBA's 41.46% equity interest in Chrysler for 4.3 billion US dollars[xv]. This valued Chrysler at $10.37 billion while in total it cost Fiat $6.3 billion to fully acquire the corporation.

Chrysler's acquisition was not the only change in Fiat's restructuring. On September 16th, 2010, shareholders approved the demerger of Fiat S.p.A.'s industrial activities[xvi] - agricultural and construction equipment, trucks and commercial vehicles and related powertrain systems - and the creation of a new group headed by Fiat Industrial S.p.A. which was completed on January 1st, 2011 (In **Exhibit 11** you can see the structure of the transaction). The reasons behind the demerger arose from the differences between the Auto and the Industrial sides[xvii] of the business in terms of competitive environment, product requirements, level of R&D expenditure required and the profile of potential investors.

The Auto side operates in a highly competitive market where price, quality, the level of choice and customization, style, safety, fuel economy and functionality are key competitive drivers. In this market, the purchasing decision of customers is also dependent on the overall level of consumer confidence and the availability of credit. In addition, this business requires significant investment in research and development to satisfy customer demand for continuous innovation in relation to new products and services, emission control systems as well as driver and passenger safety solutions.

Contrarily, the Industrial side, on the other hand, operates in a market where the key competitive drivers are brand reputation, an extensive distribution network, financial services and breadth of product range. In addition to the sophistication of the product offer, performance in this sector is also influenced by general economic conditions, demand for food, and climate conditions. The requirement for investment in research and development is not so high due to the lower relative dependence on aesthetic design of the models offered.

These differences most likely lead to a conglomerate discount and so the demerger provided: "Greater strategic and financial clarity for each business; Increased focus and opportunity for independent development; Improved value perception for Industrial activities."[xviii] It was a partial and proportional spin-off, partial because part of the equity of Fiat Industrial remained inside the company and proportional because the exchange ratio between stocks of Fiat S.p.A. and Fiat Industrial S.p.A. was 1:1.

In 2014, Ferrari shipped 7.255 cars, recorded net revenues of €2.762 Million and Net Income of €261 Million (see **Exhibit 12** and **Exhibit 13**) so it seemed to be performing well[xix]. Despite that, there were some conflicts between Ferrari and FCA which became public. In September 2014, FCA CEO Sergio Marchionne created considerable friction when he publicly criticized the recent performance of Ferrari's Formula One racing team, Scuderia Ferrari, and called the performance, "unacceptable and absolutely non-negotiable."[xx] It is mentioned in a Bloomberg report that Marchionne said, "Ferrari Chairman, Luca Cordero di Montezemolo, needs to ensure that the supercar brand's Formula One team produces more wins."[xxi] The rising tension between Marchionne and Montezemolo culminated in Montezemolo's October 13th, 2014 resignation. The Wall Street Journal reported that Marchionne and Montezemolo had a disagreement over Ferrari's production volumes where Marchionne wanted Ferrari to increase sales figures to 10,000 vehicles per year.

Shortly after, on October 29th, 2014, the Board of Directors of FCA announced its intention to separate the Ferrari business from FCA. The objective of the separation was to enable Ferrari to pursue its business strategies with, "greater operational and financial independence while preserving the unique character"[xxii] of their business and organization. Regarding FCA's intentions AutoPacific's analyst David Sullivan said, "if you need to raise capital to fund the overhaul of Alfa Romeo and you're dead serious about it, this is what makes the most sense. Tesla stock is no joke and I am pretty sure Fiat Chrysler would love to get in on

that type of success."[xxiii] In addition to that, Marchionne said that, "pursuing a separate path for Ferrari is necessary to secure FCA's 2014-2018 Business Plan and work toward maximizing the value of our businesses to our shareholders."[xxiv]

Ferrari's separation

The separation of Ferrari from Fiat may be an opportunity to unlock a portion of Ferrari's real value and it appears to be in a good position to do so since it is a profitable company, a unique product, and one of the most recognizable brand names in the world; not to mention the "it" factor which can attract investors (big hype surrounding Ferrari's IPO – **Exhibit 14**). Being a standalone company with an iconic brand name will allow them to be in a better position to promote and extend the value of the brand, maintain their heritage and further enhance Ferrari's position among the world's premier luxury lifestyle companies[xxv] (estimates for Ferrari's free cash flows can be found in **Exhibit 15**).

Ferrari's separation from FCA can be divided in a series of three transactions (in **Exhibit 16** you can see an overview of the overall transaction):

1. The restructuring: Ferrari N.V., a fully owned subsidiary of FCA, was used to carry out the restructuring (at the time, Ferrari operated under Ferrari S.p.A.). Ferrari N.V. acquired the assets and business of providing sales, after-sales and support services for the Ferrari brand from Ferrari North Europe Limited, one of Ferrari S.p.A.'s existing trading subsidiaries, and in exchange, issued a note for £2,8 Million. FCA transferred all of the issued and outstanding share capital that it previously held in Ferrari S.p.A. (representing at that point in time 90%) to Ferrari N.V. which in exchange issued to FCA a note for €7,9 Billion (the "FCA Note"). Ferrari N.V. issued to FCA 85,7% of both their common shares and special voting shares [5]who in turn

[5] To obtain special voting shares, a shareholder must register a number of common shares in the "Loyalty Register" which should be kept there for three years in order to be entitled to receive one special voting share for each share registered. They have the same voting rights as a common share, but they have no economic value.

contributed with €5,1 Billion. Ferrari N.V. used the proceeds to repay FCA a portion of the FCA Note: the remaining principal outstanding on the FCA Note being €2,8 Billion[xxvi].

Piero Ferrari transferred his 10% interest in Ferrari S.p.A. to Ferrari N.V. in exchange for common shares and special voting shares representing approximately 14,3% Ferrari N.V.'s share capital. Then, Piero Ferrari transferred approximately 4,3% of Ferrari N.V.'s common shares and the same number of special voting shares to FCA in exchange for €280 Million in cash. As a result, Piero Ferrari retains an interest representing 10% of the economic and voting interest in Ferrari N.V. and FCA retains the remaining 90%[xxvii]. (For a clearer view of this operation see **Exhibit 17**.)

2. The IPO: 2. The IPO: FCA will be selling 17.175.000 common shares of Ferrari, equal to approximately 9% of the Ferrari share capital: Ferrari N.V. has 188.921.600 common shares outstanding. Ferrari N.V. decided to do the listing on the New York Stock Exchange, expecting it to increase its investment appeal, particularly in the United States which has historically been one of its largest and most important markets. The common shares were approved for listing on the New York Stock Exchange under the most appropriate symbol for the greatest Formula One racing company, "RACE"[xxviii].

The IPO underwriters will offer part of the common shares directly to the public at a price within the initial range set by Ferrari: $48 – $52[xxix] with the underwriters paying the price minus an underwriting discount of $1,56 per share[xxx]. If Ferrari is valued at the top of the range, this will imply a market capitalization of $9.824 Million (**Exhibit 18** provides prevailing capital market information). The opening day is the 20th October of 2015. The selling shareholder has granted the underwriters the option to purchase up to an additional 1.717.150 common shares at the initial public offering price less the underwriting discount of $1,56 per share for a period of 30 days after the initial offering to cover over allotments, if any.

Of course, investing in Ferrari N.V.'s commons shares has its risks. Ferrari N.V. may not succeed in preserving and enhancing the value of the Ferrari brand, which drives demand and revenues. The small number of car models it produces, and sells may result in greater volatility of its financial results. Its brand image depends, in part, on the success of the Formula One racing team, additionally the revenues from Formula One activities may decline and/or related expenses may grow. These are just a few examples of the risks Ferrari faces.

3. The spin-off: The third and final step of the separation is the spin-off (will this transaction lead to an over-performance as evidenced in **Exhibit 19**?). Following completion of the offering, FCA intends to separate its remaining ownership interest in Ferrari N.V. and distribute that ownership interest to its shareholders[xxxi]. This transaction is expected to be completed through a series of steps, all conducted under the Dutch law for demerger and all of which are predicted to be concluded in early 2016[xxxii] (take a look at **Exhibit 20**):

a) The "First Demerger": FCA would transfer all of the common shares and special voting shares held by it in Ferrari N.V. to FE Interim B.V., a newly-formed Dutch private limited liability company. Pursuant to the First Demerger, each holder of FCA common shares will receive one common share in FE Interim for each common share in FCA immediately prior to the First Demerger and each holder of FCA special voting shares will receive one special voting share in FE Interim for each special voting share of FCA held immediately prior to the First Demerger.

b) The "Second Demerger": FE Interim will transfer all of its common shares and special voting shares in Ferrari N.V. to FE New N.V., a newly-formed Dutch public limited company. Pursuant to the Second Demerger, each holder of FE Interim's common shares will receive one common share in FE New for every ten common shares in FE Interim held immediately prior to the Second Demerger, and each holder of FE Interim special voting shares will receive one

special voting share in FE New for every ten special voting shares in FE Interim held immediately prior to the Second Demerger.

Immediately following the completion of the Second Demerger, all common shares and special voting shares of FE Interim will be cancelled. Ferrari N.V. is then merged into FE New under the following conditions: Each holder of Ferrari N.V.'s common shares, that is, public shareholders from IPO and Piero Ferrari, would receive one common share of the surviving company (FE New) for each common share in Ferrari N.V. they hold immediately prior to the Merger. Each holder of Ferrari N.V.'s special voting shares would receive one special voting share of the surviving company for each special voting share held immediately prior to the Merger. The merged company is to be renamed Ferrari N.V.

After the completion of the Separation, Ferrari N.V. may apply for admission to listing and trading of its common shares on the Mercato Telematico Azionario[6] (MTA)[xxxiii].

The decision

The decision sits squarely before Vestri. Should he invest in Ferrari's IPO? If so, what is the appropriate price to offer for its shares? Will it reflect Ferrari's intrinsic value? Is the senior analyst merely relying on the fact that IPOs are usually underpriced and that spun-off companies tended to perform very well and were a good source of short-term profit? Regarding FCA, does it make sense to maintain the company's holdings? Have the recent changes affected FCA's performance? How is FCA performing compared to its industry peers? And finally, being a shareholder of FCA, does it make sense to invest in Ferrari's IPO when you will likely get shares of Ferrari from the spin-off?

[6] The Italian Market where shares, convertible bonds, warrants and option rights are traded. It is dedicated to mid and large-size companies that meet the highest international standards.

Teaching notes

The following teaching notes have the objective of studying Ferrari's separation from FCA and FCA's current situation. The case focuses on Ferrari's IPO and spin-off as well as FCA's restructuring, making it especially suited for an Applied Corporate Finance course. When solving this case, students should understand the steps leading to Ferrari's separation, its execution and the motives behind FCA's restructuring. A set of proposed questions follows, together with the suggested responses. Finally, the outcome of the case is approached in the last section.

1. What's the purpose of FCA's restructuring?

Discuss also the importance of each step in Ferrari's separation.

As described in the case, there are three main changes which are part of FCA's restructuring: acquisition of and merger with Chrysler, the demerger of FCA's industrial activities and finally Ferrari's separation.

Taking into account how the industry works and the crisis it went through, mergers are not necessarily surprising. In order to compete, car manufacturers have to offer better prices or at least include more specifications for the same price which significantly decreases profit margins. Thus, consolidation is one the way to maintain profitability through sharing products, platforms, technology and distribution, all of which can lead to economies of scale and scope.

Regarding the demerger of Fiat's industrial activities, as mentioned in the case, the rationale behind this transaction focuses on the differences between the Auto and the Industrial side of Fiat. It consists of an equity carve-out and for that reason it is in Fiat's best interest that the Industrial activities continue to perform well after merger since it will still be part of the group. One benefit of the carve-out is that Fiat Industrial can use stock option compensations to boost corporate performance. Fiat appeared to be suffering from a conglomerate discount, so this transaction made sense since it allowed investors to value the companies separately and

increased management focus which added value to both firms. Bodnaruk, Massa and Zhang (2009) argue that the conglomerate discount can be explained, "as conglomerates being less financial constrained than single segments firms. A financially constrained firm is forced to select only the high return investments and therefore its Q will be very high."[xxxiv]

Finally, we have Ferrari's separation. For the first step, Ferrari N.V., which at the time was a fully owned subsidiary of FCA, was used to facilitate many of the merger transactions noted above during the restructuring. This step can be seen as an initial separation, since everything related to Ferrari, namely Ferrari S.p.A.[7], was moved to Ferrari N.V. From **Exhibit 17** you can see that the net result for FCA of this transaction is an increase in € 2,52 billion (7,9B – 5,1B – 0,28B) in the assets side of the balance sheet. FCA benefits from Ferrari's initial restructuring by improving its debt ratio. Then, from the IPO, FCA will obtain the proceeds and consequently raise more capital; however, since Ferrari after the spin-off will be a separate entity, its powerful brand will no longer be associated with, or of assistance to FCA. As you can see in **TN-Exhibit 1**, FCA's profit margin is very low[8] therefore in order to keep the business running and fund its business plan[xxxv], this was a way to raise capital.

2. How much is FCA worth without Ferrari?

To answer this question a valuation based on comparable multiples is used based on information of **Exhibit 5**. In **TN-Exhibit 2** you can see the output of this valuation.

The P/E ratio and Market to Book ratio will not be considered since it is better to "use enterprise-value multiples" to avoid multiples being "systematically affected by capital structure"[xxxvi] as stated in an article by McKinsey. Since the Sales/EV multiples will reflect differences due to different margins, the focus will be on EV/EBITDA and EV/EBIT.

[7] How it operated at the time.
[8] FCA's profit margin is way below the industry average for Auto & Truck 6,35% and Auto Parts 4,76%.

Looking at EV/EBITDA the implied market capitalization is nearly twice as much what FCA is currently worth (€12.297 Million) which is not likely to be true. However, considering EV/EBIT and looking at both the median value and the value based on companies with similar growth, it leads to a valuation between €8.734 and €13.612 Million.

3. How much is Ferrari worth as a standalone corporation?

When valuing a company, there are two approaches which are usually used, discounted cash flows or valuation using multiples (comparable traded firms' multiples or transaction multiples).

Valuing Ferrari is not an easy task. To value a company that is seeking to go public, the most common method is using multiples but for this to be possible the comparable firms must be public. Firms that may be compared with Ferrari include Bugatti, Aston Martin, Lamborghini or Porsche which aren't public. Tesla may be a good test case. Even though it produces electric cars, it has the same type of hype surrounding the company as Ferrari and it also produces luxurious sports cars. In addition to comparing with Tesla it may also be interesting to compare Ferrari with other car automakers such as FCA's peers. Moreover, a comparison with other luxury firms will also be considered. Before going into the multiple valuation, however, it may be useful to consider a discounted cash flow analysis.

Since the free cash flows used for the DCF are from professor Damodaran's valuation (**Exhibit 15**), it is important to understand and discuss the growth applied to revenues and to the terminal value. In the first five years of the estimation period, he uses a growth rate of 4% and from year 6 to year 10 the growth declines at constant rate, ending with a growth rate of 0,7% in year 10 which is equal to the long-term risk-free rate. Since Ferrari's growth rate in the previous year was 18,29%, the 4% used in the initial years is quite conservative which is likely to reflect in a lower valuation than what Ferrari is worth. It makes sense to start decreasing the

growth rate from year 5 forward because, when a company becomes more mature, it is expected to have a lower growth rate. Ending the estimate with a growth rate of 0,7% in year 10 which is equal to the long-term risk-free rate and using this same rate for the terminal value can be, once again, a bit conservative since it is low. Another option for the perpetuity growth rate could be a value somewhere between the historical inflation rate of 2-3%. Regarding this aspect it is also interesting to mention Tesla and its commercial success, indicating the rise of electric cars which may affect Ferrari's viability in the long-run making the long-term growth rate of 0,7% a more reasonable assumption.

To discount the cash-flows to the present, the approach used was the weighted average cost of capital method (WACC). The cost of debt is based on the synthetic rating. For the cost of equity, a beta was necessary, so looking at **Exhibit 5** the average beta of the automotive industry is 1,39 and for the luxury companies it is 1,01 which shows that luxury firms are less cyclical. Then there is Tesla with a beta of 0,94 in line with the luxury companies and since Tesla is more similar to Ferrari than the other luxury companies considered, this was the chosen beta. As we saw in **Exhibit 9** Ferrari's revenues were notably more stable, less volatile and less cyclical than the competitors, so it should have a small beta. Tesla's beta was used because it is likely to be similar to Ferrari in this aspect, it is less cyclical and more stable because people who buy Ferrari's and Tesla's are usually well moneyed and are not normally significantly affected by economic downturns. Further, we could look at Ferrari as a defensive stock which Societe Generale defines as "a stock whose profit growth and therefore its price has a very low correlation to the economic activity. No matter how the economy is doing, the revenues, the earnings and the cash flows of the company remain relatively stable and so the share price."[xxxvii] Of course, typically defensive stocks are from industries such as Health care, Household and Personal Care however Ferrari seems to have a similar behaviour. Tesla's beta was unlevered and then relevered based on Ferrari's capital structure (the market value of Debt was estimated

and for the market capitalization a price of $50 per share – in the middle of the range – was assumed). Applying the CAPM formula, the cost of equity can be estimated. Then applying the WACC formula and discounting the cash flows and terminal value, the value of operations is obtained. In order to go from the value of operations to market capitalization two approaches can be considered: Subtract the net debt provided in **Exhibit 5** from the value of operations or a more complete approach which, in addition to subtracting the net debt, considers also non-operating assets and liabilities. Finally, we arrive to valuations of €7.680 or €7.976 Million (see **TN-Exhibit 4**) which represent share prices of approximately $46 or $47,90, both slightly below the given price range.

Now let's take a look at the valuation based on comparables firms (**TN-Exhibit 2** and **TN-Exhibit 3**). Looking at the implied market capitalization for Ferrari from Tesla's multiples we can conclude that the values are too big to be considered. The multiples attributed to Tesla are very big because it is a firm which is still in a high growth stage (sales growth of 59% in 2014). Using other car automakers as comparables, the multiples lead to a lower valuation than the one obtained from the DCF which only shows us that Ferrari can't be valued just as an automaker, it is a luxurious brand and should be valued as such.

Now bearing in mind the implied market cap resulting from other luxury company multiples, and considering once again EV/EBITDA and EV/EBIT, and looking only at firms with similar growth, one is lead to the following valuations, €5.319 and €5.698 Million of market capitalization. These figures are perceptibly below what was calculated in the DCF valuation, however, it must be remembered, only two comparable firms are being considered. Further, considering the median, the implied market for those two multiples are €7.963 and €7.850 Million, which in turn represent a price of $47,14 and $47,82 per share, values that are considerably closer to the range indicated by Ferrari and more in line with the DCF valuation.

4. Are there positive synergies between Ferrari and FCA?

The automotive industry requires significant investments in product design, engineering, research and development, technology, tooling, machinery and equipment, as well as facilities and marketing. Firms survive by leveraging their investments and activities on a global basis across brands and models, and thus benefitting from economies of scale and scope. Economies of scale because, with all the fixed costs mentioned above, it is clear that producing more products will lead to lower per-unit fixed cost since they are spread out over more units of output. Economies of scope because a factory can build more than one model of cars therefore the average total cost of production decreases due to the increase in the number of different goods produced, so in this case, it's a gain from variety and not volume as with the scale economies. Additionally, larger firms usually have lower leverage, higher access to capital and a more diversified revenues base (more regions and products), tending to be better positioned to withstand industry downturns and to benefit from industry growth.

Given the above analysis, it would seem reasonable to expect positive synergies, but was that actually the case for FCA and Ferrari? Ferrari has always had its own plant[xxxviii] so benefits from being together such economies of scale and scope don't really apply. Considering some of the other costs that were previously mentioned such as product design, engineering, marketing as well as research and development, although both firms are selling cars, the type of cars are quite different in terms of design (Ferrari makes sports cars), engineering (Ferrari's cars are lot more focused on horse power and speed) or marketing (the target of both firms are completely different). Nevertheless, FCA can provide Ferrari access to technologies, therefore severing the connection between the firms may lead to a reduction in Ferrari's value since it will be competing with other luxury brands that are integrated in big automotive groups. Overall, the synergies from FCA and Ferrari being together, if any, don't seem overly significant but there are a few positive aspects of unity that should be kept in mind (technology).

5. Was FCA suffering from a conglomerate discount? If so, why didn't they do a pure spin-off?

Bearing in mind the type of players in the automotive industry, the majority of automotive original equipment manufacturers (OEMs) produce vehicles for the mass market, however, there are some who produce vehicles for the luxury market like Ferrari. Among manufacturers of mass market vehicles, particularly for non-premium brands, the fierce competition compresses margins and requires significant volumes of vehicles to be profitable. On the other hand, luxury vehicles usually have higher margins which allows companies to produce lower volumes of vehicles while enhancing brand appeal and exclusivity and still maintain profitability.

Here is where the differences between Ferrari and FCA come into play, they clearly operate in different segments, FCA producing for the mass market and Ferrari producing for the luxury market. This difference lead to considerable tension between the companies with the CEOs of each company disagreeing on the number of vehicles that should be produced by Ferrari. FCA CEO Marchione wanted to increase sales figures to 10.000 vehicles per year while the CEO of Ferrari Montezemolo didn't want to boost production much beyond the 7.000 cars, sticking to the founder's mantra: "Always sell one car less than the market demands and maintain the value."[xxxix] The truth is, Ferrari has been successful with this strategy resulting in less volatile sales than the competitors' as evidenced in **Exhibit 9**. This difference in objectives can be seen as a negative synergy for the group (FCA and Ferrari). Tension between corporate managers can negatively affect the group[9] which wouldn't happen if both companies were separate.

[9] Investors may be taking this information into account thus it will have impact on the stock's price.

As previously mentioned, Ferrari's marketing needs, R&D requirements and so on are different than FCA's. It is therefore possible that the market is attaching a lower multiple to the earnings and cash flows of the group due to the unified entity's inability to manage the two businesses together as well as if they were separate, leading to a situation known as "conglomerate discount". Ramachandran, Manikandan and Pant (2013) state that the typical conglomerate discount ranges from 6% to 12%[xl].

The Separation of Ferrari and FCA, "will enable the company to pursue its business strategies with greater operational and financial independence while preserving its unique character. As a standalone company with an iconic brand name, Ferrari will be better positioned to promote and extend the value of its brand, maintain its heritage, attract and reward technical and management talent and further enhance Ferrari's position among the world's premier luxury lifestyle companies"[xli]. Thus, by being a separate entity, Ferrari will gain from management focus, management will be compensated in function of the stock's price performance, and the brand will also benefit. Even though Ferrari was already considered the world's most powerful brand by Brand Finance in 2014[xlii], which would indicate that making the brand even stronger would be difficult; by being part of a conglomerate, however, one could say that Ferrari's brand value wasn't being truly reflected by the market, particularly in FCA's stock price, therefore, the separation will allow to unlock Ferrari's hidden value.

As mentioned earlier, FCA needed money to fund its business plan. An option would be to raise capital through debt, typically the cheapest form of financing after internal funds. Excessive leverage is another factor that can lead to a conglomerate discount: is that the case for FCA[xliii]? Looking at the Debt ratio (total Debt/total Assets) when compared to its competitors, FCA actually has reasonable level of Debt as one can see in **TN-Exhibit 5**, however if we consider Net Debt, FCA is not in the best position which indicates that it is highly

leveraged in comparison to its competitors which would make raising debt harder and more expensive. This may explain why they didn't do a pure spin-off.

There may be a loss of synergies in the demerger, but looking at the valuations of Ferrari and FCA without Ferrari, it is possible to conclude that FCA is indeed suffering from a conglomerate discount. Considering the lowest valuation that we saw for FCA (without Ferrari) in **question 2** and Ferrari's valuation from the DCF in **question 3**, by summing these two values we obtain €16.710 Million[10] which is higher than FCA's current market capitalization of €12.297 Million euros. As mentioned in a journal by Morgan Stanley's, "spin-offs and other corporate restructuring and repackaging transactions are usually driven by a desire to improve the valuation of the constituent businesses"[xliv]. Therefore, Ferrari's separation from FCA was one way to improve their valuations.

6. Discuss the importance of the details of the IPO.

(overallotment option, type of underwriting agreement and market chosen)

In the IPO, FCA is planning to sell 17.175.000 shares representing approximately 9,09% Ferrari's share capital, plus 1.717.150, which was approximately 0,91% of Ferrari's share capital to cover the overallotment option. This is an option available to the underwriters which allows them to sell additional shares. It is usually exercised when demand for shares is high and shares are trading above the offering price. It allows the issuing company to raise additional capital and in this case, since the proceeds are for FCA, it means it raises more money from the IPO.

Ferrari N.V. entered a firm commitment underwriting agreement and so the risk of not selling the entire issue is transferred to the syndicate. This is good for FCA who will receive the proceeds from the IPO. On the other hand, Ferrari still faces the risk of this small offering

[10] €7.976M + €8.734M = €16.710 Million

not attracting enough investors and it could end up being a small stock or even an orphan stock. However, Ferrari is more likely to be valued as a luxury good and since there is a big hype surrounding its IPO, that situation is less likely.

According to an article by PWC "…a firm's initial choice of capital market in which to make its first public equity offer is an important domain choice that may impact its growth and development in the long run. Businesses that undertake a cross-border IPO tend to do so because they are seeking benefits – such as greater liquidity or a more knowledgeable investor base – that may be easier to achieve in a foreign market."[xlv] Cogman and Poon (2012) mention that aspects such as, "nonfinancial benefits – ease of access, regional proximity, or the expertise of the analyst and investor community in a specific location"[xlvi] should be considered. The market chosen was the New York Stock Exchange (NYSE), which was a good choice due to its credibility, higher level of liquidity due to the higher number of investors willing to invest in this exchange, all of which can help boost the brand.

7. Discuss the IPO underpricing phenomenon.

As mentioned by Ritter in one of his papers[xlvii], "pricing an IPO is difficult because there is no observable market price prior to the offering…IPO underpricing is the best-known anomaly associated with the process of going public – the large initial returns – that is, the price changes measured from the offering price to the market price either at the end of the first day or within a few weeks".

According to a McKinsey publication, "some measure of underpricing is appropriate compensation for first-round investors who face levels of risk that they would not face for secondary offerings"[xlviii]. Ivanauskas (2015) in his master thesis mentions four theories for IPO underpricing[xlix]: "Winners curse hypothesis - Better informed investors (institutional) tend to bid only for attractively priced IPOs and not unattractive ones. Even though uninformed bid

indiscriminately, they are not able to absorb all the shares offered and that is why underpricing is necessary to incentivize and attract well informed institutional investors."; "Market feedback hypothesis - investors are not incentivized to reveal information about their demand for the offer if the information is positive, because they know this would lead to a higher offer price from the issuer, which is disadvantageous to them. Thus, the issuer or the underwriter must under-price the issue and provide profit for the investors in return of revealing positive information"; "Asymmetric information and signalling - Assumes that the firm is always better informed about its future prospects than anybody else. And by underpricing its public offering, the company is signalling about its favourable prospects to the general public"; "Principal agent problem - the initial underpricing can be connected to ownership structure and insider selling during the IPO period. They argue that these characteristics create incentives which later shape the behaviour towards underpricing. In other words, if managers of the company do not own part of the company, their incentives are not that strong to avoid underpricing compared to managers who are also owners."

Also, Oliver (2015), concludes that, "every country in Europe is affected by IPO Underpricing"[l] and that, "IPO Underpricing plays worldwide a significant role with the U.S. ranking in the middle with an average initial return of 16.8%"[li].

8. What may be the impact of the spin-off on the share price?

The spin-off consists of transferring FCA's remaining ownership[11] in Ferrari N.V. after the IPO to its shareholders. This can have at least two impacts. Firstly, it can increase the liquidity of the stock. According to a study by PWC, "…financial assets with lower levels of liquidity tend to have higher liquidity risk premia, and market participants therefore tend to face higher transaction costs and wider bid-ask spreads when trading in these instruments"[lii]. In that

[11] Approximately 80%, depending on the overallotment option.

sense, since there is an increase in liquidity for Ferrari's shares, the liquidity risk premia will be lower, making the stock more valuable and leading to an increase in its price.

Secondly, since many shareholders will receive shares of Ferrari N.V. and may not want them, if a sufficient number of them start selling, this may drive down the price – market impact[12]. Thus, understanding the market participants view is very important as is mentioned by PWC's study on Mergers & acquisitions, "…a market participant's view is the foundation of fair value measurements. The intended use of an asset may vary for a market participant versus the buyer of that asset. Consideration of market participant assumptions is required even if the buyer will use the asset for a different purpose or has no intention of actively using the asset after the acquisition."[liii]

On another note it is important to consider that spun-off companies tend to overperform as seen in **Exhibit 19**. As mentioned by Boreiko and Murgia (2013), "a significant component of stock price appreciation observed around spin-off announcement date is driven by the reverse of previous diversifying mergers"[liv]. In this case, Ferrari can be seen as a diversifying strategy for FCA however it should be the investors who diversify, not the firm. Chemmanur, Krishnan Nandy (2011) conclude that, "…spin-offs do increase overall efficiency and TFP (total factor productivity) for firms…"[lv] which explains in part why spun-off companies tend to perform well. Lastly, Uddin (2010) in his paper, argues that in addition to the benefits from, "…operational efficiency, reduced information asymmetry, reduced tax liability, and improved corporate governance…" there is an increase in shareholders' value due to, "…redistribution of wealth from debtholders to shareholders…because assets of the subsidiary/division are transferred to a newly incorporated company where the parent bondholders have no claim on the assets and earnings…"[lvi].

[12] Effect that a market participant has when it buys or sells an asset

Conclusion/Recommendation

Predicting what will happen to Ferrari's stock price during the IPO and after isn't easy and taking into account that the valuation lead to values slightly lower than the indicated price range, I would recommend not to invest in Ferrari's IPO. There seems to be substantial hype surrounding the IPO making it unlikely to suffer from underpricing. On the contrary, the price will probably decline and move towards its intrinsic value after the IPO, thus a buy and flip strategy will probably not work.

Vestri's most rationale decision would be to just wait until the spin-off in order to obtain shares from Ferrari which is likely to have a positive impact on the price of Ferrari's shares. Regarding FCA, it appears to be going in the right direction, hence I would recommend that Vestri should maintain the holdings in this company at the least until Ferrari's spin-off in order to obtain Ferrari's shares.

Case outcome

It is interesting to look at the outcome of this case which can easily be summarized by **TN-Exhibit 6** and **TN-Exhibit 7** where we can see the evolution of both FCA's and Ferrari's stock price as well as the return. Ferrari presents a first day return close to 6%, which could indicate some level of underpricing, although it is far below the 14% Mean First-Day Return for IPOs in the period 2001 to 2016 as presented in Ritter's statistics[lvii]. From the IPO up until the spin-off the return is negative but from the spin-off up to the 31st October 2017, Ferrari presents an average annual return of 66,15%. Regarding FCA, its average annual return since Ferrari's IPO up till 31st October 2017 is 25,29% slightly below the MSCI's index return of 36,35% however considering only the period after the spin-off FCA's average annual return is 39,61% while the index's is 26,86%.

Exhibits

Exhibit 1 – Fiat 4 HP (Fiat's first car)

Source: http://3.bp.blogspot.com/-XTOKqM_oGWE/Ttyq4CpIVPI/AAAAAAAAAYM/LeaoI1JYgWI/s1600/fiat_4_hp_1899.jpg

Exhibit 2 – World Ranking of Automobile Manufacturers in 2014

Rank	Group	Vehicles produced
1	TOYOTA	10.475.338
2	VOLKSWAGEN	9.894.891
3	G.M.	9.609.326
4	HYUNDAI	8.008.987
5	FORD	5.969.541
6	NISSAN	5.097.772
7	FIAT	4.865.758
8	HONDA	4.513.769
9	SUZUKI	3.016.710
10	PSA	2.917.046
11	RENAULT	2.761.969
12	B.M.W.	2.165.566
13	SAIC	2.087.949
14	DAIMLER AG	1.973.270
15	CHANGAN	1.447.017
16	MAZDA	1.328.426
17	DONGFENG MOTOR	1.301.695
18	MITSUBISHI	1.262.342
19	BAIC	1.115.847
20	TATA	945.113
21	GEELY	890.652
22	FUJI	888.812
23	GREAT WALL	730.570
24	FAW	623.708
25	IRAN KHODRO	586.725
26	MAHINDRA	552.912
27	ISUZU	541.068
28	BRILLIANCE	520.228
29	CHERY	468.287
30	JAC	467.597

Source: http://www.oica.net/wp-content/uploads//Ranking-2014-Q4-Rev.-22-July.pdf

Exhibit 3 – Enzo Ferrari

Source: http://www.grandprixhistory.org/images/ferrari45.jpg

Source: http://tonyvaccaro.studio/wp-content/uploads/2016/07/Enzzo.300dpi-1.jpg

Exhibit 4 – Ferrari 125 S

Source: https://carfromjapan.com/wp-content/uploads/2016/10/Ferrari_125_S-800x445.jpg

Exhibit 5 – Information of peers

In millions of euros

	Total Assets	Net Debt	Total Debt	EBIT	EBITDA	Net Income
Fiat Chrysler Automobiles	101.149,00	9.288,00	33.724,00	2.834,00	7.441,00	568,00
Tesla	4.818,73	481,30	2.056,26	-140,76	34,11	-221,70
Automotive industry						
Renault	81.551,00	-2.805,00	35.756,00	1.249,00	3.960,00	1.890,00
Volkswagen	351.209,00	-15.900,00	133.980,00	12.697,00	29.488,00	10.985,00
Peugeot	61.212,00	-129,00	9.272,00	124,00	2.494,00	-706,00
BMW	154.803,00	36.591,00	77.506,00	9.141,00	16.865,00	5.798,00
Daimler	189.635,00	-21.442,00	69.847,00	9.388,00	14.387,00	6.962,00
Toyota	370.911,99	106.944,81	147.478,54	19.842,11	30.006,95	15.678,10
Hyundai	110.446,21	19.538,29	40.710,64	5.403,17	7.228,01	5.257,76
General Motors	146.695,04	-13.100,83	38.566,12	1.153,60	6.610,97	2.977,50
Ford	173.992,56	-7.914,88	98.488,43	250,32	5.847,18	928,16
Nissan	132.463,06	-10.803,80	51.842,64	4.253,00	9.909,46	3.300,86
Honda	143.188,52	41.094,28	52.531,20	4.837,62	9.347,92	3.674,98
Suzuki	25.277,75	-4.465,80	4.417,78	1.294,34	2.263,71	698,75
Tata	35.703,20	4.708,68	11.621,98	3.095,44	4.830,76	1.813,09
Mitsubishi	12.300,07	-2.182,23	1.239,16	980,45	1.430,93	852,46
Luxury companies						
Louis Vuitton	53.362,00	4.319,00	9.243,00	5.436,00	7.331,00	5.648,00
Hermés	4.768,20	-1.400,30	41,30	1.299,30	1.445,20	858,80
Burberry	3.006,79	-764,01	90,21	561,24	737,91	428,68
Prada	4.738,88	-190,41	518,56	701,55	950,20	450,73
Christian Dior	60.030,00	7.527,00	10.555,00	6.001,00	8.137,00	2.378,00
Tiffany	4.589,48	341,15	989,15	681,60	830,06	370,21

Source: Bloomberg

In millions of euros except Beta

	BV of Equity	Market Cap	Enterprise value	Sales 2014	Sales 2013	Beta
Fiat Chrysler Automobiles	14.377,00	12.297,00	21.898,00	93.640,00	86.624,00	1,36
Tesla	753,48	23.046,42	23.527,71	2.411,52	1.516,43	0,94
Automotive industry						
Renault	24.898,00	17.900,07	15.517,07	41.055,00	40.932,00	1,77
Volkswagen	90.189,00	86.501,13	75.840,13	202.458,00	197.007,00	1,54
Peugeot	10.418,00	8.003,17	9.021,17	51.592,00	53.079,00	1,85
BMW	37.437,00	57.675,39	94.483,39	80.401,00	76.059,00	1,41
Daimler	44.584,00	73.786,69	53.263,69	129.872,00	117.982,00	1,63
Toyota	137.138,68	177.881,06	278.558,31	196.465,32	191.500,95	1,11
Hyundai	46.977,07	27.926,96	51.438,80	63.876,51	60.085,45	1,12
General Motors	29.771,90	46.355,18	33.722,95	117.568,71	117.057,23	1,58
Ford	20.501,65	49.301,37	41.691,45	108.632,43	110.648,06	1,28
Nissan	40.776,86	32.902,83	26.156,82	82.058,86	78.134,03	1,08
Honda	57.372,44	43.979,93	82.280,55	96.146,70	93.217,21	1,24
Suzuki	13.221,63	14.062,16	11.613,43	21.753,04	21.901,44	1,05
Tata	8.481,60	19.566,00	23.736,92	33.515,74	28.186,78	1,61
Mitsubishi	5.212,57	7.518,30	5.668,10	15.731,41	15.603,74	1,25
Luxury companies						
Louis Vuitton	23.003,00	72.238,30	77.797,30	30.638,00	29.016,00	1,12
Hermés	3.458,50	31.121,86	29.731,06	4.118,60	3.754,80	0,49
Burberry	2.008,26	9.365,44	8.719,53	3.216,28	2.762,51	1,50
Prada	3.018,15	11.986,54	11.813,54	3.551,70	3.587,35	0,61
Christian Dior	26.320,00	25.968,79	49.542,79	35.081,00	30.867,00	1,09
Tiffany	2.525,40	11.423,76	11.754,92	3.249,56	3.029,69	1,23

	Sales 2014	Sales 2013	EBITDA	EBIT
FCA (w/o Ferrari)	90.877,64	84.288,73	7.293,55	2.429,51
Ferrari	2.762,36	2.335,27	678,45	404,50

	Earnings	BV of Equity	Net Debt
FCA (w/o Ferrari)	306,63	11.898,69	10.508,06
Ferrari	261,37	2.478,31	375,94

Source: Bloomberg

Exhibit 6 – Fiat/FCA historical Balance Sheet

(in millions of euros)	Fiat				FCA
	2010	2011	2012	2013	2014
Assets					
Total Current Assets	**49.568,00**	**35.385,00**	**35.470,00**	**38.166,00**	**44.173,00**
Cash, Cash Equivalents & STI	12.186,00	17.758,00	17.945,00	19.721,00	22.840,00
Accounts & Notes Receiv	4.289,00	5.510,00	5.348,00	5.165,00	7.653,00
Inventories	4.443,00	9.123,00	9.295,00	10.230,00	10.449,00
Other ST Assets	28.650,00	2.994,00	2.882,00	3.050,00	3.231,00
Total Noncurrent Assets	**23.874,00**	**44.646,00**	**46.636,00**	**48.608,00**	**56.976,00**
Property, Plant & Equip, Net	9.601,00	20.785,00	22.061,00	22.843,00	26.408,00
LT Investments & Receivables	1.024,00	2.209,00	1.862,00	1.612,00	700,00
Other LT Assets	13.249,00	21.652,00	22.713,00	24.153,00	29.868,00
Total Assets	**73.442,00**	**80.031,00**	**82.106,00**	**86.774,00**	**101.149,00**
Liabilities & Shareholders' Equity					
Total Current Liabilities	**42.947,00**	**30.688,00**	**30.582,00**	**33.788,00**	**43.385,00**
Payables & Accruals	12.049,00	20.769,00	21.169,00	22.548,00	20.150,00
ST Debt	7.829,00	6.073,00	5.811,00	7.138,00	7.710,00
Other ST Liabilities	23.069,00	3.846,00	3.602,00	4.102,00	15.525,00
Total Noncurrent Liabilities	**18.034,00**	**37.083,00**	**43.155,00**	**40.402,00**	**43.387,00**
LT Debt	12.975,00	20.699,00	22.078,00	22.764,00	26.014,00
Other LT Liabilities	5.059,00	16.384,00	21.077,00	17.638,00	17.373,00
Total Liabilities	**60.981,00**	**67.771,00**	**73.737,00**	**74.190,00**	**86.772,00**
Share Capital & APIC	6.377,00	4.466,00	4.476,00	4.477,00	17,00
Treasury Stock	-657,00	-289,00	-259,00	-259,00	0,00
Retained Earnings	4.145,00	3.862,00	3.798,00	4.721,00	0,00
Other Equity	1.679,00	688,00	-1.828,00	-613,00	14.047,00
Equity Before Minority Interest	**11.544,00**	**8.727,00**	**6.187,00**	**8.326,00**	**14.064,00**
Minority/Non Controlling Interest	917,00	3.533,00	2.182,00	4.258,00	313,00
Total Equity	**12.461,00**	**12.260,00**	**8.369,00**	**12.584,00**	**14.377,00**
Total Liabilities & Equity	**73.442,00**	**80.031,00**	**82.106,00**	**86.774,00**	**101.149,00**

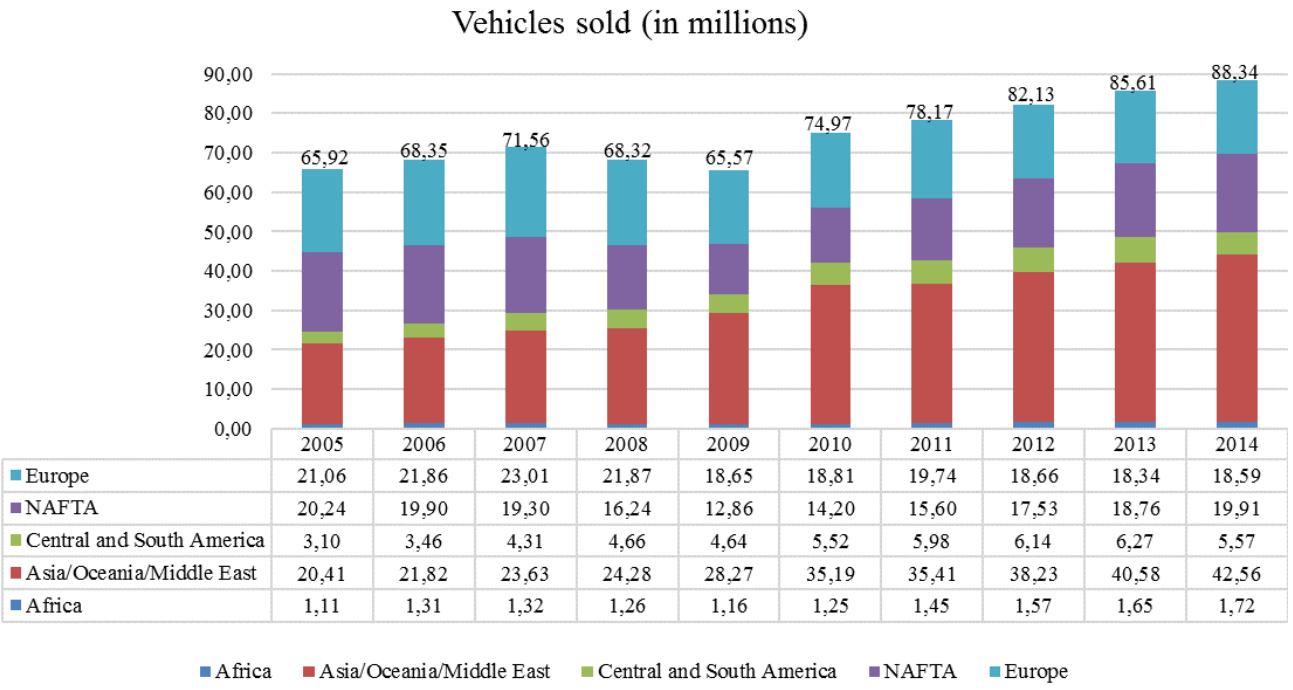
Source: Bloomberg

Exhibit 7 – Fiat/FCA historical Income Statement

(in millions of euros)	Fiat				FCA
	2010	**2011**	**2012**	**2013**	**2014**
Revenue	35.880,00	59.559,00	83.957,00	86.816,00	93.640,00
COGS	30.718,00	50.704,00	71.701,00	74.570,00	81.592,00
Gross Profit	**5.162,00**	**8.855,00**	**12.256,00**	**12.246,00**	**12.048,00**
Other Operating Income	0,00	0,00	0,00	0,00	131,00
Operating Expenses	4.050,00	6.669,00	8.715,00	8.852,00	6.973,00
Selling, General & Admin	2.956,00	5.047,00	6.763,00	6.689,00	
Research & Development	1.013,00	1.367,00	1.850,00	2.231,00	2.334,00
Other Operating Expense	81,00	255,00	102,00	-68,00	-493,00
Operating Income (Loss)	**1.112,00**	**2.186,00**	**3.541,00**	**3.394,00**	**3.365,00**
Non-Operating (Income) Loss	227,00	1.099,00	1.721,00	1.763,00	2.041,00
Interest Expense, Net	489,00	1.088,00	1.524,00	1.490,00	1.293,00
Other Non-Operating (Income) Loss	-262,00	11,00	197,00	273,00	748,00
Abnormal Losses (Gains)	179,00	-1.098,00	301,00	623,00	541,00
Pretax Income (Loss)	**706,00**	**2.185,00**	**1.519,00**	**1.008,00**	**783,00**
Income Tax Expense (Benefit)	484,00	534,00	623,00	-943,00	424,00
Minority Interest	80,00	317,00	852,00	1.047,00	64,00
Net Extraordinary Losses (Gains)	0,00	0,00	0,00	0,00	-273,00
Net Income	**520,00**	**1.334,00**	**44,00**	**904,00**	**568,00**
Basic Weighted Avg Shares	1.236,88	1.237,21	1.215,83	1.215,92	1.222,35
Basic EPS	0,42	1,08	0,04	0,74	0,47

Source: Bloomberg

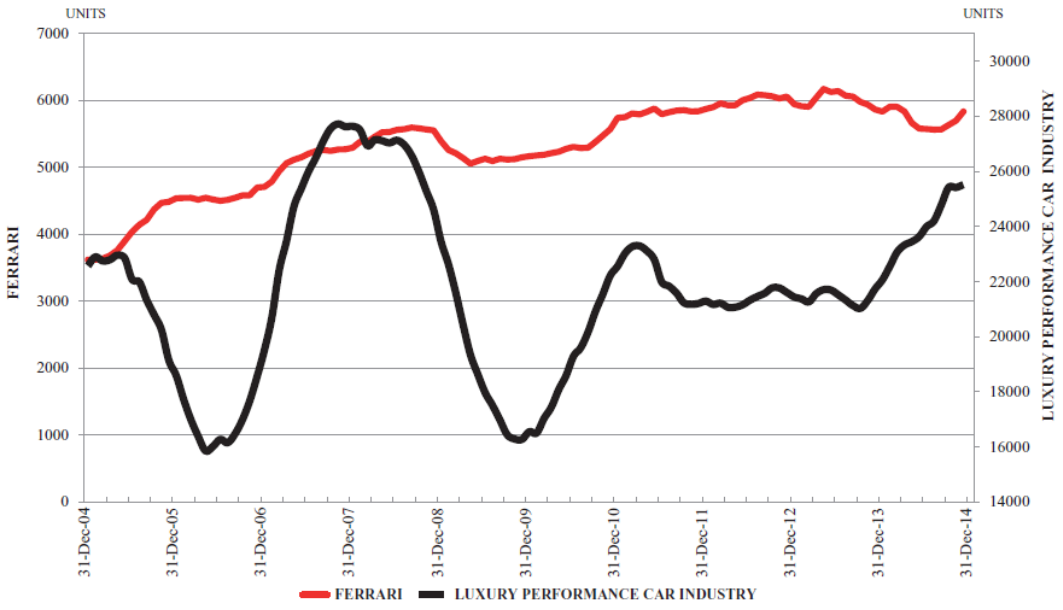
Exhibit 8 – Vehicle sale statistics



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Europe	21,06	21,86	23,01	21,87	18,65	18,81	19,74	18,66	18,34	18,59
NAFTA	20,24	19,90	19,30	16,24	12,86	14,20	15,60	17,53	18,76	19,91
Central and South America	3,10	3,46	4,31	4,66	4,64	5,52	5,98	6,14	6,27	5,57
Asia/Oceania/Middle East	20,41	21,82	23,63	24,28	28,27	35,19	35,41	38,23	40,58	42,56
Africa	1,11	1,31	1,32	1,26	1,16	1,25	1,45	1,57	1,65	1,72

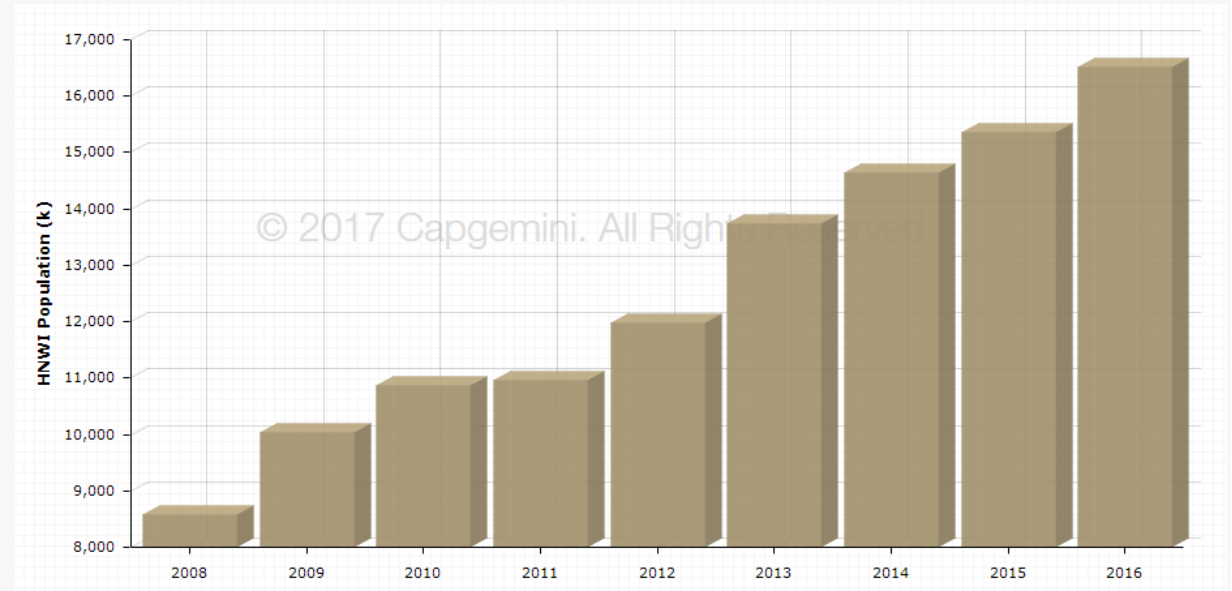
Source: http://www.oica.net/wp-content/uploads//total-sales-2016.pdf

Exhibit 9 – Ferrari's sales compared to Luxury Performance Car Industry



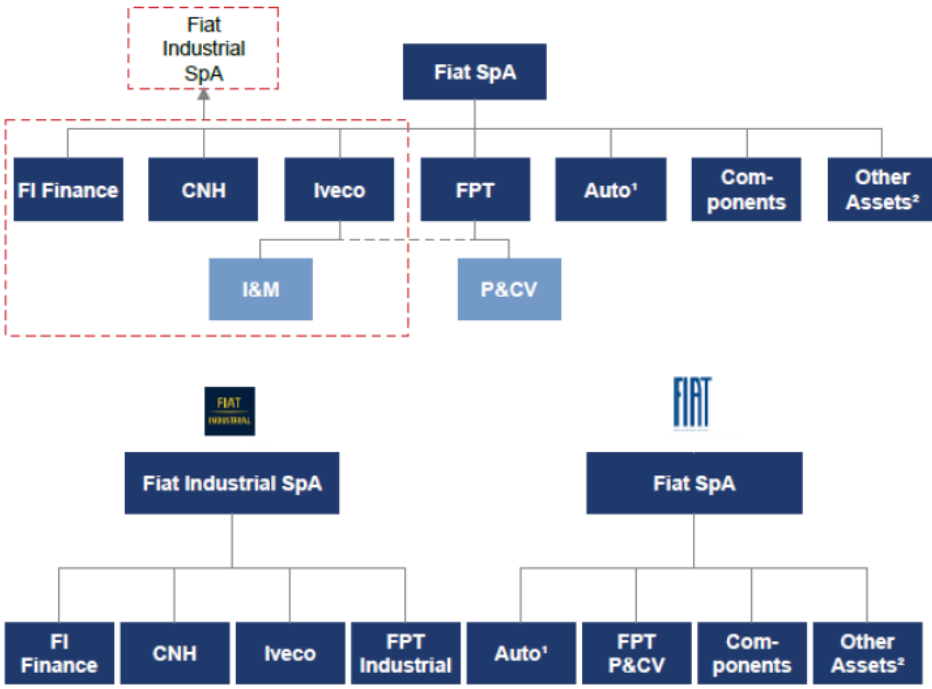
Source: Ferrari's IPO prospectus

Exhibit 10 – High net worth individuals



Source: https://www.worldwealthreport.com/designer/population

Exhibit 11 – Structure of the demerger of Fiat S.p.A.'s industrial activities



FI – Fiat Industrial
CNH – Agricultural and Construction equipment
Iveco – Heavy commercial vehicles (trucks)
I&M – Industrial and Marine
FPT - Fiat Powertrain Technologies
P&CV – Personal and Commercial vehicles

1 Auto includes FGA (with its stake in Chrysler), Maserati and Ferrari.
2 Other Assets includes Itedi, stake in RCS and other minor interests.

Source: https://www.fcagroup.com/en-US/investors/shareholders/FiatDocuments/Demerge_fiat/other_documents/Presentation_accompanying_the_address.pdf

Exhibit 12 – FCA (without Ferrari) and Ferrari pro forma Balance Sheet

(in millions of euros)

Year 2014	Ferrari	FCA (without Ferrari)
Assets		
Total Current Assets	**2.844,66**	**41.328,35**
Cash, Cash Equivalents & STI	134,28	22.705,72
Accounts & Notes Receiv	183,64	7.469,36
Inventories	296,01	10.153,00
Other ST Assets	2.230,73	1.000,27
Total Noncurrent Assets	**1.796,77**	**55.179,23**
Property, Plant & Equip, Net	585,19	25.822,82
LT Investments & Receivables	47,43	652,57
Other LT Assets	1.164,16	28.703,84
Total Assets	**4.641,43**	**96.507,57**
Liabilities & Shareholders' Equity		
Total Current Liabilities	**1.240,64**	**42.144,36**
Payables & Accruals	645,22	19.504,78
ST Debt	491,32	7.218,68
Other ST Liabilities	104,09	15.420,91
Total Noncurrent Liabilities	**922,48**	**42.464,52**
LT Debt	18,90	25.995,10
Other LT Liabilities	903,58	16.469,42
Total Liabilities	**2.163,11**	**84.608,89**
Share Capital & APIC	0,00	17,00
Retained Earnings	2.507,39	-2.507,39
Other Equity	-37,77	14.084,77
Equity Before Minority Interest	**2.469,62**	**11.594,38**
Minority/Non Controlling Interest	8,70	304,31
Total Equity	**2.478,31**	**11.898,69**
Total Liabilities & Equity	**4.641,43**	**96.507,57**

Source: Bloomberg

Ferrari's debt average maturity is 1,1 years (source: Ferrari's IPO prospectus).

Exhibit 13 – FCA (without Ferrari) and Ferrari pro forma Income Statement

(in millions of euros)

Year 2014	**Ferrari**	**FCA (without Ferrari)**
Revenue	2.762,36	90.877,64
COGS	1.505,89	80.086,11
Gross profit	**1.256,47**	**10.791,53**
Other Operating Income	0,00	131,00
Operating Expenses	851,98	7.962,02
Selling, General & Admin	285,06	6.687,94
Research & Development	540,83	1.793,17
Other Operating Expense	26,08	-519,08
Operating Income (Loss)	**404,50**	**2.960,51**
Interes expense	7,94	1.517,06
Other Non-Operating (Income) Loss	-16,71	532,71
Abnormal Losses (Gains)	15,03	525,97
Income before taxes	**398,23**	**384,77**
Net Extraordinary Losses (Gains)	0,00	-273,00
Income Tax Expense	133,22	290,78
Minority interest	3,64	60,36
Net income	**261,37**	**306,63**

Source: Bloomberg

Exhibit 14 – Ferrari's IPO hype

Source: https://fm.cnbc.com/applications/cnbc.com/resources/img/editorial/2015/10/21/103097570-RTS5H3Mr.jpg?v=1445447904

Source: http://www.mercurynews.com/wp-content/uploads/2016/08/20151021__1022ferrari22.jpg?w=620

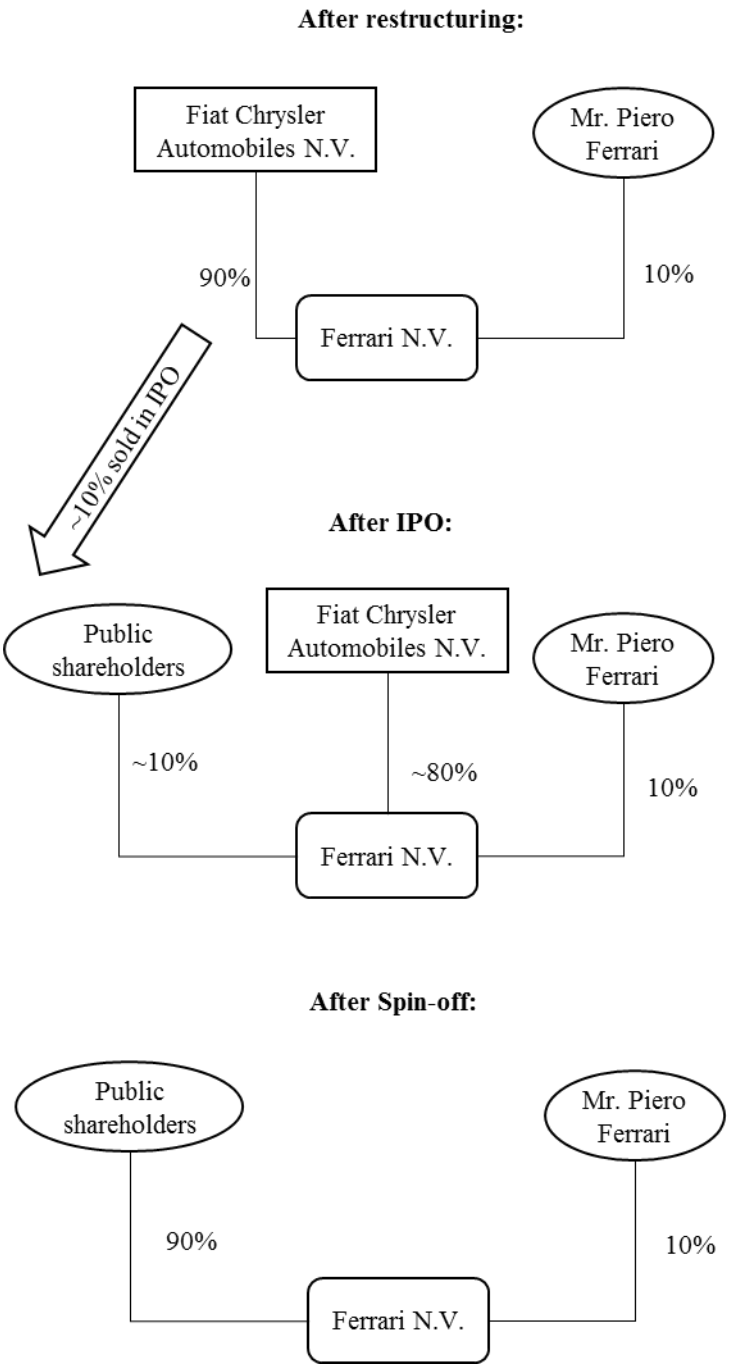
Exhibit 15 – Ferrari's FCF (from Damodaran's valuation)

	Base year	*1*	*2*	*3*	*4*	*5*
Revenue growth rate		4,00%	4,00%	4,00%	4,00%	4,00%
Revenues	€ 2.763,00	€ 2.873,52	€ 2.988,46	€ 3.108,00	€ 3.232,32	€ 3.361,61
EBIT (Operating) margin	18,20%	18,20%	18,20%	18,20%	18,20%	18,20%
EBIT (Operating income)	€ 502,83	€ 522,94	€ 543,86	€ 565,62	€ 588,24	€ 611,77
Tax rate	33,54%	33,54%	33,54%	33,54%	33,54%	33,54%
EBIT(1-t)	€ 334,18	€ 347,54	€ 361,44	€ 375,90	€ 390,94	€ 406,58
- Reinvestment		€ 77,76	€ 80,87	€ 84,11	€ 87,47	€ 90,97
FCFF		€ 269,78	€ 280,57	€ 291,80	€ 303,47	€ 315,61

	6	*7*	*8*	*9*	*10*	Terminal year
Revenue growth rate	3,34%	2,68%	2,02%	1,36%	0,70%	0,70%
Revenues	€ 3.473,89	€ 3.566,99	€ 3.639,04	€ 3.688,53	€ 3.714,35	€ 3.740,35
EBIT (Operating) margin	18,20%	18,20%	18,20%	18,20%	18,20%	18,20%
EBIT (Operating income)	€ 632,20	€ 649,15	€ 662,26	€ 671,27	€ 675,96	€ 680,70
Tax rate	33,54%	33,54%	33,54%	33,54%	33,54%	33,54%
EBIT(1-t)	€ 420,16	€ 431,42	€ 440,13	€ 446,12	€ 449,24	€ 452,38
- Reinvestment	€ 79,00	€ 65,50	€ 50,70	€ 34,82	€ 18,17	€ 21,75
FCFF	€ 341,16	€ 365,91	€ 389,43	€ 411,30	€ 431,07	€ 430,63

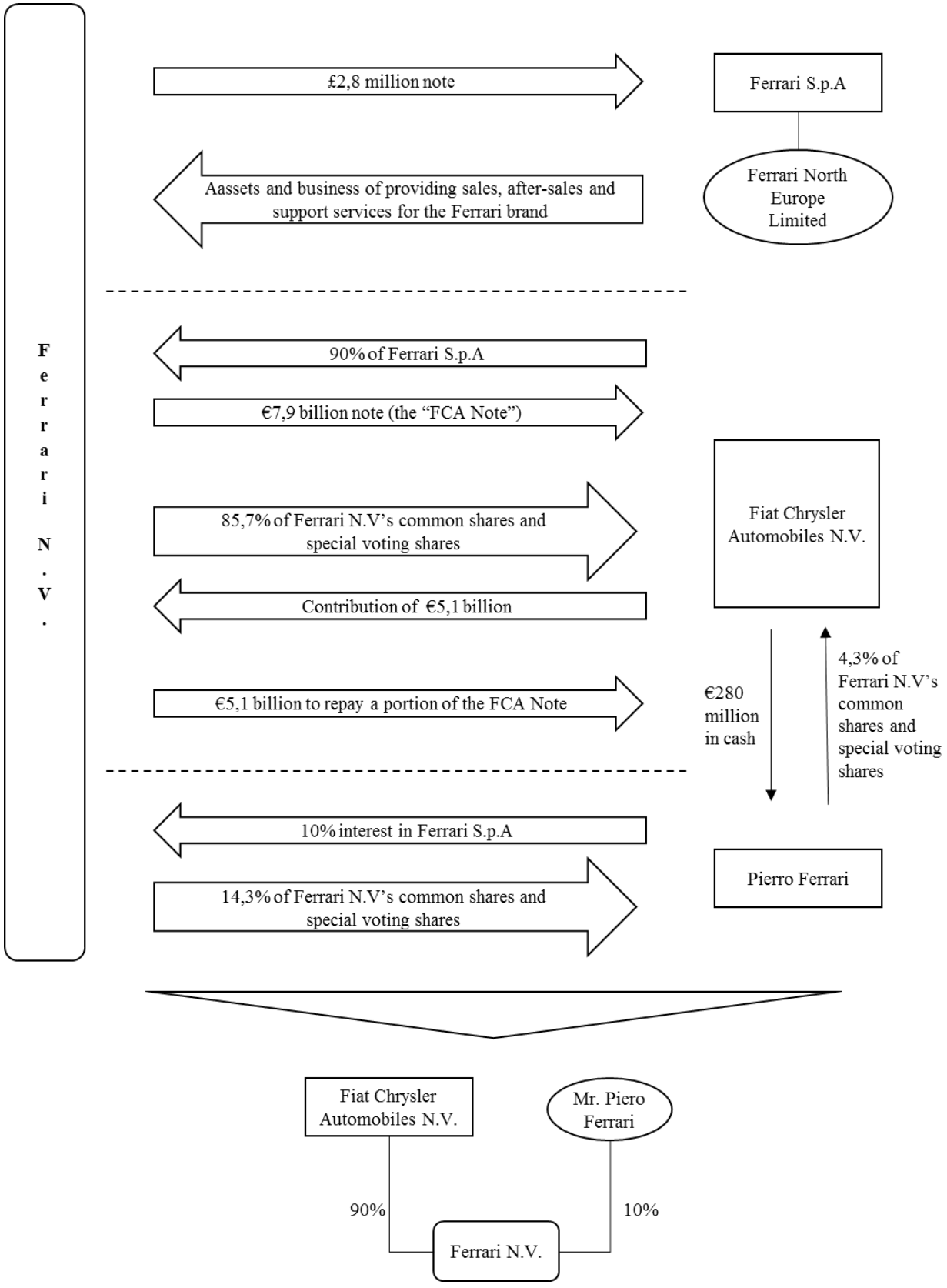
Source: http://people.stern.nyu.edu/adamodar/New_Home_Page/Valuationofweek/valweek6fall15.htm

Exhibit 16 – Ferrari's separation



Based on information from Ferrari N.V.'s prospectus.

Exhibit 17 – Ferrari's restructuring



Based on information from Ferrari N.V.'s prospectus.

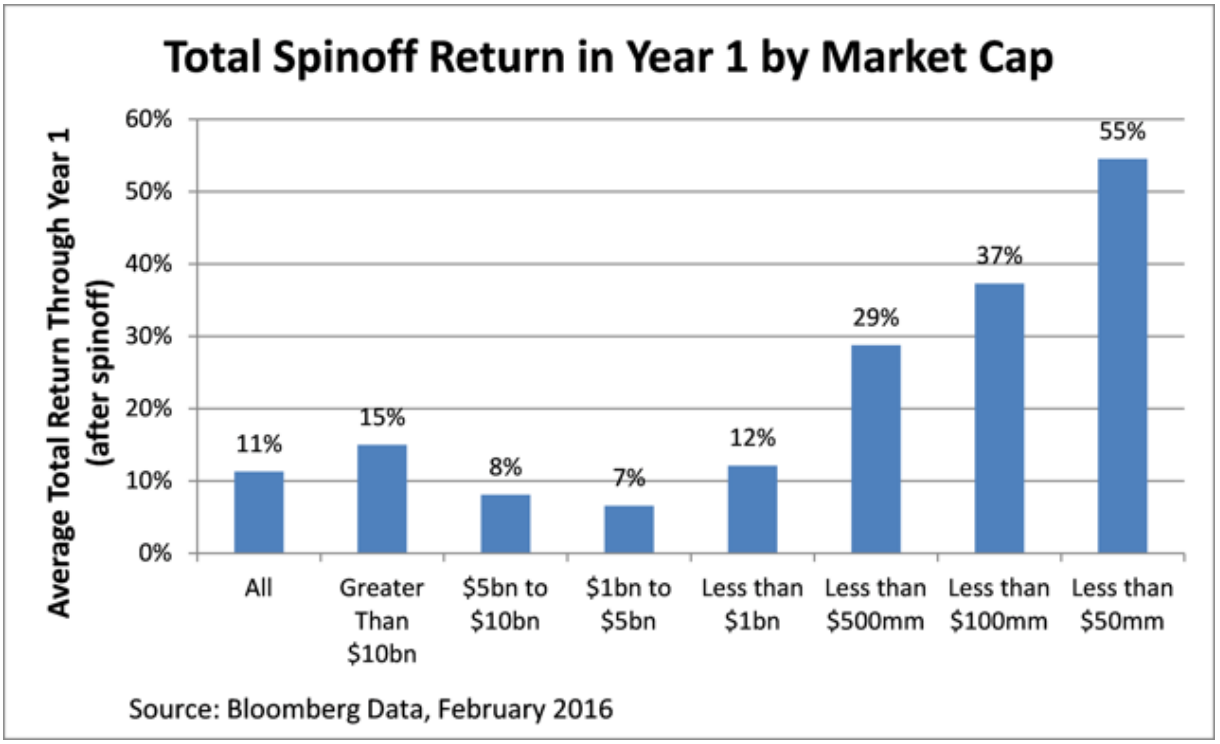
Exhibit 18 – Market information

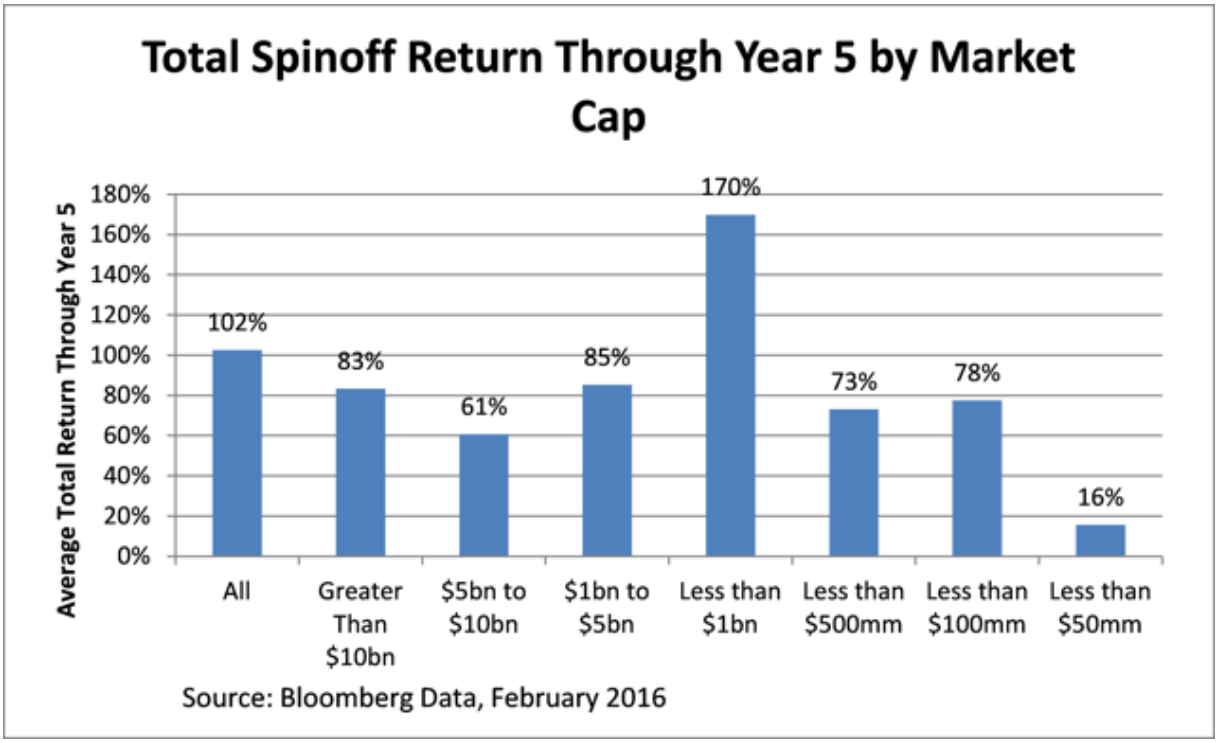
Government Bond Yields (Germany)		*Source:*
1 year	-0,09%	
5 year	0,01%	Bloomberg
10 year	0,54%	
30 year	1,38%	
Spot-rate (Euros/USD)	1,1346	Bloomberg
Market risk premium (Europe)	5,50%	KPMG
Ferrari's tax rate	27,50%	Prospectus

If interest coverage ratio is		*Rating is*	*Spread is*
>	*≤ to*		
-100000	0,199999	D2/D	12,00%
0,2	0,649999	Caa/CCC	10,00%
0,65	0,799999	Ca2/CC	8,00%
0,8	1,249999	C2/C	7,00%
1,25	1,499999	B3/B-	6,00%
1,5	1,749999	B2/B	5,00%
1,75	1,999999	B1/B+	4,00%
2	2,2499999	Ba2/BB	3,25%
2,25	2,49999	Ba1/BB+	2,75%
2,5	2,999999	Baa2/BBB	1,75%
3	4,249999	A3/A-	1,20%
4,25	5,499999	A2/A	1,00%
5,5	6,499999	A1/A+	0,90%
6,5	8,499999	Aa2/AA	0,70%
8,50	100000	Aaa/AAA	0,40%

Source: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/valquestions/syntrating.htm

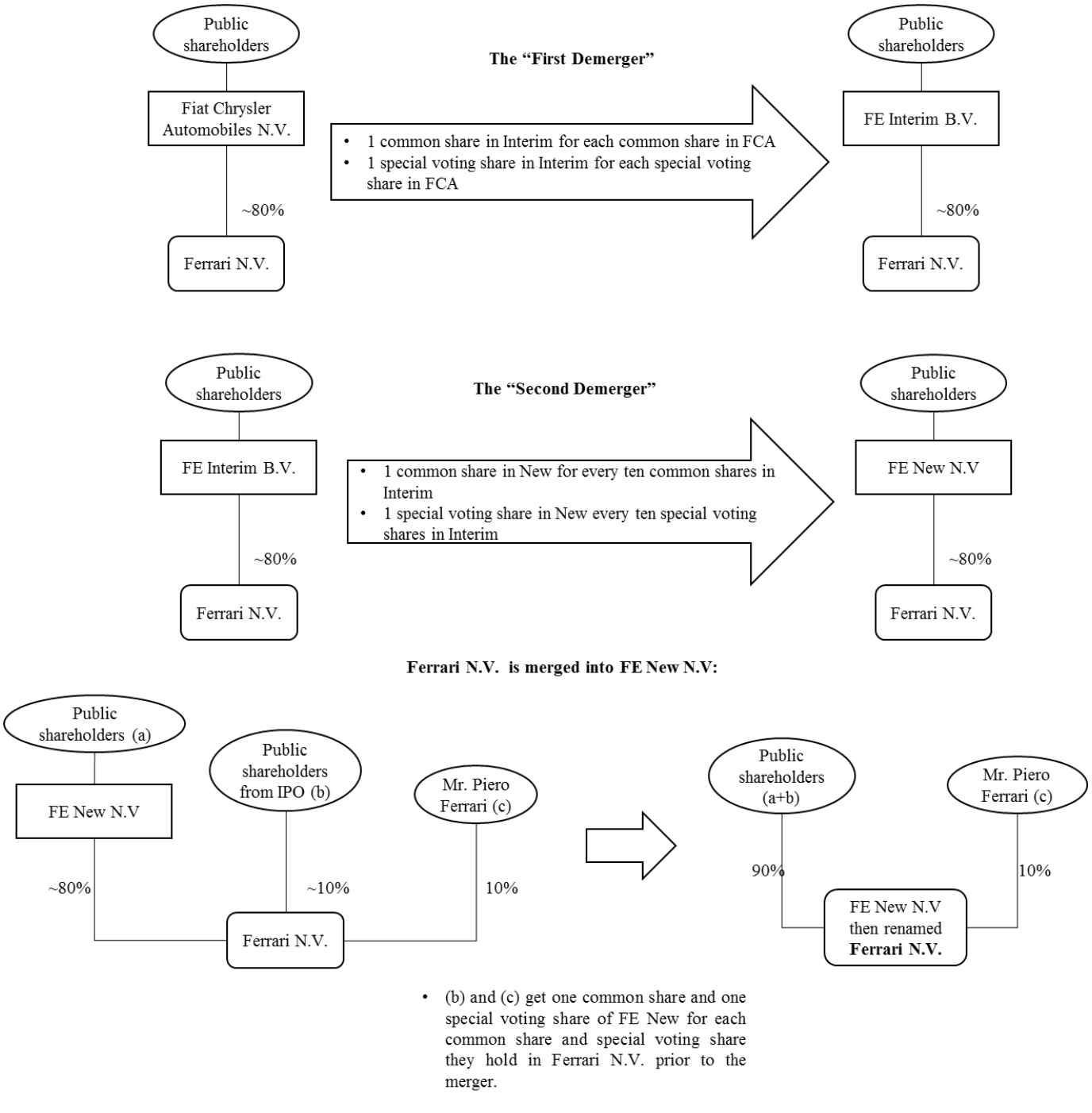
Exhibit 19 – Total Spin-off return by Market Capitalization





Source: https://seekingalpha.com/article/3961175-stock-spinoff-performance-market-cap

Exhibit 20 – The Spin-off

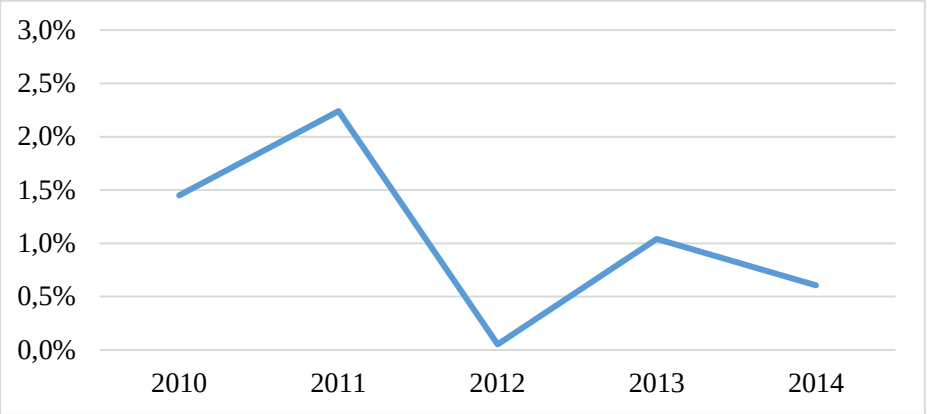


- (b) and (c) get one common share and one special voting share of FE New for each common share and special voting share they hold in Ferrari N.V. prior to the merger.

Based on information from Ferrari N.V.'s prospectus.

Teaching Notes Appendices

TN-Exhibit 1: FCA's profit margin



TN-Exhibit 2: Ferrari's and FCA's comparable multiples

Multiples	EV/Sales	EV/EBITDA	EV/EBIT	P/E	Market to Book	Growth rate
Tesla	9,76x	689,72x	N/A	N/A	30,59x	59,03%
Automotive industry						
Renault	0,38x	3,92x	12,42x	9,47x	0,72x	0,30%
Volkswagen	0,37x	2,57x	5,97x	7,87x	0,96x	2,77%
Peugeot	0,17x	3,62x	72,75x	N/A	0,77x	-2,80%
BMW	1,18x	5,60x	10,34x	9,95x	1,54x	5,71%
Daimler	0,41x	3,70x	5,67x	10,60x	1,66x	10,08%
Toyota	1,42x	9,28x	14,04x	11,35x	1,30x	2,59%
Hyundai	0,81x	7,12x	9,52x	5,31x	0,59x	6,31%
General Motors	0,29x	5,10x	29,23x	15,57x	1,56x	0,44%
Ford	0,38x	7,13x	166,55x	53,12x	2,40x	-1,82%
Nissan	0,32x	2,64x	6,15x	9,97x	0,81x	5,02%
Honda	0,86x	8,80x	17,01x	11,97x	0,77x	3,14%
Suzuki	0,53x	5,13x	8,97x	20,12x	1,06x	-0,68%
Tata	0,71x	4,91x	7,67x	10,79x	2,31x	18,91%
Mitsubishi	0,36x	3,96x	5,78x	8,82x	1,44x	0,82%
Luxury companies						
Louis Vuitton	2,54x	10,61x	14,31x	12,79x	3,14x	5,59%
Hermés	7,22x	20,57x	22,88x	36,24x	9,00x	9,69%
Burberry	2,71x	11,82x	15,54x	21,85x	4,66x	16,43%
Prada	3,33x	12,43x	16,84x	26,59x	3,97x	-0,99%
Christian Dior	1,41x	6,09x	8,26x	10,92x	0,99x	13,65%
Tiffany	3,62x	14,16x	17,25x	30,86x	4,52x	7,26%

(In millions of Euros)

FCA Multiples Valuation

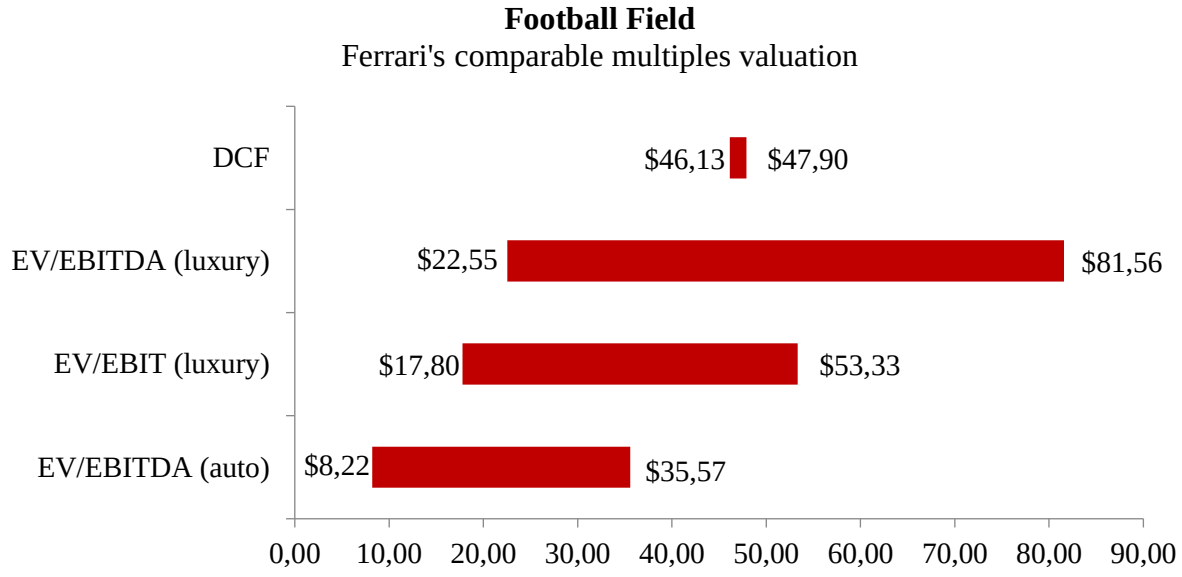
Implied Market Cap	EV/Sales	EV/EBITDA	EV/EBIT	P/E	Market to Book
Min	5.382,44	8.250,21	3.275,96	1.628,68	7.073,54
Max	118.342,78	57.198,90	394.125,41	16.287,31	28.613,38
Median	25.566,23	26.013,53	13.612,48	3.249,80	14.044,39
Similar growth*	51.046,05	24.247,02	8.733,71	2.746,28	13.674,51

*BMW, Daimler, Hyundai, Nissan

Ferrari Multiples Valuation

Implied Market Cap	EV/Sales	EV/EBITDA	EV/EBIT	P/E	Market to Book
Tesla	26.574,65	467.564,28	N/A	N/A	75.803,33
Automotive industry					
Min	107,07	1.368,96	1.919,00	1.388,29	1.473,31
Max	3.540,67	5.922,20	66.992,60	13.883,32	5.959,73
Median	720,59	3.021,32	3.639,95	2.770,14	2.925,23
Similar growth**	1.168,71	2.546,79	2.322,43	2.340,93	2.848,19
**Tata, Daimler					
Luxury companies					
Min	3.525,17	3.754,86	2.963,47	2.854,29	2.445,24
Max	19.564,79	13.581,32	8.879,86	9.471,77	22.301,49
Median	7.962,56	7.849,98	6.171,88	6.330,53	10.526,68
Similar growth***	5.319,08	5.697,89	4.435,90	4.282,27	7.001,38
***Burberry, Dior					

TN-Exhibit 3: Ferrari's football field valuation



EV/EBIT (auto) not considered because it has a big interval and so distorts the graph.

TN-Exhibit 4: WACC and output of DCF valuation

(in millions of euros except if stated otherwise)

Risk-free	0,54%
Market risk premium	5,50%
Unlevered Beta (Tesla)	0,89
Levered Beta	0,93
Cost of equity	5,64%

Tesla's Beta	0,94
Tesla's Unlevered Beta	0,89
Tesla's Market Cap	23.046,42
Tesla's Debt	2.056,26
Tax rate	35,00%

Interest expense	7,94
EBIT	404,50
Interest coverage ratio	50,92
Estimated Bond Rating	Aaa/AAA
Estimated Company Default Spread	0,40%
Estimated pre-tax cost of Debt	0,94%

Number of shares	188,92
Considered share price	$ 50,00
Spot-rate	1,1346
Implied Market Cap	8.325,47

Book value of Debt	510,22
Average maturity (years)	1,1
Implied market value of Debt	513,66

Tax rate	27,50%
D/EV	5,81%
E/EV	94,19%
WACC	5,35%

	1	2	3	4	5
FCF	269,78	280,57	291,80	303,47	315,61
PV of FCF	256,07	252,78	249,53	246,32	243,15

	6	7	8	9	10
FCF	341,16	365,91	389,43	411,30	431,07
PV of FCF	249,48	253,98	256,57	257,20	255,86
PV of Terminal Value	5.535,29				
Value of Operations	8.056,22		long-term growth rate (Damodaran's assumption)		0,70%

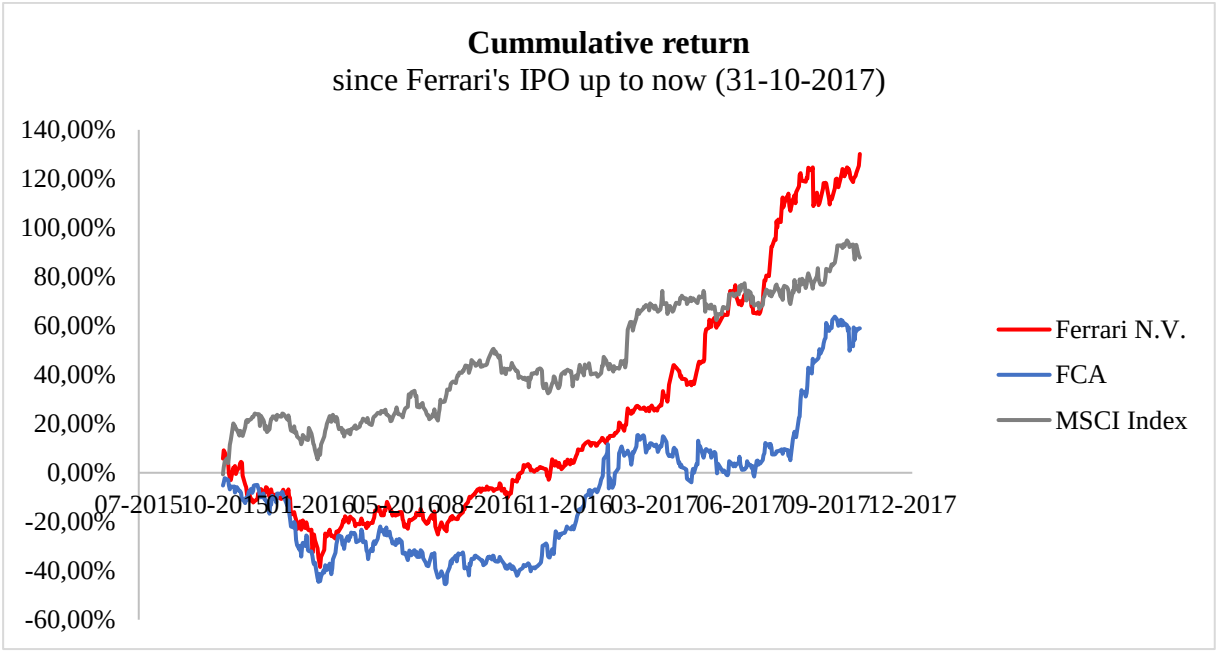
Method 1	
Value of Operations	8.056,22
- Net Debt	375,94
Market Cap (€)	€ 7.680,28
Share price (€)	€ 40,65
Share price ($)	$ 46,13

Method 2 - more complete		
Value of Operations		8.056,22
- Market value of Debt		513,66
- Minority Interest		8,70
+ Cash & cash equivalents		134,28
+ Non-operating assets		1211,59
- Non-operating liabilities		903,58
Market Cap (€)	€	7.976,15
Share price (€)	€	42,22
Share price ($)	$	47,90

TN-Exhibit 5: FCA's Debt level

	Debt ratio	Net debt ratio
FCA	33,34%	9,18%
Renault	43,84%	-3,44%
Volkswagen	38,15%	-4,53%
Peugeot	15,15%	-0,21%
BMW	50,07%	23,64%
Daimler	36,83%	-11,31%
Toyota	39,76%	28,83%
Hyundai	36,86%	17,69%
General Motors	26,29%	-8,93%
Ford	56,60%	-4,55%
Nissan	39,14%	-8,16%
Honda	36,69%	28,70%
Suzuki	17,48%	-17,67%
Tata	32,55%	13,19%
Mitsubishi	10,07%	-17,74%
FCA rank (ascending order)	6	10
Median	36,83%	-3,44%
Average	34,19%	2,98%

TN-Exhibit 6: Evolution Ferrari's and FCA's stock price



Source: Bloomberg

TN-Exhibit 7: Ferrari and FCA's return

Ferrari's return

First day return

Date		Price
20-10-2015	$	52,00
21-10-2015	$	55,00
Return		5,77%

Return up to Spin-off completion

Date		Price
20-10-2015	$	52,00
04-01-2016	$	47,39
Return		-8,87%

Return from IPO up to now

Date		Price
20-10-2015	$	52,00
31-10-2017	$	119,68
Return		130,15%
Average annual return		50,69%

Return from Spin-off completion up to now

Date		Price
04-01-2016	$	47,39
31-10-2017	$	119,68
Return		152,54%
Average annual return		66,15%

FCA's return

Return since Ferrari's IPO

Date		Price
20-10-2015	€	9,34
31-10-2017	€	14,84
Return		58,92%
Average annual return		25,59%

Return up to Spin-off completion

Date		Price
20-10-2015	€	9,34
04-01-2016	€	8,07
Return		-13,56%

Return from Spin-off completion up to now

Date		Price
04-01-2016	€	8,07
31-10-2017	€	14,84
Return		83,84%
Average annual return		39,61%

MSCI Index's return

Return since Ferrari's IPO

Date		Price
20-10-2015	€	53,65
31-10-2017	€	100,76
Return		87,81%
Average annual return		36,35%

Return up to Spin-off completion

Date		Price
20-10-2015	€	53,65
04-01-2016	€	65,27
Return		21,67%

Return from Spin-off completion up to now

Date		Price
04-01-2016	€	65,27
31-10-2017	€	100,76
Return		54,37%
Average annual return		26,86%

Source: Bloomberg

Endnotes

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[ii] Ferrari Official Website. "History of Enzo". http://auto.ferrari.com/en_EN/ongoing-heritage/company/history/history-of-enzo/. (accessed September 2,2017).

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[v] Chrysler Official Website. "Chrysler History". https://www.chrysler.com/en/this-is-chrysler/history/. (accessed September 3, 2017).

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[vii] Robinson, Gwen. 2009. "Chrysler files for Chapter 1". *Financial Times*. https://ftalphaville.ft.com/2009/05/01/55378/chrysler-files-for-chapter-11/. (accessed September 3, 2017).

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