Department of *Impresa e Management*
Chair of Advanced Corporate Finance

How to create value for shareholders

The Ferrari case and the impact of its carve-out and spin-off on FCA

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"Give a child a piece of paper and colors and ask him to draw a car,
he will surely make it red…"

Enzo Ferrari

Al mio relatore Prof. Raffaele Oriani,
per avermi pazientemente e minuziosamente seguito passo
dopo passo in tutta la stesura dell'elaborato,
per la fiducia inizialmente accordatami e continuamente rinnovata,
per gli insegnamenti impartiti nel suo corso di Advanced Corporate Finance
rilevatesi fondamentali nel mio percorso accademico e lavorativo.

INTRODUCTION

In this work following existing literature, I try to condense the motives that lead firms to choose an equity carve-out. The decision to go public is one of the most important and least studied questions in corporate finance, the conventional wisdom is that going public is simply a stage in the growth of a company (Pagano, Pannetta and Zingales, 1998). In an Equity Carve-out the subsidiary has the possibility of finding its ideal shareholder base and can even gain new financial resources through a capital increase. On the other hand, the parent can improve its capital structure through reorganization (Aron, 1991; Meyer, Milgrom, and Roberts 1992; Holmström and Tirole, 1993). Furthermore, the popularity of both companies rises through the IPO process and the public listing, and carve-outs could increase the quantity and quality of analyst coverage as well as improve the information environment for post-breakup firm (Gilson, Healy, Noe, and Palepu, 2001).

Equity carve outs also creates synergies, which increase the total value of the group (Perotti, Rossetto and Kranenburg, 2002) while at same time give the parent firm the possibility to keep in hand an indefinite American style option to buy back the remaining ownership from the minority shareholders or to sell out its ownership to a third-party (Perotti, Rossetto and Kranenburg, 2002, 2005; Desai, Klock and Mansi, 2011).

The equity carve out decision, implies costs that the benefits must outweigh like adverse selection costs, flotation costs and costs due to loss of confidentiality. With all this in mind, it is possible to affirm that going public is not a stage that all companies eventually reach, but it is a choice (Pagano, Pannetta and Zingales, 1998).

Based on these studies, following existing literature, I analyze the case of the Carve-out and Spin-off of Ferrari from FCA trying to understand whether the separation resulted in value creation for FCA shareholders.

The starting point of my analysis was the positive performance of FCA the day of Ferrari carve-out announcement. Existing literature on equity carve-out announcements (Schipper and Smith, 1987; Allen and McConnell 1998; Klein *et al.,* 1991; Nanda, 1991; Vijh, 2002; Otsubo, 2009) helped me in understanding the reasons behind this positive market reaction. Divestiture gains such as obtaining separate financing for the subsidiary's investment projects, designing more efficient compensation contracts for the subsidiary's managers, and the creation of pure-play stocks (Schipper and Smith, 1987) are certainly some of them. Often with an equity carve out announcement, the market prices the possibility that the carve-out will be followed by a secondary event, like M&A, secondary offerings, spin-offs, or reacquisitions (Klein *et al.,* 1991; Vijh, 2002; Otsubo, 2009). Moreover, the asymmetric information that lead managers to choose to issue equity in the subsidiary instead of a seasoned stock offering by the parent is also a possible explanation to the gain associated with equity carve-outs announcements (Myers and Majluf, 1984; Power, 2003; Slovin *et al* 1995; Slovin and

Slushka, 1997; Nanda, 1991). That is, equity carve-outs where the parent firm sells a portion of its ownership in a subsidiary via an IPO, are unique because they combine characteristics of both restructuring and financing transactions (Powers, 2003).
However, as I will show in Chapter IV, these *literature-related* motives, could only explain part of the abnormal positive performance accumulated by FCA after the Ferrari carve-our announcement or the success of the Ferrari IPO. We must necessarily consider literature-related motives coupled with some features that are linked to the uniqueness of Ferrari and its brand. I call it Ferrari *Intrinsic Factors* of the success.

My work is divided into four chapters. In the first chapter I summarize the results of my analysis on equity carve-outs motives into five main reasons: Financing, Market Time Considerations, Internal Conflict Motives, Visibility Motives and Synergies Benefits. In the second part of the chapter, I condense the existing literature on the costs generally associated with and equity carve-out and going public: Adverse Selection Costs, Flotation Costs and Costs due to Loss Of Confidentiality.
In Chapter II, I analyze all possible reasons for the positive share price reactions to an equity carve-out announcement. First of all, I explain the features that make equity carve-outs similar, but at the same time different from other forms of divestitures. Later, I report the empirical studies and results on equity carve outs announcements, showing that although almost all the authors agree that equity carve-outs announcements lead to positive market reactions, different should be the magnitude of the average excess return.
In Chapter III, I briefly present recent trends in Equity carve-outs by dividing it by World Regions and by Sectors. In addition, I show recent trends in Spin-offs and other alternative forms of separation.

The heart of my thesis is Chapter IV. In this chapter I analyze all the steps made by FCA in the separation of Ferrari. I show how the separation was conducted by FCA Top management, looking for value creation. The chapter is divided into three parts. In the first part I briefly recap all the key steps of the deal: the first announcement of Ferrari carve-out, the IPO of Ferrari and the spin-off from FCA. In the second part, I assume the perspective of an FCA shareholder trying to figure out whether the operation created or destroyed value. Finally in the last part, I analyze the reasons behind the success of the operation.

CHAPTER I MOTIVES AND COSTS OF AN EQUITY CARVE-OUT

1.1 Motives For Equity Carve-Out

1.1.1 Financing motives

The financing hypothesis claims that carve-outs are used for financing the parent firm, the subsidiary firm or both (Lang, Poulsen and Stulz, 1995). In an equity carve-out, financing is raised for the parent firm, for the subsidiary, or for both firms, depending on the type of the offering (Allen and McConnell, 1998). In a primary placement, new shares are offered by the subsidiary and the cash-flow resulting from the offering remains with the subsidiary. The placement therefore results in a positive cash-flow for the subsidiary and a neutral cash-flow for the parent firm. In a secondary placement, the parent sells shares of the subsidiary while no new shares are issued by the subsidiary itself. A secondary placement therefore is cash-flow neutral for the subsidiary and generates a positive cash-flow for the parent (Wagner, 2004). A mixed offering combines the two types of placements, leading to a positive cash-flow for both firms, so a carve-out may result in positive cash-flow for the parent or for the subsidiary (Wagner, 2004; Vijh 1999 and 2002).

Therefore two distinct motives can be identified for financing. The first is that the transaction finances the subsidiary, the second is that the transaction finances the parent, or the firm remaining after the carve-out (Wagner,2004). The second case again offers two distinct possibilities, since the parent may use the proceeds to finance past investment or to finance future investment (Allen and McConnell, 1998). Support for the past investment hypothesis is provided by Vijh (2002), who finds that U.S. parent firms have lower capital expenditures than comparable firms following carve-out transactions. The past investment financing hypothesis is also supported for European firms by Pagano, Panetta, and Zingales (1998), who find that Italian IPOs finance previous growth rather than future growth, linking this observation to the relatively higher age of European IPO firms.

1.1.2 Selling overvalued equity

If there are periods in which stocks are mispriced, companies recognizing that other companies in their industry are overvalued have an incentive to go public (Ritter, 1991). This market timing hypothesis states that one of the primary reason for an equity carve-out is that the parent or the subsidiary try to sell overvalued equity in the transaction.

That hypothesis find confirm on the argument of Akerlof (1970), Myers and Majluf (1984) and Miller and Rock (1985), who were first to argue that information about a firm's investment opportunities or assets in place is unevenly distributed between firm managers and investors. The announcement of a security offering that represents new financing signals unfavorable information to the market.

Prior research has shown evidence of market timing determining equity offerings in general (Baker and Wurgler, 2002). While Pagano, Panetta, and Zingales (1998), Hand and Skantz (1999) and Powers (2003) argue that equity carve-out transactions are also mainly driven by market timing considerations.

Pagano, Panetta, and Zingales (1998)[1], find that the most important determinant for a subsidiary to go public is the median *market-to-book* value of equity of firms in the same industry. In fact, a one-standard deviation increase in the *market-to-book* ratio raises the odds of an IPO by 25% (Pagano, Panetta, and Zingales, 1998). Independent companies are more also more likely to go public after major investments and abnormal growth, and to reduce their leverage and investment after the IPO. So their decision to go public can be interpreted as an attempt to rebalance their balance sheet after larger investments and growth. By contrast, the main force behind carve-outs appears to be the desire to maximize the proceeds from selling shares in a subsidiary, as these IPOs are particularly sensitive to a "window of opportunity" (Rajan and Servaes, 1997; Pagano, Panetta, and Zingales, 1998).

Indeed, parents execute carve-outs, because under the right circumstances, they provide parents with an opportunity to generate cash by selling potentially overvalued equity (Powers, 2003). If the parent can time the market with the carve-out, a carve-out announcement would be more likely if the market valuation of the parent, i.e. Tobin's Q[2], is high relative to its industry peers or if the industry valuation, in which the parent and subsidiary operate, are high relative to the market (Powers, 2003; Wagner, 2004).

[1] Pagano, Panetta, and Zingales, (1998) analyze the motives for going public for a sample of 69 Italian firms, 40 of which are stand-alone IPOs and 29 are carve-outs.

[2] *Total Market Value of the firm/Total Asset Value* a low Q (between 0 and 1) means that the cost to replace a firm's assets is greater than the value of its stock. This implies that the stock is **under**valued. Conversely, a high Q (greater than 1) implies that a firm's stock is more expensive than the replacement cost of its assets, which implies that the stock is **over**valued.

This is broadly consistent with the predictions of the asymmetric information model of Nanda (1991) that assumes that an equity carve-outs implies subsidiary assets to be overvalued and parent assets to be undervalued. By contrast, Vijh (2002) finds that carve out announcement returns increase with the ratio of subsidiary assets to remaining parent firm assets, which contradicts the predictions of Nanda.

1.1.3 Internal conflicts motives

The internal conflicts hypothesis argues that the carve-out is the result of internal organization problems and is based on Aron (1991), Meyer, Milgrom, and Roberts (1992) and Holmström and Tirole (1993). Parent firm managers try to alleviate problems resulting from discrepancies in financial risk, operating risk, corporate culture and management incentives (Wagner, 2004).

To illustrate the hypothesis I report the example used in both Aron (1991) and Holmström and Tirole (1993). Siemens AG, Germany's largest technology conglomerate carved out its semiconductor business Infineon Technologies in March 2000. Both firms cited the huge amounts of capital required for competitiveness in the fast-moving semiconductor business as an important motive for the carve out. If the risk-return characteristics of the subsidiary are fundamentally different from the parent, the introduction of a second class of stock with residual claims on the subsidiary may improve incentives for division managers (Aron, 1991; Holmström and Tirole, 1993) and, in the case of divisions operating in highly competitive industries, may allow remuneration of a magnitude different from the conglomerate as a whole. Also, influence activities by division managers on headquarters can be reduced by separated operations (Meyer, Milgrom, and Roberts, 1992). If this hypothesis holds, parent and subsidiary should exhibit different risk characteristics after the transaction, subsidiary units should exhibit a different industry distribution from parents, with carve-outs being in younger, more innovative industries (Wagner, 2004).

1.1.4 Increase visibility

The carve-out, like a stand-alone IPO, may function as a marketing device and increase the visibility of the parent as well as of the carved-out division. Increased visibility of the firms could lead to increased analyst coverage and higher liquidity. These marketing effects may be enhanced by measures such as a dual listing of the carve-out, (for example the simultaneous listing of Infineon Technologies by Siemens on the Frankfurt and New York Stock Exchanges)[3] (Wagner, 2004).

Two prior studies find that analyst earnings forecast accuracy improves around spin-offs (Bliss, 1997; Krishnaswami and Subramaniam, 1998). However, neither study examines whether post-breakup firms attract analysts with industry expertise. They also do not explore whether the documented increase in forecast accuracy is due to expanded disclosure or an improvement in specialists' forecasting ability. Gilson, Healy, Noe, and Palepu (2001), in a sample of 103 U.S. spin-offs, carve-outs and tracking stock offerings, finds that conglomerate stock breakups increase the quantity and quality of analyst coverage as well as improve the information environment for post-breakup firm. Breakups are likely to increase the *quantity* of analyst coverage for post-breakup firm because they increase investor interest in these firms and because they create new investment banking opportunities for brokerage houses (Gilson, Healy, Noe, and Palepu, 2001). Breakups that reorganize conglomerates into more focused entities, are also likely to increase the *quality* of analyst coverage for post breakup firms because potentially attract analysts with industry expertise, while generally brokerage house tend to assign only one analyst to cover a particular stock. These specialists are likely to improve the information environment for post-breakup firms through more accurate forecasting of their performance (Gilson, Healy, Noe, and Palepu, 2001).

1.1.5 Synergies benefits: Carve-outs as real options

Before the carve-out, and in most cases also after the transaction, the parent firm has residual control rights over the subsidiary unit (Alchian ,1969; Williamson, 1975; Stein, 1997). These control rights enable headquarters to reallocate cash flows among conglomerate divisions by the internal capital market (Wagner, 2004). Indeed, a close co-ordination between two firms may create operating, marketing and financial synergies, which increase the total value of the group (Perotti, Rossetto and Kranenburg, 2002; Perotti and Rossetto, 2005 and 2007; Desai, Klock and Mansi, 2011).

[3] Consistent with this theory should be the dual listing of Ferrari, on the Nyse and Italian Stock Exchanges.

The positive value of the synergy indicates that the parent is better off by keeping 100% ownership in the carved-out subsidiary. These synergies, however, may well turn negative. If synergies become negative, the negative value of the synergy implies that the parent is better off by removing the carved-out subsidiary from its portfolio (Desai, Klock and Mansi, 2011). However, is not optimal to do an irreversible disinvestment as soon as the synergies turn negative because if changes in technology, regulation or demand cause synergies to turn positive again, the parent firm may not be able to reacquire the subsidiary and would miss some profit opportunities (Perotti, Rossetto and Kranenburg, 2002).

That is, by selling out full ownership in a subsidiary, the parent firm carries can irreversible loss if it finds a positive synergy with the subsidiary in the future. At the same time, by keeping the subsidiary fully-integrated, the parent firm is unable to assess the value of the synergy (Desai, Klock and Mansi, 2011).

The equity carve-out appears to constitute a valid strategy to 'buy time': it gives the opportunity to mitigate the negative synergies, by selling out part of the share, while retaining the flexibility to subsequently reacquire or to sell-off the subsidiary depending on how synergies evolves over time (Perotti, Rossetto and Kranenburg ,2002 ; Perotti and Rossetto, 2005 and 2007).

The other option is to postpone the decision at a future date when the firm will still have the opportunity to either carve-out, spin-off or again postpone the decision, depending on how synergies evolve.

By contrast a complete spin-off eliminates the possibility to regain control of the subsidiary if it were to become again profitable to do so; it thus represents a loss of a strategic option (Perotti, Rossetto and Kranenburg , 2002).

Therefore, the carve-out of a subsidiary provides the parent firm with an indefinite American style option to buy back the remaining ownership from the minority shareholders or to sell out its ownership to a third-party (Desai, Klock and Mansi, 2011).

The exercise of this option depends on the value of the underlying synergy between the parent and subsidiary.

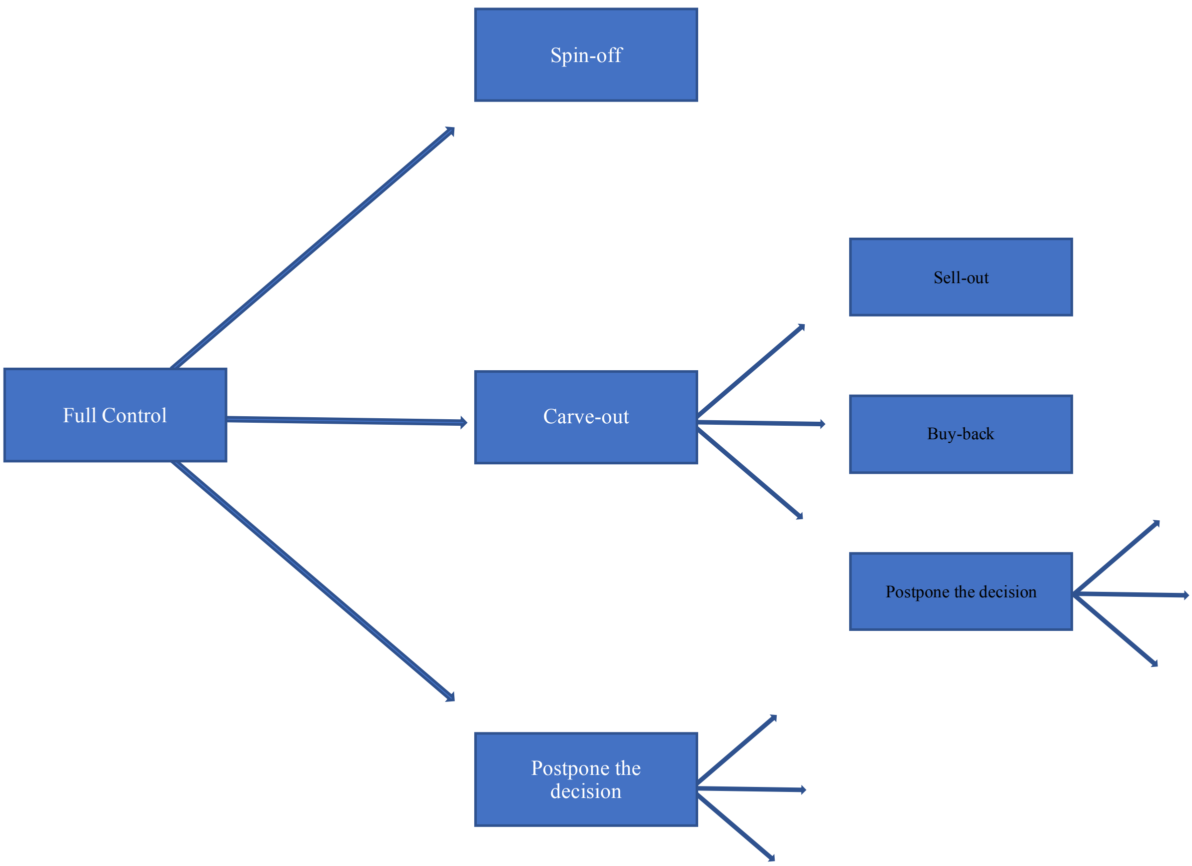

Fig. 1. The Decision Tree, Source: personal elaboration from Perotti, Rossetto and Kranenburg , 2005.

1.2 Costs of Going Public

1.2.1 Adverse selection costs

The costs usually associated with going public are adverse selection costs, flotation costs and costs due to loss of confidentiality (Röell, 1996).

These costs similarly apply to carve-out transactions, although adverse selection costs and loss of confidentiality costs might be less important for carve-outs than for stand-alone IPOs since the subsidiary unit has potentially undergone a large part of these costs before the carve-out due to the inclusion in the accounting of the parent firm (Pagano, Panetta, and Zingales, 1998).

The respective literature is based on the argument of Rock (1986), that underpricing is the result of asymmetric information about firm quality. This informational asymmetry adversely affects the average quality of the companies seeking a new listing and thus the price at which their shares can be sold (Leland and Pyle, 1997) and also determines the magnitude of the underpricing needed to sell them (Rock ,1986). This adverse selection cost is a big obstacle to the listing of young and small companies, which have little track record and low visibility, than for old and large companies (Chemmanur and Fulghieri, 1999).

So in the presence of adverse selection, the probability of going public should be positively correlated with the age and/or the size of a company and the age of a firm captures public information and therefore represents a measure of the reputation of the firm (Diamond, 1989, 1991; Wagner, 2004). Although Pagano, Panetta, and Zingales (1998) find that firm size does not change the likelihood of the firm going public for equity carve-outs, this may be different for parent firms.

1.2.2 Flotation costs

Other costs of going public are the registration and underwriting costs, on average 14% of the funds raised and the underpricing cost, on average 15% (Ritter, 1987), and the annual disclosure costs, and the agency problems generated by a separation between ownership and control (Jensen and Meckling, 1976).

Moreover, it is widely assumed that relative flotation costs should be smaller for larger parents and larger subsidiaries, respectively, as flotation costs entail fixed costs (Lee, Lochhead, Ritter, and Zhao, 1996; Pagano, Panetta, and Zingales, 1998). In particular, Ritter (1987) has estimated that in the United States the fixed costs equal approximately $250.000 and the variable costs are about 7% of the gross proceeds of the IPO. Instead, in Italy, the fixed costs are about the same as in the United States and the variable costs are 3.5% of the gross proceeds, so the total direct costs of an IPO of comparable size are lower than in the United States (Pagano, Panetta, and Zingales, 1998).

1.2.3 Loss of confidentiality costs

Finally there are the costs due to loss of confidentiality that in some cases could be considered as deterrent from getting funding in public (Cambell, 1979). Indeed, the disclosure rules of stock exchanges force companies to unveil information whose secrecy may be crucial for their competitive advantage, like data about ongoing R&D projects or future marketing strategies. They also expose them to close scrutiny from tax authorities, reducing the scope for tax elusion and evasion relative to private companies (Pagano, Panetta, and Zingales, 1998). That loss of confidentiality costs are higher for firms operating in high-tech industries (Yosha, 1995; Maskimovic and Picheler, 2001).

More in depth, Yosha (1995) has shown that in equilibrium those firms with more sensitive information are deterred from going public if the costs of a public offering are sufficiently high. This would suggest a negative correlation between the R&D intensity of an industry and the probability of an IPO (Pagano, Panetta, and Zingales, 1998).

CHAPTER II STOCK PRICE REACTIONS TO EQUITY CARVE-OUTS ANNOUNCEMENTS

2.1 Market Reaction To Carve Out And Other Forms Of Divestitures

The existing literature distinguishes corporate divestitures by the strategy adopted in selling the unit: distribution of equity claims in the subsidiary directly to its shareholders (spin-offs), sale of an equity stake in the subsidiary to the public (carve-outs) and direct sale of the subsidiary to a third party (direct sell-offs).

Direct sell-offs are preferable when the potential buyer is likely to reduce the value of cash flow rights, spin-offs should be preferred when the potential buyer's private benefits of control are nil. Carve-outs should be chosen in all other cases (Zingales, 1995).

This chapter is structured into two sections. In the first section I analyze all the possible reasons for the positive share price reactions to an equity carve-out. In particular, based on existing literature, I try to explain the features that make equity carve-out similar, but at the same time different from other forms of divestitures.

In the second section, I report the empirical results on equity carve outs announcements, showing that although almost all the authors agree that equity carve-outs announcements lead to positive market reactions, different should be the magnitude of the average excess return.

2.1.1 Carve-out and Seasoned Equity Offerings

An equity carve-out is the process by which a firm sells shares in a wholly owned subsidiary to the public. A subsidiary equity offering resembles a primary offering of seasoned stock or convertible debt claims on an entire firm's assets in that cash is received from the public sale of equity securities. Hence, both an equity carve-out and an offering of common stock or convertible debt claims on an entire firm's assets represent methods of external equity financing (Mikkelson and Partch, 1986). Existing literature has shown that on average equity carve-out announcement lead to positive market reaction (Schipper and Smith, 1987; Klein et al., 1991; Nanda, 1991; Allen and McConnell 1998; Vijh, 2002; Otsubo, 2009). The average abnormal gains associated with equity carve out announcement contrast with average abnormal losses documented upon announcements of *Seasoned Equity Offerings* (Dann and Mikkelson, 1984; Masulin and Korwar, 1989; Asquith and Mullins, 1986; Mikkelson and Partch, 1986). Furthermore in the typical SEO, operating performance declines (Loughran and Ritter, 1997; Teoh, Welch, and Wong, 1998) and long-term excess stock returns are negative (Spiess and Affleck-Graves, 1995).

In particular, Dann and Mikkelson (1984) examine share price reactions to public offerings of convertible debt claims of NYSE and ASE listed firms. For offerings by industrial firms, a statistically significant negative average abnormal stock return of -2% or -3% is documented in the two-day period ending with the Wall Street Journal announcement date. Moreover, a negative average share price effect of an increase in outstanding common equity through exchange offers and conversions of debt to common stock is documented in Masulis (1978) and Mikkelson (1981) respectively. In contrast, evidence exists that an increase in share price is associated with a reduction in outstanding common equity through repurchases of shares and exchange offers (Dann, 1981; Masulis, 1980; Vermaelen, 1981).

Thus, the evidence suggests that an increase in outstanding equity is associated on average with a decrease in stock price, and a decrease in equity is associated with an increase in stock price. Several explanations (Myers and Majluf, 1984; Dann and Mikkelson, 1984) offered are:1)External equity financing of a new investment project implies that managers have negative private information either about the intrinsic value of existing assets or about earnings; 2)The decrease in leverage, associated with an equity issue is a negative signal about the future profitability of the firm; 3)The underpricing of the equity issue transfers wealth from the old stockholders to the new stockholders.

An equity carve-out, however, differs in several respects from a seasoned equity offering. An initial public offering of subsidiary stock initiates the public trading of distinct equity claims on the subsidiary's assets (Schipper and Smith, 1983). Often when the subsidiary equity is 'carved-out' from the original consolidated entity, the management of assets is restructured (Schipper and Smith, 1986; Anslinger et al., 1997; Vijh, 2002). Separate financial statement and publicly traded carve-out equity improve the ability of investors to gather information and profit from it, unlocking value hidden in parent firms (Gilson et al., 2001).

In addition, the market value of the subsidiary's net assets becomes readily observable. The availability of a market determined value of subsidiary stock may facilitate the evaluation and compensation of subsidiary managers (Schipper and Smith 1986; Holmstrom and Tirole, 1993) as well as the acquisition of the subsidiary by another firm. Finally, a publicly held minority interest in the subsidiary is typically created (Schipper and Smith, 1983; Klein et Al. 1991; Vijh 1994 ; Allen and McConnel, 1998).

Thus, the market reaction depends on whether a firm sells more of its own stock in a seasoned equity offering (SEO) or the stock of a wholly owned subsidiary in an equity carve-out.

The negative market reaction to SEOs is usually explained by asymmetric information (Masulin and Korwar, 1989; Asquith and Mullins, 1986; Mikkelson and Partch, 1986, Nanda 1991). In particular Milgrom (1988), Bagwel and Zechner (1993) and Harris and Raviv (1996) show how asymmetries between lower and top management, in information, preferences, or incentives may result in an inefficient allocation of capital.

An equity carve-out is one way to obtain separate financing for subsidiary growth opportunities (Schipper and Smith, 1985). The equity securities publicly offered represent claims on the cash flows of the subsidiary projects only. If parent equity, instead, had been offered to finance the subsidiary's investment projects, the offered securities would represent a joint claim on both the parent and subsidiary projects.
By separating the subsidiary projects from those of the parent, a carve-out may reduce the asymmetry of information between managers and investors regarding the asset base underlying the securities offered (Schipper and Smith, 1985; Slovin et al., 1995; Nanda, 1991).
To the extent that managers have less private information about the asset base underlying the subsidiary stock than about the asset base underlying parent stock a less negative information effect is expected for an equity carve-out than for a parent equity offering. This, in turn, implies a less negative parent stock price reaction to an announcement of a public offering of subsidiary parent stock (Schipper and Smith, 1985).

In the same direction of the asymmetry between managers and outside investors other studies try to explain why carve-outs enhance the wealth of shareholders showing that carve-outs are a means of exploiting over-and under-valued stock markets (Slovin et al.,1995; Slovin and Slushka,1997; Nanda, 1991; Powes, 2003). Indeed, the positive abnormal returns from carve-outs maybe due to transitory differences between the market value and managers' perceived value of both the subsidiary and the parent firm (Nanda, 1991). When such differences exist, managers may find it optimal to finance new equity through a carve-out (Nanda, 1991; Elder and Westra, 2000) which signals markets that managers believe the parent firm to be undervalued. If the consolidated corporation is being undervalued, such firm prefers to issue equity in the subsidiary rather than equity in the consolidated corporation. In contrast, firms that choose to issue equity in the parent corporation will be those that have, on average, been overvalued by the market (Nanda 1991). That is, firms that typically choose to go for an equity cave-out will be firms that have, on average, been undervalued by the market (Nanda 1991; Powers, 2003). Empirically, Slovin, Sushka, and Ferraro (1995) analyze the share-price reaction of rivals to firms that announce voluntary asset divestitures and find evidence in support of this view.
Hence by their financing decision, firms reveal information not just about the value of assets in place of the subsidiary but also about the value of the assets in place in the rest of the corporation.

2.1.2 Carve-out and Spin-offs

Many of the features which distinguish a subsidiary equity offering from a seasoned equity offering represent similarities with a voluntary spin-off. In a spin-off, distinct equity claims of a wholly-owned subsidiary are distributed (*prorata*) to the consolidated entity's shareholders and begin to trade in public equity markets. Therefore, both a spin-off and an equity carve-out imply that a subsidiary's equity claims are traded separately from equity claims on the consolidated entity (Vihj 1994).
However there are some differences between spin-off and cave-out divestitures (Schipper and Smith, 1983; Michaely and Shaw, 1995; Elder and Westra, 2000).

1. A spin-off distributes equity of the spun-off subsidiary to the shareholders of the parent as a dividend, resulting in no new equity financing (Elder and Westra, 2000); by contrast an equity carve-out establishes a new set of shareholders (Michaely and Shaw, 1995).
2. Second, stock issued through a carve-out generate positive cash flow consequences; a spin-off does not have immediate cash flow consequences (Michaely and Shaw, 1995).
3. In a spin-off, the parent company typically relinquishes control over the subsidiary's assets by distributing all of the subsidiary stock; instead, due to tax consideration the parent firm typically maintains at least 80% of the voting shares in the carve-out subsidiary (Elder and Westra, 2000). Hence a minority interest is created (Schipper and Smith, 1985).

Studies on the share price reaction to corporate spin-off announcements document positive abnormal returns of about 3% in the two-day period ending with the Wall Street Journal announcement date (Miles and Rosenfeld;1983; Hite and Owers, 1983; Michaely and Shaw, 1995; Daley, Mehrotra, and Sivakumar 1997; Desai and Jain 1999).
Post-spinoff improvements in operating performance (Daley, Mehrotra, and Sivakumar 1997) and positive long-term excess stock returns for cross-industry spin-offs (Desai and Jain 1999) are consistent with the belief that restructuring transactions, particularly focus-increasing transactions, increase efficiency. As regards the choice between carve-out or spin-off, evidence suggest that bigger less-levereged, more profitable parents more often choose the carve-out option (Michaely and Shaw, 1995).
Although more recent, empirical research confirm that divestiture such as spin-offs and sell-offs also lead to positive market reactions and enhance firm performance (Berger and Ofek, 1995, 1996; John and Ofek, 1995; Mulherin and Boone, 2000; Schlingemann et al., 2002; Lamont and Polk, 2002; Burch and Nanda, 2003; Huson and MacKinnon, 2003), the future operating and stock performance of the carve-out parents is significantly better than that of the spin-off parents, which is consistent with the hypothesis that carve-out parents are of better quality (Michaely and Shaw, 1995).

2.1.3 Carve-out and Tracking Stocks

In the recent years a new form of equity restructuring called Tracking Stock[4] is emerged. A tracking stock structure is formed by creating a new class of common stock, within an existing diversified corporation, whose value is linked to the performance of a specific business group through special provisions introduced into the firm's articles of incorporation (Elder and Westra, 2000). Shares in the tracking stock may be distributed either as a public offering, as dividends to existing shareholders, or as currency for an acquisition (He, Mukherjee and Wei, 2006).

Typically, the dividends paid are dependent on the earnings generated by the tracked group in a structured fashion, either as a fixed percentage of the tracked group's net income or as a specific dollar amount that is adjusted over time according to net income or shareholders' equity (Logue, Seward, and Walsh 1996).

Unlike carve-outs or spin-offs, however, this division is solely for accounting purposes, a tracking stock does not represent a legal claim on the assets of the associated business group but represents a claim on a fraction of the assets of the consolidated firm (Elder and Westra, 2000). For example in a liquidation, in the event that assets of the tracked group are sold, the parent might be obligated to distribute the proceeds as a special dividend or as a share repurchase (Logue, Seward and Walsh, 1996). The business represented by the tracking stock remains a part of consolidated entity and shares a common board of shareholders, so a tracking stock parent wields more discretionary power than its carve-out counterpart and is in a better position to use it to their advantage because retains the full control of the new unit (He, Mukherjee and Wei, 2006).

Indeed, the tracked group is governed by the directors of the parent firm, with the shareholders typically having voting rights that float with the market value of their tracking stock relative to that of the total market capitalization of all classes of common stock for the firm (Elder and Westra, 2000). The interests of each tracked group will therefore be subordinate to the interests of the consolidated firm (Hass, 1996).

Studies document a positive short-term stock reaction to the announcement of issuing tracking stock (Logue, Seward and Walsh ,1996; Billet and Mauer, 2000; Zuta,2000; D'Souza and Jacob, 2000; Elder and Westra, 2000; Chemmanur and Paeglis, 2001; Harper and Madura, 2002). Although Logue, Seward, and Walsh (1996) and also Billett and Mauer (2000), D'Souza and Jacob (2000), and Zuta (1999), are constrained by relatively small samples.

[4] Also called alphabet, letter or target stocks. The name arose from Lehman Brothers in the 1990s, when they assisted USX Corporation in restructuring. See Billett, M.T. et al. (2000), p.146; See Neish, S. (1995), p.28.

Instead with a much larger population of 51 tracking stock announcements and comparing returns relative to those predicted by a market model, Elder and Westra (2000) find a mean abnormal return of over 3 percent in the two-day period surrounding the announcement. By contrast, Harper and Madura (2002), Billett and Vijh (2004) and Clayton and Qian (2004) find that the parents of tracking stock firms are negative or neutral performers in the long term.

Other studies (Chemmanur and Paeglis, 2001; Boone, Haushalter and Mikkelson, 2003) confirm that short-term stock price reactions are positive but long-term stock and operating returns are negative. The reasons include reduced agency cost (better accountability and incentive for subsidiary's managers), reduced information asymmetry, and synergistic benefits.

If reducing information asymmetry is a primary motive for restructuring, then a parent firm is likely to form a new unit out of an existing subsidiary that is most different from other subsidiaries (He, Mukherjee and Wei, 2006). However, this expectation is not realized in case of tracking stocks. Moreover the subsidiary is more related to parent in the case of tracking stocks than in carve-outs (Chemmanur and Paeglis ,2001; Boone, Haushalter and Mikkelson 2003). Support for tracking stock or carve-out as a way to preserve or increase synergy is also mixed, D'Souza and Jacob (2000) find that tracking stock issues have smaller tax-loss, compared to spin-offs. On the other hand, Billet and Mauer (2000) do not find tax as a major factor. Rather, they suggest that internal capital market is an important concern: firms with more efficient internal capital utilization perform better within tracking stock issues.

Hass (1996) and Harper and Madura (2002) investigate the role of agency cost in restructuring and find some results consistent with reduced agency costs. For example, short-term stock price reaction to tracking stock issuance is greater when the parent's debt ratio is low and when the parent's prior stock performance is poor. Because firms with low debt ratio and inferior stock performance are likely those with considerable agency problems that results are consistent with a reduction in agency problem (Harper and Madura, 2002). Finally, it is documented a negative relationship between long-term returns and fractions of shares held by parents, suggesting that tight control by parent hurt shareholders (Boone, Haushalter and Mikkelson, 2003).

2.1.4 Carve-out and Asset Sales

In an equity carve-out, a firm offers to sell shares in a wholly owned subsidiary to the public. As such, a carve-out can be viewed as an equity offering but also as the sale of an asset, which is intended to raise funds to finance other activities of the parent or the subsidiary (Lang, Poulsen and Stulz, 1995).

However, the characterization of an equity carve-out as a sale of assets must be tempered by the fact that certain features distinguish carve-outs from outright asset sales (Allen and McConnell, 1998). Perhaps the most important of these is that managers of the parent firm typically do not fully relinquish control over the carved-out assets. Indeed, in the typical carve-out, the parent continues to hold about 80 percent of the firm for discretionary uses or paid out to creditors or shareholders (Schipper and Smith, 1983 and 1986; Allen and McConnel, 1998).
Lang, Poulsen, and Stulz (1995) propose and test a financing hypothesis of asset sales. The heart of their hypothesis is the presumption that managers value size and/or control over the firm's assets, even at the expense of shareholders' wealth. The consequence is that managers undertake asset sales to raise capital to finance activities preferred by managers only when less costly sources of funding are not available. The second presumption is that managers' tangible and intangible compensation is correlated with the size of the firm and/or the dollar amount of assets under their control. As a consequence, given the choice, managers prefer not to sell off or carve-out assets even if doing so would be in shareholders' best interests (Harris and Raviv, 1996). In fact, managerial preferences for "empire building" or maximizing utility over total assets under control, result in headquarters' aversion for the division to be traded publicly since this decreases assets under its control (Wagner, 2004). An equity carve-out means reducing assets under managerial control so it would signal that the conglomerate is financially constrained and has to raise new financing through the carve-out.
Two primary empirical predictions follow from this perspective. First, parent firms that undertake equity carve-outs are likely to be highly leveraged and/or have recently suffered poor earnings performance, both of which diminish the firm's ability to issue additional debt and/or to issue equity in the parent firm. Second, the gain in value that is presumed to accompany carve-outs will differ between the set of carve-outs in which the funds raised in the offering are retained within the firm for investment-related purposes and those in which the funds raised are paid out to creditors or shareholders (Allen and McConnell, 1998). Because of the agency costs associated with managerial control of discretionary capital, the market will discount the gains in carve-outs in which management indicates that funds will be retained. That is the "managerial discretion" hypothesis of equity carve-outs (Allen and McConnell, 1998).

So, carve-outs themselves do not affect the wealth of a parent company, but the use of funds from carve-outs does affect the wealth. Only when a parent company uses the funds to repay debt or pay a dividend to its shareholders does the stock market react positively to the parent company. Evidences exist that the gains in value associated with carve-outs change when the sample is divided into subsamples according to the intended use of funds (Allen and McConnell 1998; Vijh 1999). Carve-outs in which firms announce that the funds raised will be used wholly or primarily to repay debt or to pay a dividend to shareholders, the average excess return is higher than when firms announce that

proceeds will be used wholly or primarily for investment-related purposes (Allen and McConnell 1998). Further analysis (Powers, 2003) reveals a negative relation between the percentage of shares sold by the parent and the subsequent change in carve-out subsidiary operating performance; the more the parent sells, the worse the carve-out subsidiary performs in the future. The percentage of shares sold is negatively related to the liquidity of the parent and to the size of the carve-out subsidiary relative to the parent.
These relation suggest that many parents use the carve-out to trade ownership for cash, particularly when parent liquidity is low (Powers,2003).

2.1.5 The secondary event in equity carve-outs

Each of the arguments described until now, implicitly assumes that the carve-out arrangement remains permanent. However, often equity carve-out is only the first step of a two-stage process (Klein et Al. 1991).
Hand and Skantz (1999) find that 42,7% of the carved-out subsidiaries are sold, 17,4% are re acquired, and 13,2% are spun off. Similar results are reported by Miles, Woolridge, and Tocchet (1999) and Boone (2002). A study by McKinsey indicates that after five years, just 8% of carved out firms remains public under the control of the parent (Annema, Fallon, and Goedhart, 2002). Indeed a carve-out is almost always followed by either a M&A, secondary offerings, spin-offs or reacquisitions.

However, the stock market expects a secondary event after a carve-out and hence evaluates the potential gains from the combination at the announcement of the carve-out (Otsubo, 2009). In particular, the market expects M&A as secondary event, and hence has a positive reaction upon the announcement of a carve-out. However, the stock price of a parent company does not change significantly upon the announcement of subsequent M&A, because it has already priced the gain into its reaction to the announcement of the carve-out. By contrast if the secondary event is not an M&A the stock price may fall upon the announcement of the other three secondary events or react more positively.

The parent's reason(s) for terminating the carve-out arrangement is an unresolved issue. Schipper and Smith (1986) claim one incentive is to eliminate a potentially costly minority interest, either through share re-acquisition or total divestiture. The desire to eliminate a minority interest conflict after achieving the objectives of the carve-out may be at least partially responsible for the widespread subsequent reacquisitions, sales, and spin-offs of the carve-out sample subsidiaries (Klein et Al. 1991). This reason, however, is an argument against performing a carve-out in the first place. In all likelihood, the decision to either re-acquire or divest at a later date is motivated by a variety of factors (Vijh, 2002). For example, the carve-out may be the first stage in a two-stage strategy to sell off the parent's full interest in the subsidiary (Klein, Rosenfeld and Beranek, 1991).
Studies show that sell-off announcements of wholly owned subsidiaries have, on average, a positive impact on the share price of the parent (Klein, 1986). The parent, however, may decide the subsidiary has even greater potential sales value as a publicly traded unit compared to its value if sold immediately. As a publicly traded firm, the subsidiary will release more detailed information about itself, thus exposing it to a broader market for acquisitions.

By taking the subsidiary public, the parent essentially is 'showcasing' it to potential buyers as well as establishing a market value for the parent's ownership interest (Klein et Al. 1991). Subsequently, if the stock price of a listed subsidiary is lower than what parent company thinks is appropriate a reacquisition may occur (Gleason et Al. 2006).

2.2 Summary Of The Empirical Results On Equity Carve-Out Announcements

Researches on equity carve-outs show that announcements always produce a positive effect on the parent's share prices. Schipper and Smith (1986), examined 76 equity carve-outs that took place over the period 1965 through 1983 reporting an average excess return of +1.8 percent over a five-day interval leading up to the carve-out announcements. Allen and McConnell (1998), looked the financial structure and leverage of the firms undertaking carve-outs. As regards the gains in value associated with carve-outs, they reported an average excess stock return of +2.12 percent over the three-day interval surrounding carve-out announcements. When the funds raised will be used wholly or primarily to repay debt or to pay a dividend to shareholders, the average excess return is +6.63 percent. In contrast when firms announce that funds will be used wholly or primarily for investment-related purposes, the average excess announcement period return falls drastically to - 0.01 percent.
Klein, Rosenfeld and Beranek (1991) in their studies found that only one carve-out from a sample of 40 that occurred before 1983 remains public, and nearly half of those that occurred in 1983 have second events. Since a carve-out is usually the first stage in a two-stage scenario, one measure of the success or failure of this strategy is the parent's combined share-price response to both events. They reported a combined cumulative abnormal returns over the five-day periods of + 4.56%.
Furthermore the magnitude of the price response depends on the type of second event in particular in case of sell-off the cumulative abnormal return is + 7.60%. By contrast in case that the second events is a reacquisition the cumulative abnormal return is lower, + 2.58%.
Following the same approach of focusing on the subsequent events of an equity carve-out, Otsubo (2008) considers the gains caused by the combinations of carve-outs and secondary events, finding that the stock market expects secondary events and hence evaluates the potential gains from the combination at the announcement of the carve-out. Moreover, the stock market expects M&A as a secondary event and if the secondary event is not an M&A the market reacts more positively.
Finally Vijh (2002) examined the announcement-period returns of a sample of 336 carve-outs completed during the period 1980-97 , demonstrating that there is a positive correlation between the excess returns and the ratio of subsidiary to nonsubsidiary assets. On average, the announcement period excess returns equal 4.92% when the precarveout subsidiary assets are greater than the nonsubsidiary assets, and they equal 1.19% when the subsidiary assets are smaller than the nonsubsidiary assets.

The table below summarizes the results of the analysis.

Authors	Period of study	# of firms	Announcement period	Abnormal performance	Notes
Schipper and Smith	1965 1983	76	5 days	+**1,8%**	n/a
Allen and McConnell	1978 1993	188	3 days	+**2,12**% cumulative +**6,63** if funds are used to repay debt; **-0,01** if funds are used for investment purpose	Performance depends by the use of funds raised. Parent firms had significantly lower interest coverage ratios, higher debt ratios, lower profit margins on sales, and lower rates of return on assets than their industry peers.
Klein, Rosenfeld, Beranek	1966 1983	83	5 days	+ **4,56**% cumulative **+7,60%** if second event is a sell-off. +**2,58%** if second event is a reacquisition.	Carve-outs have secondary events The magnitude of the price response depends on the type of second event
Otsubo	1983 2000	201	5 days	+**2,50%** if second event is an M&A. **+3,05%** if second event is a secondary offering. **+ 3,87%** if second event is a spin-off. +**3,51%** if second event is a reacquisition.	The stock market expects M&A as a secondary event. If the secondary event is not an M&A the market reacts more positevely.
Nanda	n/a	n/a	n/a	Returns decrease as the ratio of subsidiary assets to nonsubsidiary assets increases and should eventually become negative as this ratio exceeds one.	Firms that typically choose to go in for an equity carve-out will be firms that have, on average, been *undervalued* by the market. Firms that choose to issue equity in the parent corporation will be those that have, on average been *overvalued* by the market.
Vijh	1980 1997	336	3 days	+ **4.92%** when the precarveout subsidiary assets > than the nonsubsidiary assets, +**1.19%** when the subsidiary assets are < than the nonsubsidiary assets.	There is a positive correlation between the excess returns and the ratio of subsidiary to nonsubsidiary assets

Fig.2 Empirical results on ECO announcements; Source: personal elaboration.

CHAPTER III GLOBAL TRENDS IN CORPORATE DIVESTITURES

3.1 Equity Carve-outs global trend overview

3.1.1 Eco trends breakdown by World Region

In ever greater numbers, firms have been announcing carve-outs. With historically strong balance sheets, most firms are not divesting to finance growth or reduce leverage. Rather, they are carving-out or spinning off and divesting to achieve the valuation benefits commonly associated with corporate focus and clarity.

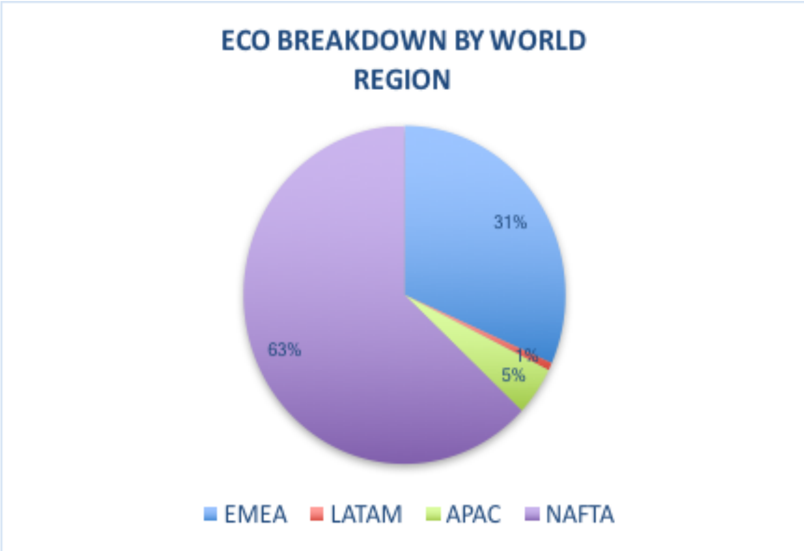

Fig. 3, ECO breakdown by world region, source: personal elaboration from Zephyr data

The pace of corporate separation announcements has rebounded significantly since the end of the financial crisis particularly in the NAFTA region, with 257 carve-outs that represents more than half (63%) of the total number of carve-outs across the world. In the opposite direction, there is the LATAM region with only 3 carve-outs between 2007 and 2017. The EMEA region has a consistent shares with 31% and 129 carve-outs, with a strong increase in the last 5 years. Finally the APAC region contributes with 19 carve-outs for the 5% of the total.

3.1.2 Eco trends breakdown by sectors

Taking the same time horizon 2007-Q12017, the following analysis shows the breakdown by sectors of Equity Carve-outs announcement. As the figure highlights the greater percentage (31.25%) of ECO is distributed in the services sectors with 135 deals. Followed by Machinery, equipment and furniture sectors with 62 deals (16.19%).

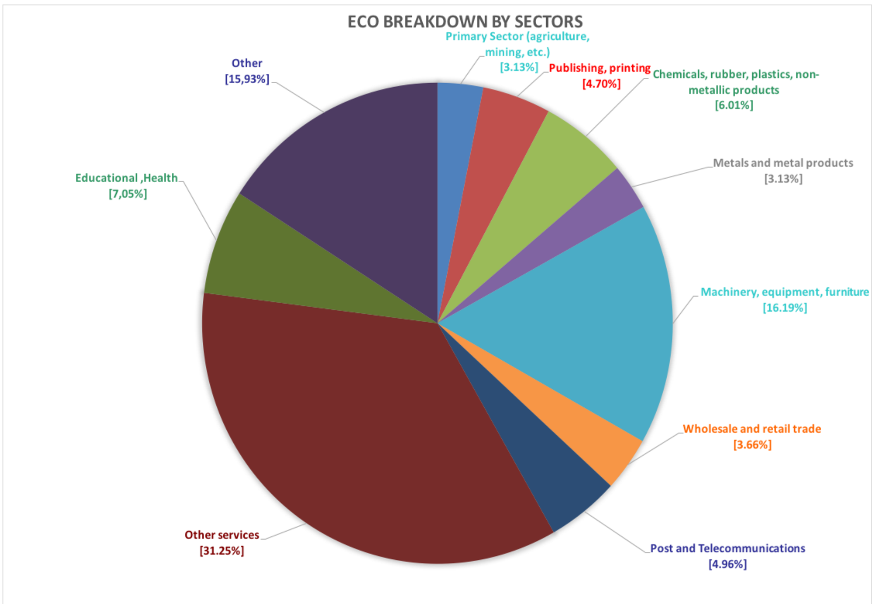

Fig4, ECO breakdown by sectors, source: personal elaboration from Zephyr data

The item Others that is an aggregate that includes food, beverages, tobacco, banks and construction and utility sectors with 61deals, has 16 % of incidence too. The biggest weight is given by the utility sector due to the recent shrink in demand and fall in prices in electricity markets, that resulting drags in stock valuation, led some utility company executives to reassess their portfolios. Indeed separating business lines that no longer fit together can build shareholder value by turning a larger, more diverse company into two strategically focused companies with stronger growth prospects and greater investment appeal (PWC, 2015)[5]. Finally primary sector, Metals and metal products and Wholesale and retail trade are the less numerous sectors with only a 3% respectively.

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5 PWC, "*Carving Out Value, how utilities can grow by shrinking*", 2015.

3.1.3 Carve-outs trends

If we look in details the trends in equity carve-out, considering the last 10 years as time horizon of our analysis, we can see that equity carve-out as increased in the recent years.

Fig.5, ECO n.of deals, source: personal elaboration from Zephyr data

Particularly in the 2013 there is a peak of 47 carve-out across the world, and then the annual number of ECO stabilizes around a mean of 35 deals per annum. What is interesting is that despite in the 2013 there is a peak in the number of deals, if we look at the aggregate deal value (figure 6 below), it is lower than 2014 and 2015. Indeed, the 47 carve-out of 2013 generated only 1.423 MIL € while in 2015 were generated 17.598 MIL € from 35 carve-outs.

Fig. 6, ECO aggregate deal value, source: personal elaboration from Zephyr data

One of the main reason could be the monetary policy of the Central Banks, with the ECB, that following the Federal Reserve, Bank of Japan and the Bank of England, cut the rates on 2014 and in the January 2015 announced the QE, creating a very low-interest rate environment, increasing the appetite for risky assets and encouraging the shift from bonds to equities.

By dividing the 10 years' time horizon into two distinct periods of five years 2012-Q12017 and 2007-2011, we can appreciate how the number of ECOs worldwide increased by 64% as shown in the figures below

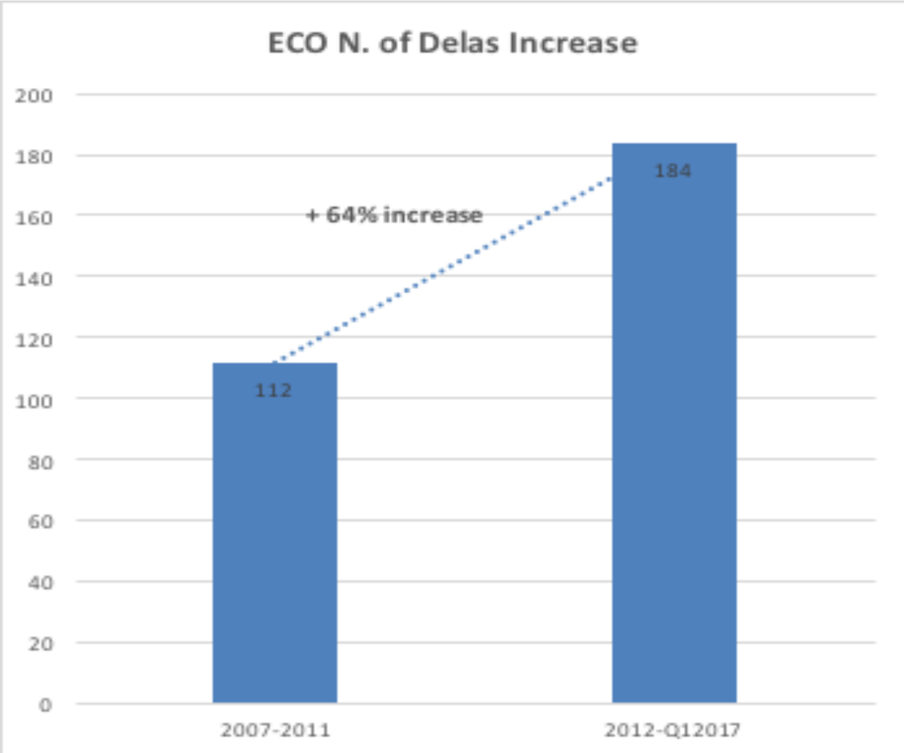

***Fig. 7* ,*ECO increase*,** source: personal elaboration from Zephyr data

3.2 Spin-offs and other divestitures global trend overview

3.2.1 Spin-off trends

About Spin-offs, instead, the aggregate deal value follows the path of the number of deals, as is shown in the figure below.

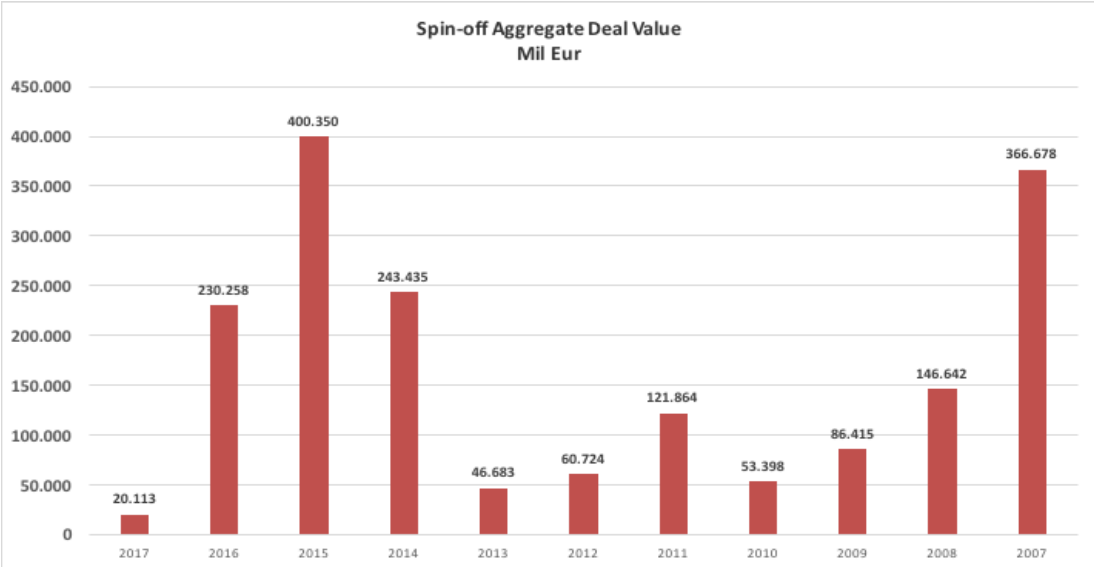

Fig.8, Spin-off aggregate deal value, source: personal elaboration from Zephyr data

Moreover, while, equity carve-outs have a constant path, spin-offs have a decreasing trend in the recent years. After the boom of 2014 and 2015, with more than 1000 deals in 2 years, in 2016 the number of deals drops to the level of 2011 with 358 spin-offs.

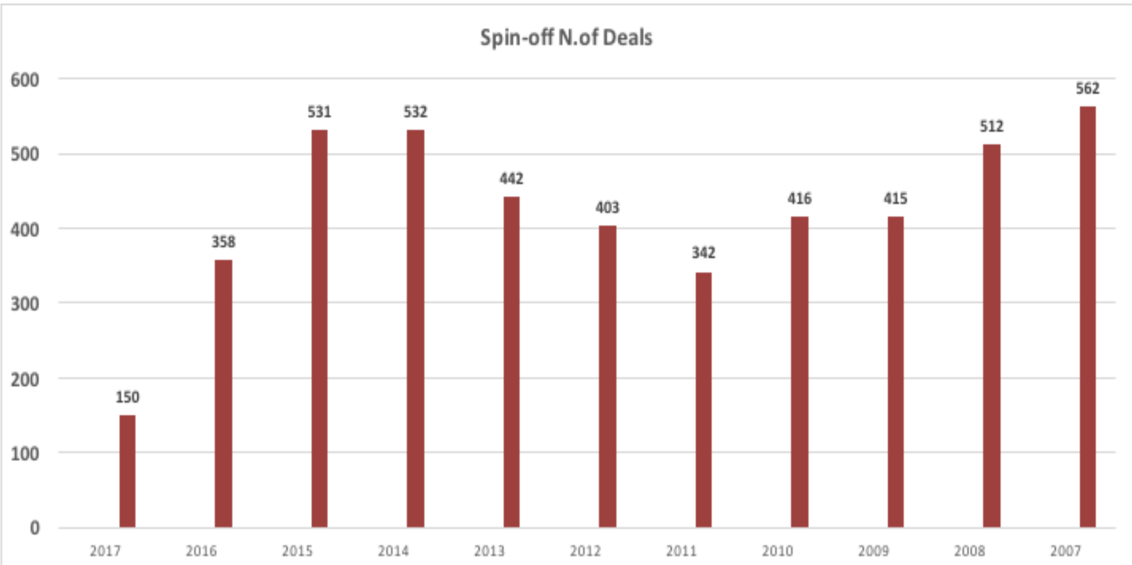

Fig.9 Spin-off n.of deals, source: personal elaboration from Zephyr data

By dividing the 10 years' time horizon into two distinct periods of five years 2012-Q12017 and 2007-2011, it is possible to see that spin-offs raised only by 7,5% as shown in the figures below.

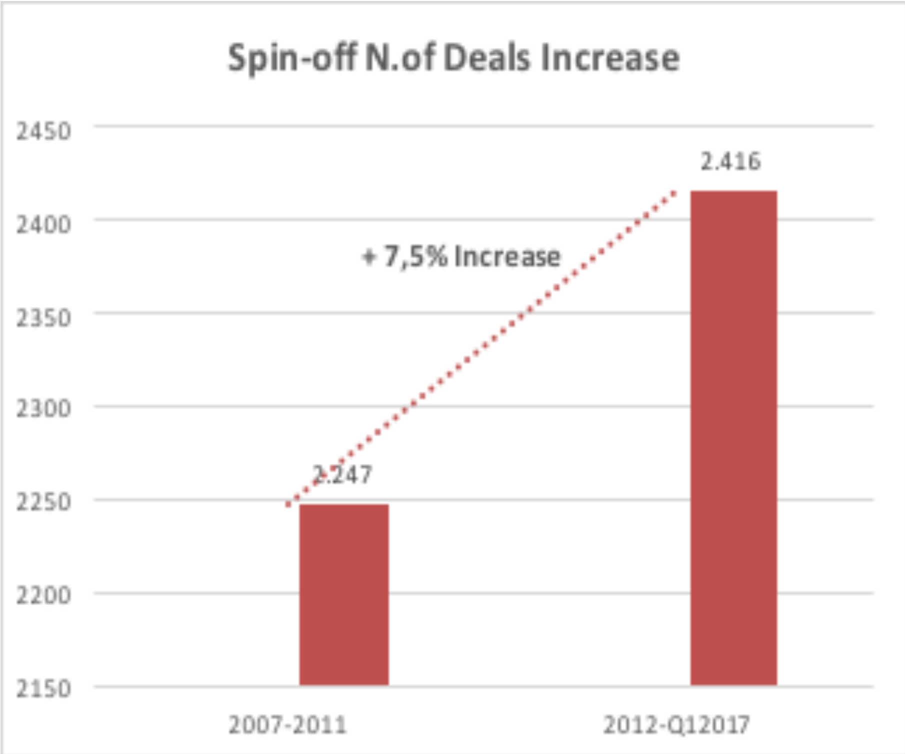

Fig.10, Spin-off increase, source: personal elaboration from Zephyr data

3.2.3 Recent alternatives to Carve-outs and Spin-offs

Clearly it seems that there is a preference for alternative forms of divestiture respect to Spin-offs. Indeed, recent spin-offs are also more likely to include innovative structures, such as *Reverse Morris Trusts (RMTs), cash-rich split-offs, retained shares,* suggesting that senior executives leave no stone unturned in their quest to create value.

According to J.P. Morgan's report[6] (2016), many factors have driven this major shift in the nature of spin-offs, but they all arise from the current low interest rate environment. Low rates are leading to more and smaller spin-offs due to the following factors:

- The cost of capital benefits of investment grade capital structures are currently less pronounced than they have been historically (except in commodity-oriented sectors)
- Non-investment grade capital markets offer debt at record-low cost
- Investors have an appetite for both yield-driven equity (REITs, MLPs, high dividend stocks) and growth stocks; spin-offs often provide an opportunity to target investor clienteles
- Firms enjoy strong access to capital markets and do not need to sell assets to reduce leverage
- Activist hedge funds present attractive investment alternatives in low-rate environments like today and, with their ever increasing assets under management, often pressure firms to spin off their non-core divisions

Structural innovations continue to evolve as firms have continued to embrace the theme of corporate clarity, separation strategies have generally become more sophisticated and innovative.
This global trend is the same also by narrowing the field to the S&P500, as shown in figure 11 below that is a personal adaptation from a report of J.P. Morgan "*Shrinking to grow, evolving trends in corporate spin-offs*" that considers the S&P500 firms in the 5 year between 2010 and 2105.

[6] J.P. Morgan "*Shrinking to grow, evolving trends in corporate spin-offs*", 2016.

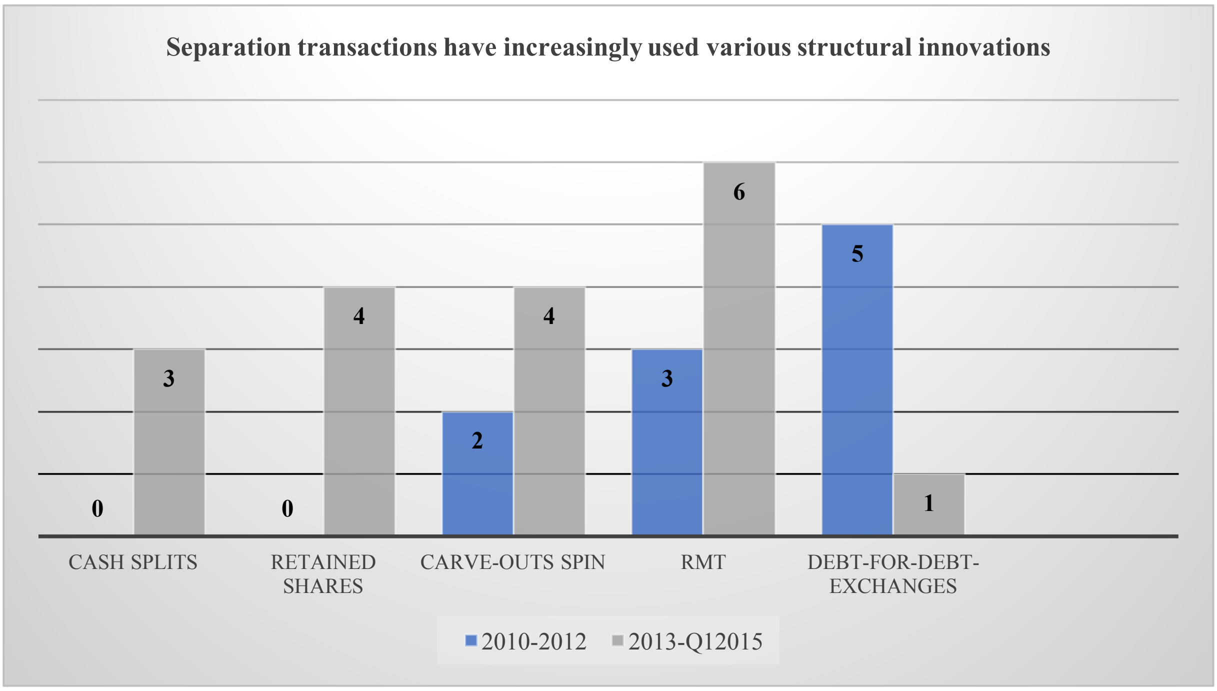

Fig.11, source: Personal Adaptation from J.P. Morgan: "*Shrinking to grow, evolving trends in corporate spin-offs*"

For example, *Reverse Morris Trust (RMT*) transactions, essentially a spin-off coupled with a merger, have doubled, reflecting the positive trends in both corporate clarity and M&A. Similarly, *Carve-Outs* have also seen an uptick in popularity.

This approach provides RemainCo with additional firepower to maximize benefits arising from the focus premium. *Retained Shares Structures*, whereby firms keep a stake in the SpinCo equity for later sell-down have emerged as a common alternative to the carve-out structure, without much of the associated market timing and risk associated with an IPO.

Cash-rich splits, whereby firms contribute assets and cash to a subsidiary which is subsequently exchanged for shares of the parent company, effectively resulting in a buyback of parent company shares, have also been more frequent.

Not all structures have seen a significant pick-up in activity, however. *Debt-For-Debt exchanges*, whereby firms may tax-efficiently monetize an asset in a spin-off above tax basis, have declined from 5 in 2010–2012 to just one.

There are many tools that provide firms contemplating separations with additional flexibility to raise funds, optimize their capital structures, and seek strategic and valuation benefits in conjunction with greater corporate clarity. The evolving use of these structures underscores the willingness to pursue more complex strategies to maximize shareholder value creation (J.P. Morgan, 2016).

3.2.3 The Focus Premium at an all- time high

To summarize, a confluence of economic factors is driving the resurgence in separation activity today:
equity investors preference for focus, low- growth environment, dividend premium, supportive high yield debt capital markets, and willingness to explore new structures. Primarily a sluggish growth environment, low interest rates and attractive capital markets. In addition, the focus premium is at an all-time high

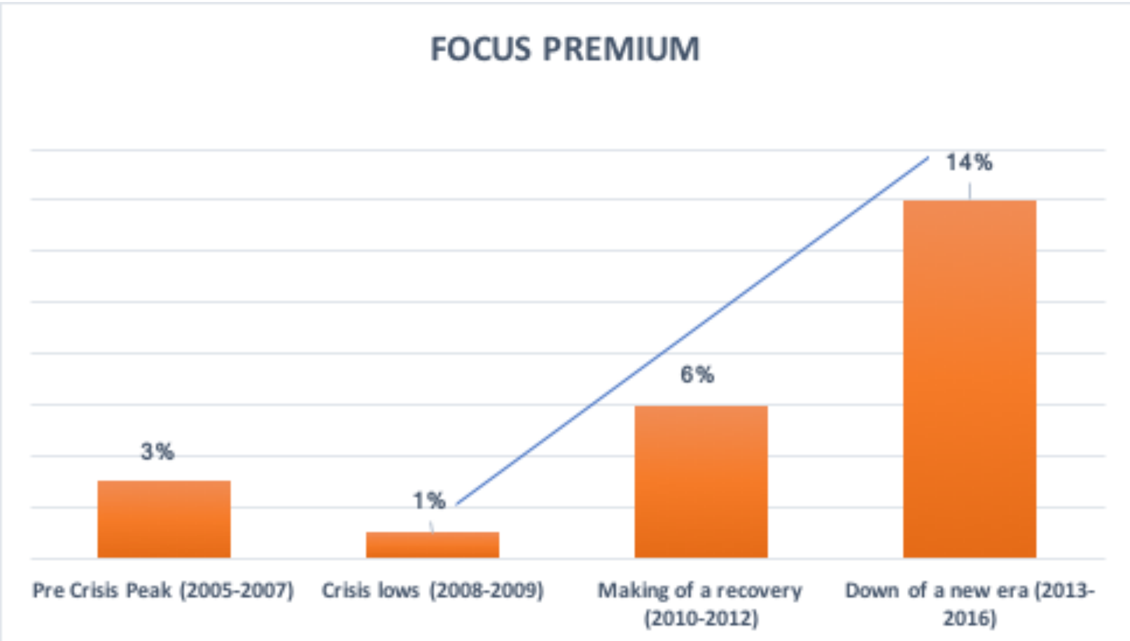

Fig.12, Focus Premium,source: Personal Adaptation from J.P. Morgan: "*Shrinking to grow, evolving trends in corporate spin-offs*"

The focus premium captures the valuation benefit attributed to firms, even those wholly in a particular sector, with a more concentrated focus. It is computed as the percentage difference in the median *P/E ratios* between firms with 1–3 segments and those with 4+ segments (J.P. Morgan, 2016).
As expected, the focus premium is generally correlated with separation activities, and it is elevated in recent years climbing from 1% of 2008-2009 to 14% of 2013-2016, indicating that firms proactively contemplating separations can benefit from investor preferences.

Therefore, management teams, even of firms that operate in one general sector, should continue to assess the value-creation potential from separations. Assuming value can be assessed, these senior decision-makers should then actively discuss the pros and cons of a separation with their boards.

Despite investor pressures for more divestiture activities, boards and management teams, in conjunction with their financial advisors, should continue to consider both the short-term and long-term value benefits of separations. As seen in chapter 1 of this work, separations are associated with friction costs, adverse selection costs, flotation costs and costs due to loss of confidentiality, and if the value benefits are low or short-lived, the decision not to separate may create more long-term value.

In cyclical sectors, for example, a return to more volatile capital market environments may make separations less attractive. In those sectors, it is important to evaluate the benefits of a spin-off or carve-out through the economic cycle.

CHAPTER IV THE FERRARI CASE

4.1 Key Steps Of The Separation

4.1.1 The announcement-day

In Oct. 29th 2014 FCA announced the Spin-off and carve-out of Ferrari. There was a shock in the market and the share price of FCA jumped about 24% in few minutes, from 4,7872 euro up to 5,9265. At the end of the day FCA shares closed at 5,6474 euro, **+17,97%** above the prior closed. The excess return with respect to the FTSE MIB INDEX was **+19,6%.**

Fig. 13 FCA shares the day of Ferrari carve-out announcement. Source Bloomberg.

4.1.2 The Carve-out of Ferrari

In the year after the announcement, following a series of transactions made before the IPO, that established Ferrari N.V as the new holding company of the Ferrari group, FCA arrived to own 90 % of common shares and voting power of *New Business Netherlands N.V.*, renamed *Ferrari N.V.* ("Ferrari") shortly prior to completion of the offering in Oct. 21th, 2015.

Piero Ferrari held the remaining 10 percent of Ferrari N.V. common shares and voting power and Ferrari N.V. held all of the issued and outstanding share capital in Ferrari S.p.A. The chart below summarizes the Ferrari S.p.A. ownership structure before the IPO.

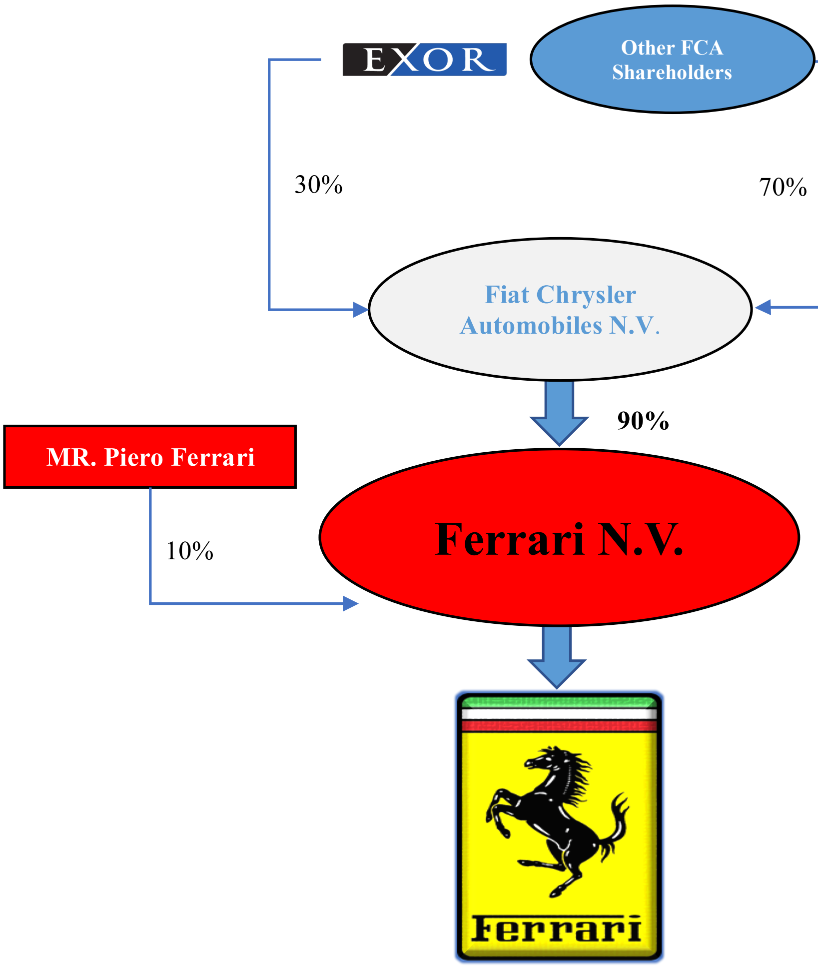

Fig. 14 Ferrari ownership structure pre-IPO. Source: personal elaboration from company filings data.

On Oct. 21th, 2015 FCA sold a **10%** of the outstanding share capital of Ferrari N.V through an initial public offering ("IPO") and concurrent listing of the common shares of Ferrari N.V. on the New York Stock Exchange ("**NYSE**") under the symbol "**RACE**". As a result of the IPO, the new ownership structure became the following:

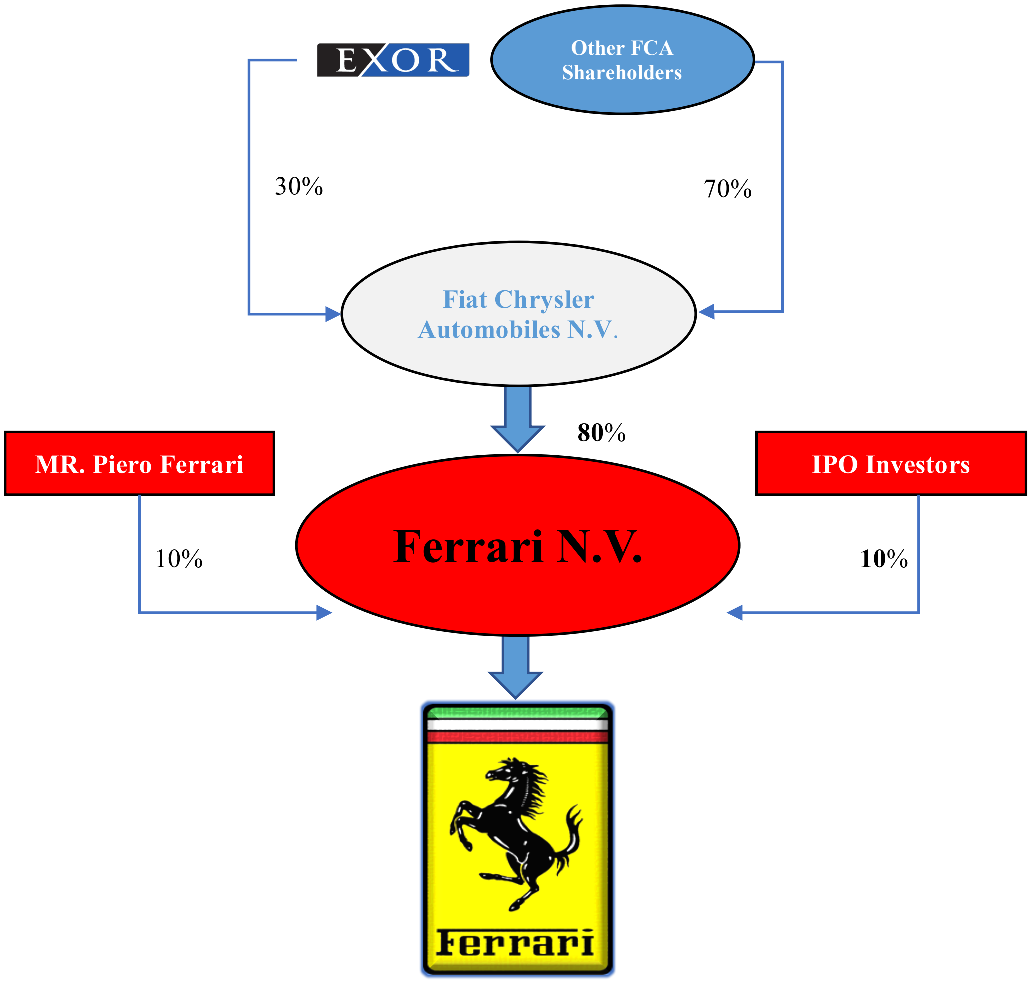

Fig. 15 Ferrari ownership structure post-IPO. Source: personal elaboration from company filings data

4.1.3 The IPO and the first day of trading

October 21th,2015

FERRARI N.V.
NYSE : RACE

$ 893 million

Initial Public Offering
Price $ 52.00
Shares : 17,175,000

Implied valuation:
- ***Equity value*** **$9.8 bn**
- ***Enterprise value*****: $10. 8 bn**

Share price closed +6% above offer price.

Fig.16 Ferrari IPO summary. Source Personal elaboration

The IPO collected **$ 893** million, Ferrari was listed on the **NYSE** with the symbol "**RACE**".

- The base deal size was **17,175,000** common shares of Ferrari, equal to approximately 9 % of the Ferrari share capital.
- The Greenshoe option granted the underwriters the option to purchase up to an additional **1,717,150** common shares. That is another 1% of the Ferrari share capital.
- UBS Securities LLC, Merrill Lynch, Pierce, Fenner & Smith Incorporated, Allen & Company LLC, Banco Santander, S.A., BNP Paribas Securities Corp., J.P. Morgan Securities LLC and Mediobanca—Banca di Credito Finanziario S.p.A. were acting as *Joint Bookrunners* and UBS Securities LLC was acting as *Global Coordinator* for the offering.
- Offering priced at **$52** per share, at the top of the $48-$52 filing range.
- Generated demand was from over 500 investors, and the transaction nearly 20x oversubscribed based on indications of interests.
- The first trading day started at +15%; share price closing **6%** above offer price in the first trading day.
- The final offer price implied an *Equity value* of **$9.8 bn** and *EV* of **$10.8 bn,** that valuation was in line with absolute luxury peer Hèrmes on a *P/E* basis.

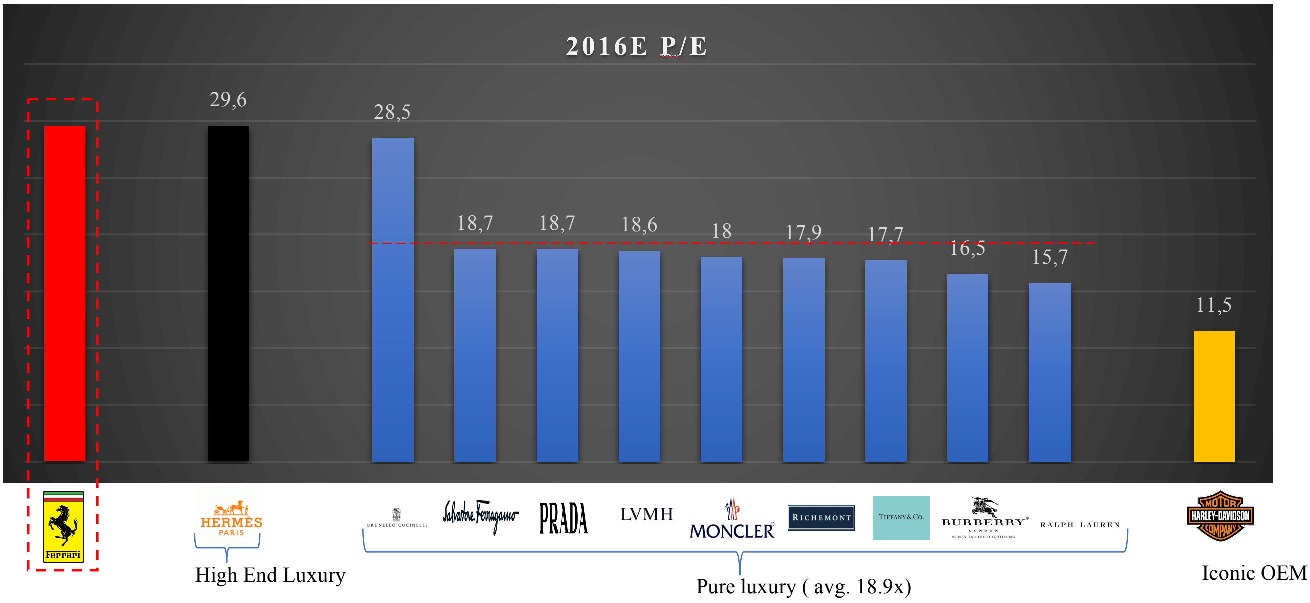

Fig. 17 peers' trading multiples, source:personal adaptation from Company filings, research reports, Facset as of Oct. 20th, 2015.Ferrari @copyright

Also the *EV/EBITDA* multiple was in line with Hermès and the High end luxury segment, above the average of the other luxury players.

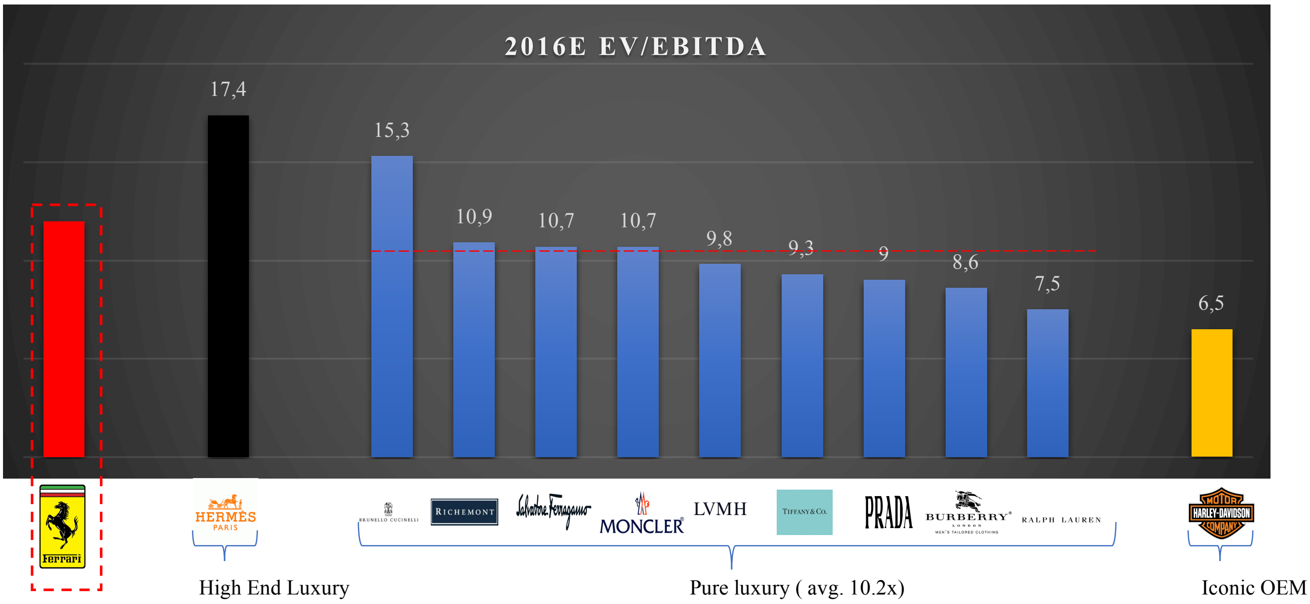

Fig. 18 peers' trading multiples, source: personal adaptation from Company filings, research reports, Facset as of Oct. 20th, 2015.Ferrari @copyright

Ferrari's EBITDA margin was in line with other luxury peers, while the ROIC was in the top range.

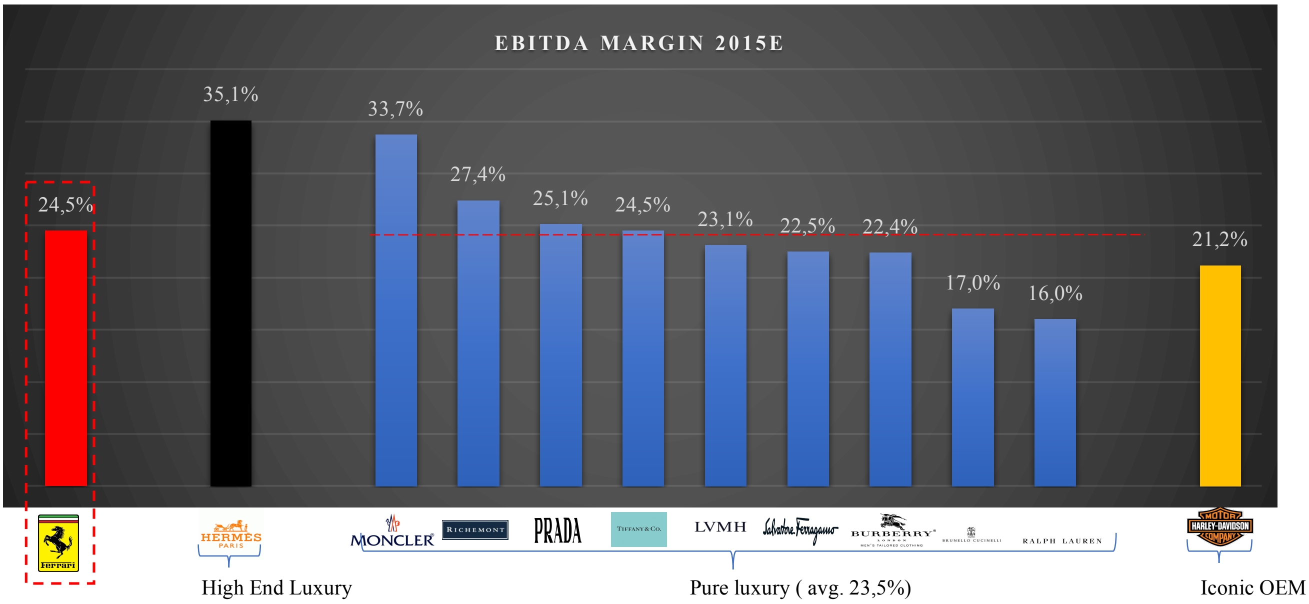

Fig. 19 peers' Ebitda Margin source: personal adaptation from Company filings, research reports, Facset as of Oct. 20th, 2015.Ferrari @copyright

ROIC calculated[7] as:

$$\frac{((\text{EBIT}+\text{ Goodwill impairment}) * (1\text{-t}) + \text{income from associates})}{\text{Invested Capital*}}$$

*With Invested Capital being PP&E + Intangible assets + NWC + BV of associates.

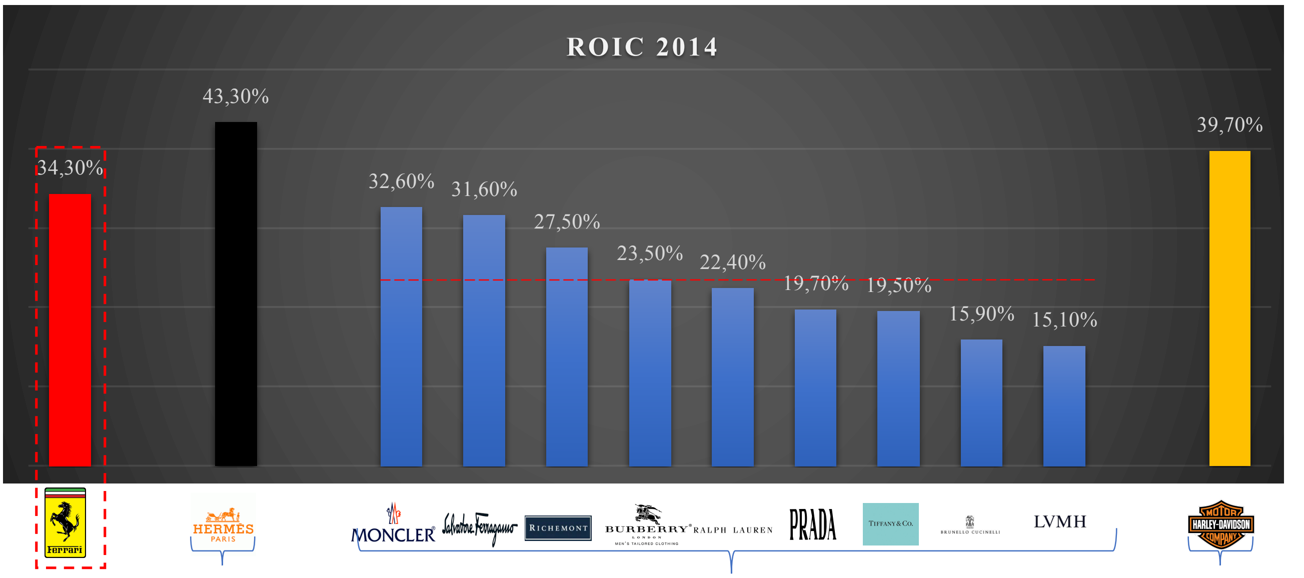

Fig. 20 peers' ROIC, source: personal adaptation from Company filings, research reports, Facset as of Oct. 20th, 2015.Ferrari @copyright

7 Source: Company filings, research reports, Facsets as of Oct. 20th, 2015. Ferrari @copyright

As comparable companies' trading multiples shown Ferrari was recognized as one of the strongest, most iconic luxury brands. The investors feedback was largely positive, some strengths were premier global brand recognition; ultimate luxury position, attractive exclusivity and the pricing power dynamics.

The success of the IPO was due to the possibility to enable Ferrari to pursue its business strategies with greater operational and financial independence while preserving the unique character of its business and organization. Indeed, investors recognized that as a standalone company with an iconic brand name, Ferrari would be better positioned to promote and extend the value of its brand, maintain its heritage, attract and reward technical and management talent. Moreover, the IPO enhanced Ferrari's position among the world's premier luxury lifestyle companies.
Ferrari's Management was an other strength for investors. Indeed, Ferrari management team benefits from the leadership of the CEO, Amedeo Felisa, who brings over 40 years of automotive technical experience and skill to his leadership role, and Ferrari chairman, Sergio Marchionne, who engineered the operating and financial turnaround of Fiat and Chrysler and the global expansion of FCA, into the seventh largest automaker in the world. In addition, Alessandro Gili, Ferrari CFO, who led the operation from start to finish was a guarantee of success. Thanks to them, investors believed that skilled team would have given Ferrari brand the leading talent in the industry and the ability to carry out its business plan objectives.

Finally, the choice of listing on the New York Stock Exchange was also a key factor that increased Ferrari's investment appeal, particularly in the United States which has historically been one of its largest and most important markets.[8]

Even if being considered as luxury brand gave Ferrari the advantage of the exclusivity, however, the capital intensity and leverage consistency with luxury peers was one of the main concerns about the future of the firm. Furthermore, investors were worried about the limited growth trajectory due to the fixed number of 7.200 units produced every year and the brand dilution risk if that number would be increased in the future.

The Formula 1 business was also seen as a "Black Box" due to Mercedes's domain, the huge amount of absorbed technological and economic resources, and the absence of the World Championship victory since 2007. In addition, some concerns regarded the drag from China slowdown that at the time of the IPO was one of the main markets trouble.

[8] That is consistent with prior studies on eco like the simultaneous listing of Infineon Technologies by Siemens on the Frankfurt and New York Stock Exchanges)[8] as reported by Wagner, 2004.

STRENGHTS	CONCERNS
Premier Global Brand Recognition	Limited Growth Trajectory, Brand Dilution Risk
Ultimate Luxury Positioning	Drag From China Slow Down
Attractive Exclusivity/ Pricing Power Dynamics	Capital Increase And Leverage Consistency With Luxury Peers
Strong (but new) Management Team	Formula 1 Is A " Black Block"
	Capital Market Context And Technicals Pressuring Shares

Fig. 21 Investor Feedback Summary. Source: personal adaptation Ferrari data- Ferrari @copyright

4.1.4 The Spin-off from FCA

After the IPO, FCA owned approximately **80%** of the outstanding share capital of a special firm "*FE New N.V*", a newly-formed Dutch public limited company, which for simplicity we can call "**Predecessor Ferrari**". Through the remaining steps of the separation, FCA's interest in the Predecessor Ferrari business was transferred or "spun off" to holders of FCA shares on a pro rata basis and to holders of FCA's 7.875% mandatory convertible securities ("MCSs")[9]

Upon effectiveness of the demergers, each shareholder of FCA became entitled to receive **1** *common share* of Predecessor Ferrari for every **10** FCA *common shares* and **1** Predecessor Ferrari *special voting share* for every **10** FCA *special voting shares* held as of the record date of the demergers. In addition, Ferrari issued common shares that FCA delivered to holders of its MCSs. Shortly following completion of the demergers, Predecessor Ferrari, was merged with and into Ferrari.

The number of FCA shares that shareholders owned did not change as a result of the spin- off. Ferrari common shares continued to trade on the NYSE under the "RACE" ticker symbol. In addition, Ferrari common shares started to trading on the Mercato Telematico Azionario managed by Borsa Italiana ("MTA") on January 4, 2016, under the RACE ticker symbol too.

[9] In December 2014, FCA issued mandatory convertible securities that would be converted automatically into FCA common shares in December 2016 (the "MCS"). Under the terms of the MCS, if FCA were to conduct a spin-off distribution to holders of its common shares consisting of equity interests in a subsidiary that upon issuance will be listed on a U.S. national securities exchange, then holders of the MCS will automatically receive a *pro rata* distribution of such equity interests. The Separation of Ferrari meets the definition of a spin-off under the terms of the MCS.

The common shares of Ferrari N.V was the following:

- FCA would no longer have an ownership interest in Ferrari N.V.
- FCA Shareholders holds 56% of Ferrari N.V. common shares.
- Exor holds 24% of Ferrari N.V. common shares.
- Piero Ferrari holds 10% of Ferrari N.V. common shares.
- Ipo investors holds another 10% of Ferrari N.V.common shares.

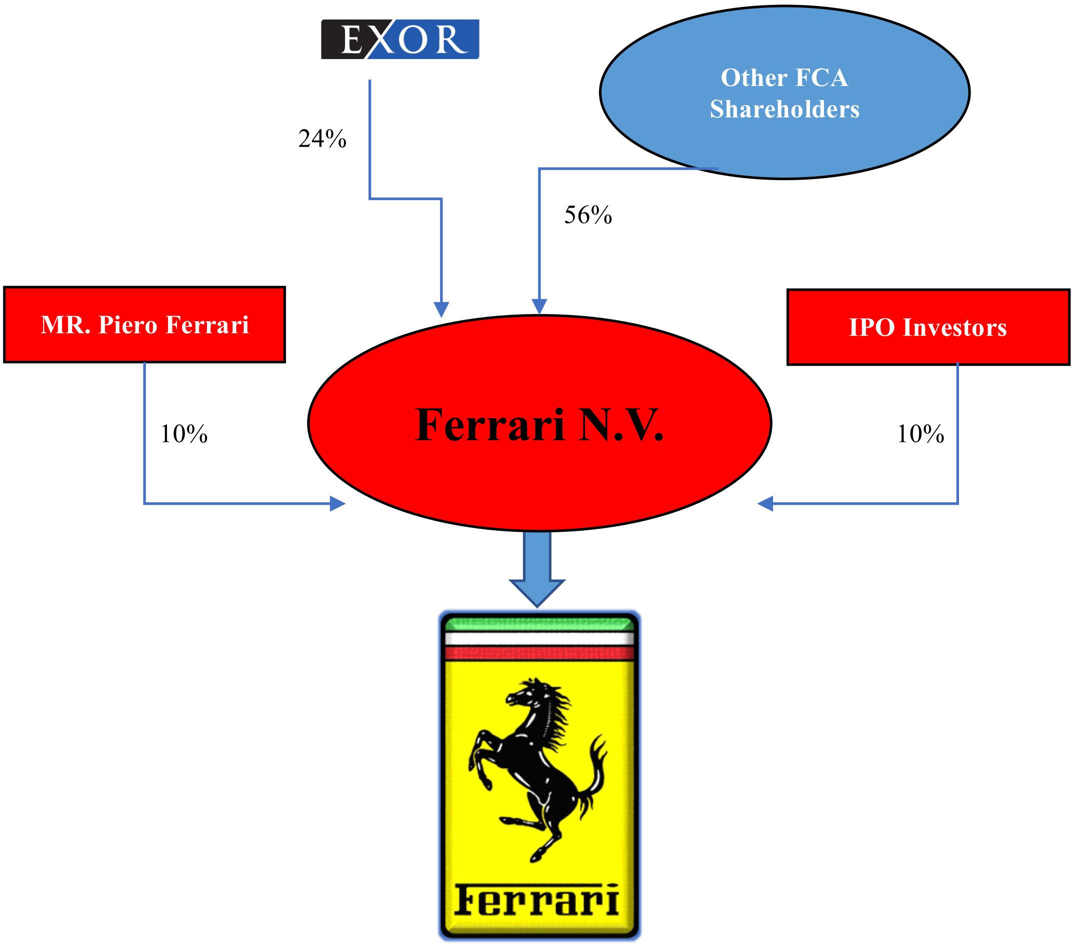

Fig. 22 Ferrari ownership structure post SPIN-OFF. Source: personal elaboration from company filings data

Upon completion of the Separation, Ferrari N.V. became the parent company of the Ferrari group through a 100 percent shareholding in Ferrari S.p.A.

As a result of the Separation Piero Ferrari and any holders of *special voting shares* in FCA immediately prior to completion of the Separation, including Exor, received *special voting shares* in the surviving company, Ferrari N.V. That means that after the Separation Exor held approximately 33.4 percent voting power in Ferrari, Piero Ferrari held approximately 15.3 percent of the voting power and public shareholders held approximately 51.3 percent of the voting power.

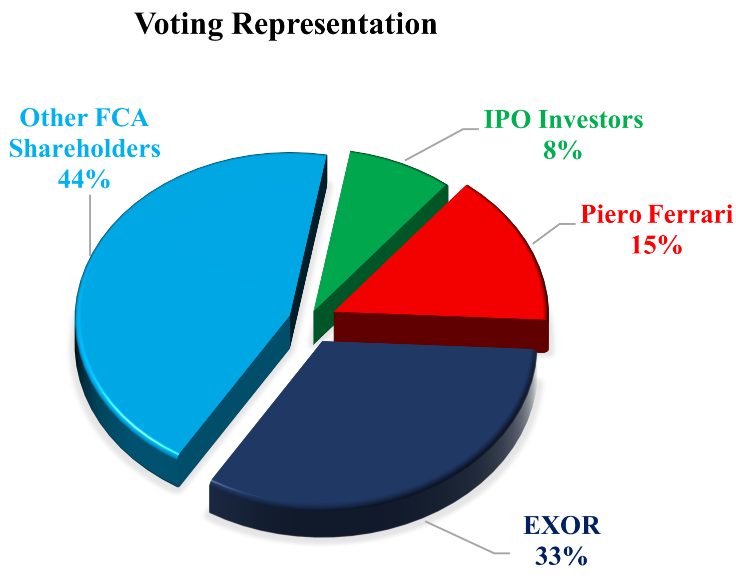

Fig 23 Ferrari ownership structure post separation. Source: personal elaboration from company filings data

Double voting rights granted to Ferrari shareholders that retain the interest in Ferrari for three years or receive Ferrari shares in the spin-off through FCA shares entitled to double voting rights. Thanks to that, Exor and Piero Ferrari control c.34% of the economics and just under c.50% of the votes post spin-off.

4.2 Did The Separation Create Value For Shareholders?

4.2.1 FCA performance after the announcement

It is now the time to try to understand if the separation of Ferrari from FCA created or reduced the value for FCA shareholders. To do this, I assume the position of a shareholder typology that I named **Value Investor**, for example a classic Italian saver, a long-term return fund, or an investor that simply trusts in FCA management. That Value Investor does not have short-term trading goals but a 3-5 years investment time horizon. In my imaginary situation to properly judge only the Spin-off and Carve-out operations, I do not consider:

1. Investors that held FCA shares before the day of the announcement because it is not possible to know all the prices at which they bought shares.
2. Capital gain taxes.
3. The effect of the Inflation because at that time was near zero or even negative.
4. The presence of any other alternative investments because I analyze the situation of a shareholders that experiences the operation and can make his choices only after the announcement and the spin-off.

Assume that our Investor bought **100** or multiples FCA shares at the opening bell of Oct. 29th 2014, the starting price was **4,7872** € per share. The worth of his participation was **479** euro or multiples. At the end of the day, with shares that due to the Ferrari spin-off announcement effect jumped **+17.97%** up to **5,6474** € per share, the worth of his participation was **565** euro or multiples. The excess return respect to the FTSE MIB Index was even higher **+19,6%.**

Portfolio Value Pre announcement				Portfolio value post announcement			
Shares	N.of Shares	Price	Value	Shares	N.of Shares	Price	Value
FCA	**100**	**4,7872**	**€ 478,72**	**FCA**	**100**	**5,6474**	**€ 564,74**
Initial Value			**€ 479**	**Total Final Value**			**€ 565**
				Overall Return on Initial investment			17,97%
				FTSE MIB INDEX RETURN			-1,64%
				Excess return			**19,61%**

Fig.24 Excess return of an imaginary investor the day of the announcement. Source: Personal elaboration

That results was amazing considering that existing literature about carve-outs announcement reports an abnormal performance between 3 to 5 day after the announcement in a force between +**1,1%** (Vijh, 1999) and + **6,63%** (Allen and McConnell, 1993). Indeed, in the 5 days after the announcement FCA shares climbed to the price of 5,7623 + **20,3%** respect to closed price before the announcement.

Fig. 25 FCA shares 5-day after Ferrari carve-out announcement. Source Bloomberg.

Only Comparing that results with prior researches on equity carve-outs we can understand the magnitude and the importance of Ferrari carve-out.

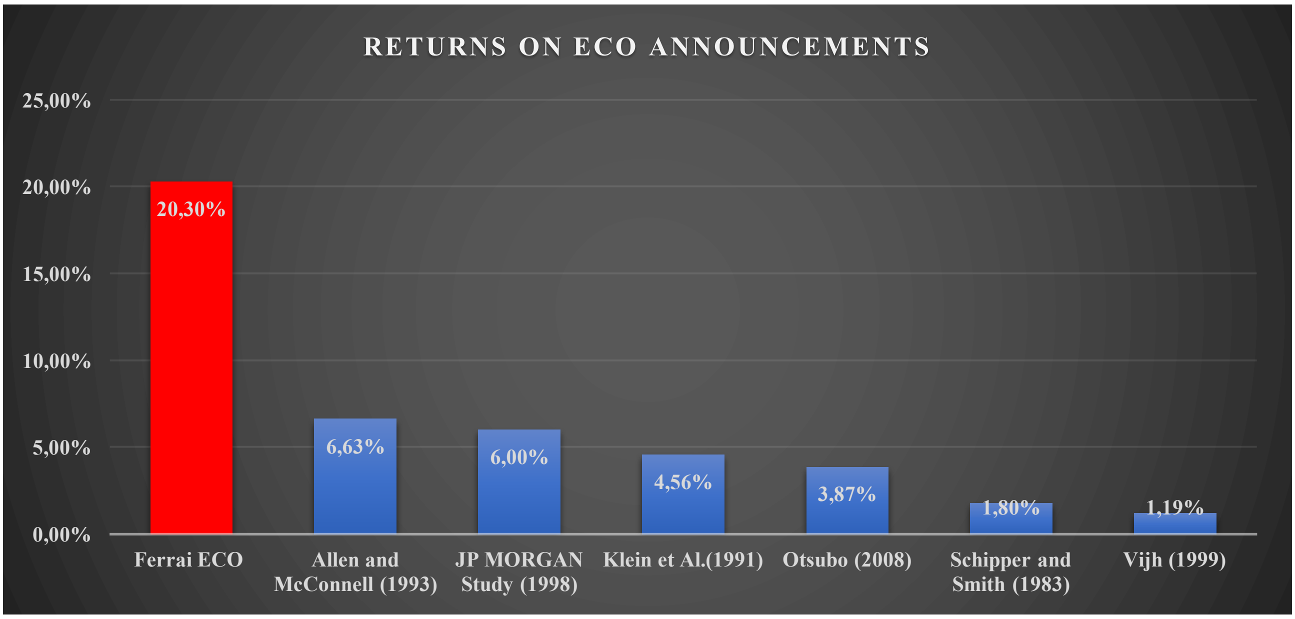

Fig. 26 FCA performance and existing literature on ECO announcements. Source: Personal elaboration.

As the graph shows, Schipper and Smith (1986) that examined 76 equity carve-outs that took place over the period 1965 through 1983 reporting an average excess return of +1.8 percent over a five-day interval leading up to the carve-out announcements. In the same direction moved Vijh that reported a +1,19% over 3-5 days after carve-out announcement. By contrast, Otsubo (2008) explained that when the secondary event is a spin-off, the performance could reach +3,87%.

Klein, Rosenfeld and Beranek (1991) in their studies found that a carve-out is usually the first stage in a two-stage scenario, so a measure of the success or failure of this strategy is the parent's combined share-price response to both events. They reported a combined cumulative abnormal return over the five-day periods of + 4.56%.

Finally, Allen and McConnell (1998) reported an average excess stock return of +2.12 percent over the three-day interval surrounding carve-out announcements. However, when the funds raised will be used wholly or primarily to repay debt, the average excess return is +6.63 percent. In the same direction, a study of JP Morgan in 1998 examined 43 Carve-outs during the 1990ies with the result that the share price of the parent rose on average around 6% until 5 days after the announcement of the Carve-out.

The performance of FCA shares in the year after the announcement was extraordinary +84%, despite some "*black swans*" that pressured the market like the Greek Crisis of May 2015, the Chinese stock Market Crash of August and September 2015 and finally the Volkswagen emission scandal revealed that caused the crash of all the automotive sector.

Fig. 27 FCA shares 1 year after Ferrari carve-out announcement. Source Bloomberg.

As figure shows, FCA never lost the accumulated gain after the Ferrari Spin-off announcement. Furthermore, after the first announcement, FCA shares benefited of an extraordinary *momentum* that pushed shares for more than one year with analysts and investment banks that continuously rose their target price. That result is consistent with the argument of Gilson, Healy, Noe, and Palepu (2001), that showed how breakups increase the quantity and quality of analyst coverage as well as improve the information environment for post-breakup firm.

FCA also strongly outperformed the FTSE MIB Index, S&P 500 Index, Euro Stock 50 Index in the year after the announcement.

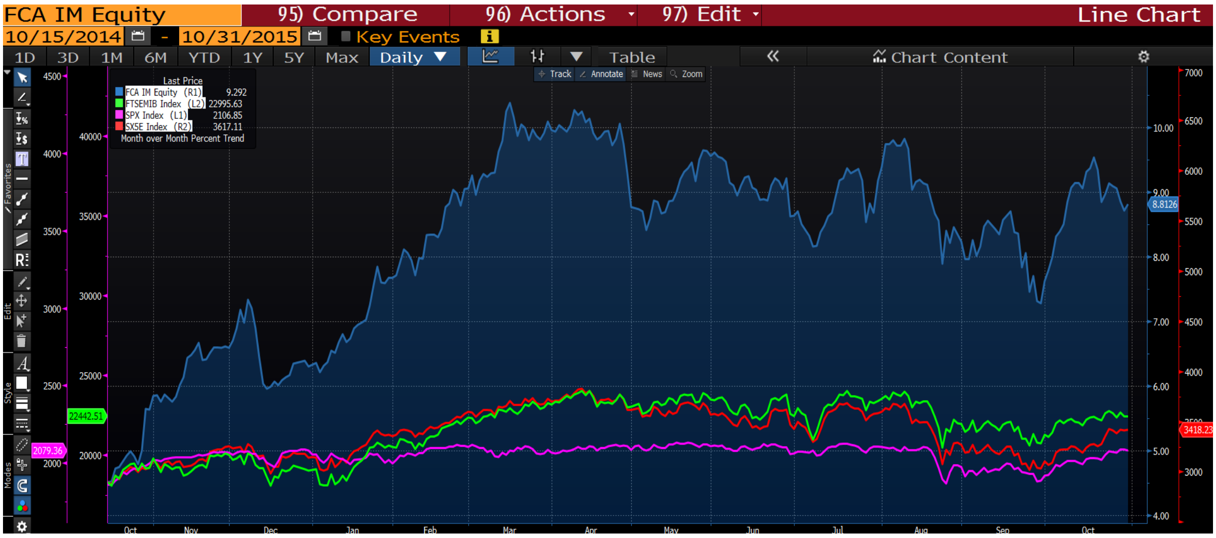

Fig. 28 FCA shares and main indexes 1 year after Ferrari carve-out announcement. Source Bloomberg.

Even if not all the gain can be ascribable to Ferrari announcement, because all the automotive sector lived a positive year. However, as figure below points out, since Oct. 29th 2014, the day of the Ferrari announcement, FCA represented by the blu line, crossed all the other lines, and started to over perform all major automotive brands, General Motors, Ford, Peugeot, Volkswagen, and Renault.

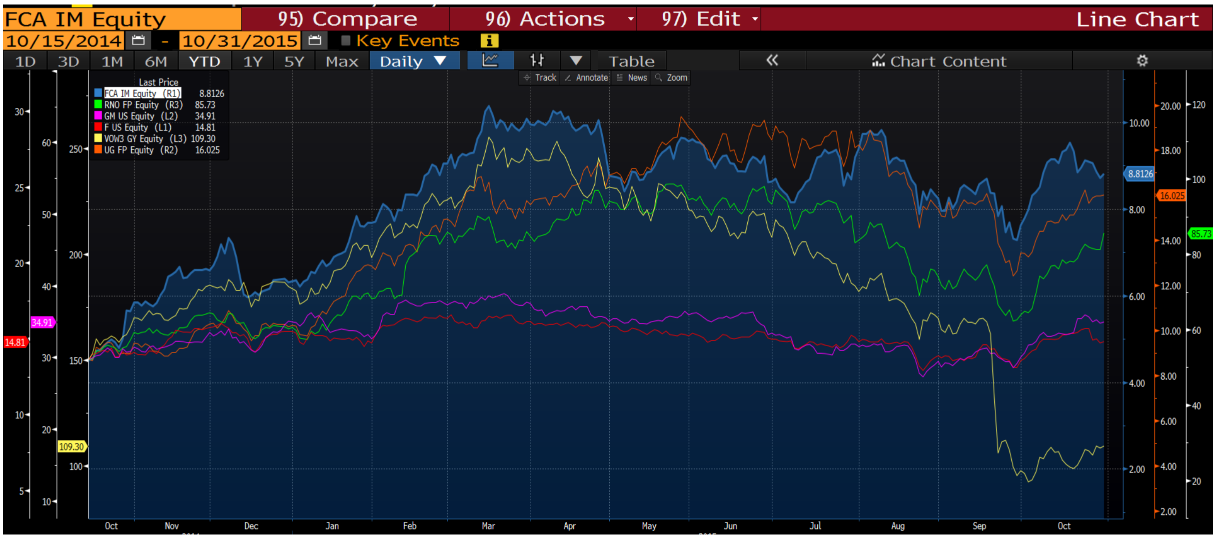

Fig. 29 FCA and other automotive brands 1 year after Ferrari carve-out announcement. Source Bloomberg.

4.2.2 The value investor

As said, our Investor is a value investor and he does not sell the shares waiting for the Spin-off and *pro rata* distribution of Ferrari shares. At the Spin-off date, we might expect that because of the separation, FCA shares come back to **4,7872** price or near and the loss of value is compensated with the value of Ferrari shares assigned *pro rata*, as in a zero-sum game, classical in spin-off operations.

Fig.30 FCA shares performance since Ferrari announcement until spin-off. Source Bloomberg

As the figure shows, instead, on Jan. 7th 2016, after all the adjustments and *pro rata* distribution of Ferrari shares, the value of FCA shares was **7,5966** that means an amazing capital gain of **+ 58,7%** for the value investor without considering the Ferrari shares now held. Moreover the sum of Market Cap of FCA and Ferrari after the spin-off more than doubled the Market Cap of FCA before the announcement, climbing from **7,07** €bn up to **19,53** €bn.

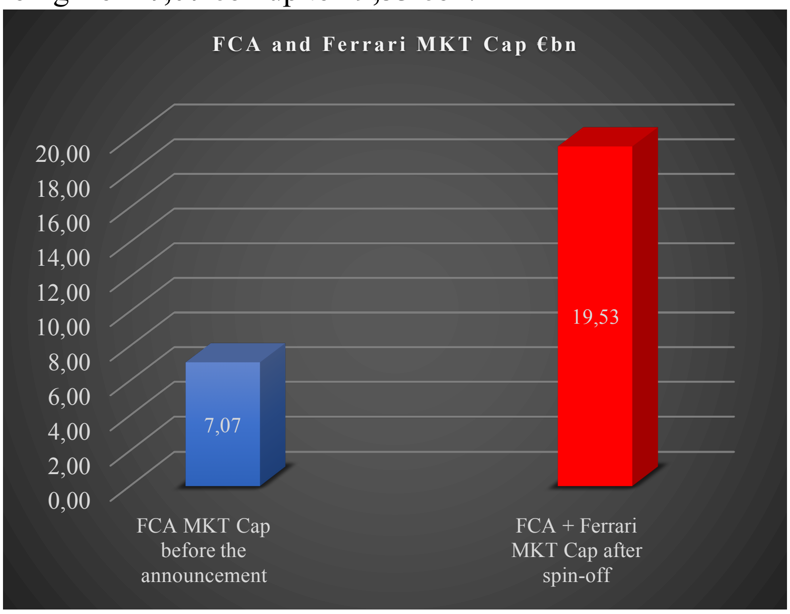

Fig. 31 FCA and Ferrari MKT Cap. Source personal elaboration Borsa Italiana data.

To exactly compute the overall return on the initial investment, we must consider Ferrari shares now in the portfolio of our investor. Indeed, if we add to the 100 FCA shares held by the Investor, the **10** Ferrari shares (1 Ferrari share for every 10 FCA shares held) at the price of the Ferrari IPO **43** euro, the total final value of his portfolio is now **1190** euro (760 FCA + 430 Ferrari). Remembering that the initial value of the portfolio was 479 euro, adding the new value of FCA shares and the shares of Ferrari the return on the initial investment is + **149%**.

Portfolio Value Pre announcement				**Portfolio Value post spin-off as at 07/01/16**			
Shares	N.of Shares	Price	Value	Shares	N.of Shares	Price	Value
FCA	100	4,7872	€ 478,72	FCA	100	7,5966	€ 759,66
				Ferrari	10	43	€ 430,00
Initial Value			**€ 479**	**Total Final Value**			**€ 1.190**
				Overall Return on Initial investment			149%
				FTSE MIB INDEX RETURN			5,40%
				Excess return			**143%**

Fig.32 Excess return of an imaginary investor post Spin-off. Source: Personal elaboration

The excess return over 15 months is **+143%** with our Investor that made nothing, just held FCA shares, since the day of the announcement until the day of the spin-off.

At that point we can say with certainty that the combined carve-out and spin-off of Ferrari not only created value for shareholders but also offered our investor the possibility to make other 4 choices:

1. Sell both FCA and Ferrari shares and earn a +149% immediately.
2. Sell FCA shares, take the gain and hold only Ferrari shares.
3. Sell Ferrari shares and hold only FCA shares.
4. Still hold both FCA and Ferrari shares.

4.2.3 Sell FCA shares, take the gain and hold only Ferrari shares

Let's analyze the possible choices that after the spin-off our investor could make. The most conservative choice is to sell both FCA and Ferrari shares and earn a +148,5% profit immediately.

A halfway alternative should be to sell FCA shares after the spin-off and hold Ferrari shares. In that case the investor earns immediately a + 58,7% on the FCA participation sold, but still has 10 Ferrari shares at 43 € per share in his portfolio.

On Sep. 04th 2017, after 20 months since the spin-off and almost 3 years after the announcement, the return on the initial investment should be +262%, while the excess return **+248%**.

Portfolio Value Pre announcement				**Portfolio Value with FCA Sale as at 04/09/17**			
Shares	N.of Shares	Price	Value	Shares	N.of Shares	Price	Value
FCA	100	4,7872	€ 478,72	FCA (SOLD)	100	7,5966	€ 759,66
				Ferrari	10	97,25	€ 972,50
Initial Value			**€ 479**	**Total Final Value**			**€ 1.732**
				Overall Return on Initial investment			262%
				FTSE MIB INDEX RETURN			13,74%
				Excess return			**248%**

Fig.33 Portfolio performance of an imaginary investor with FCA sale. Source: Personal elaboration

That performance is due to the extraordinary path of growth of Ferrari shares. Indeed, after a period where the market needed to understand if the IPO price was justified by the fundamentals of the firm, Ferrari started an incredible bull trend that brought the shares to more than double the IPO prices after 20 months.

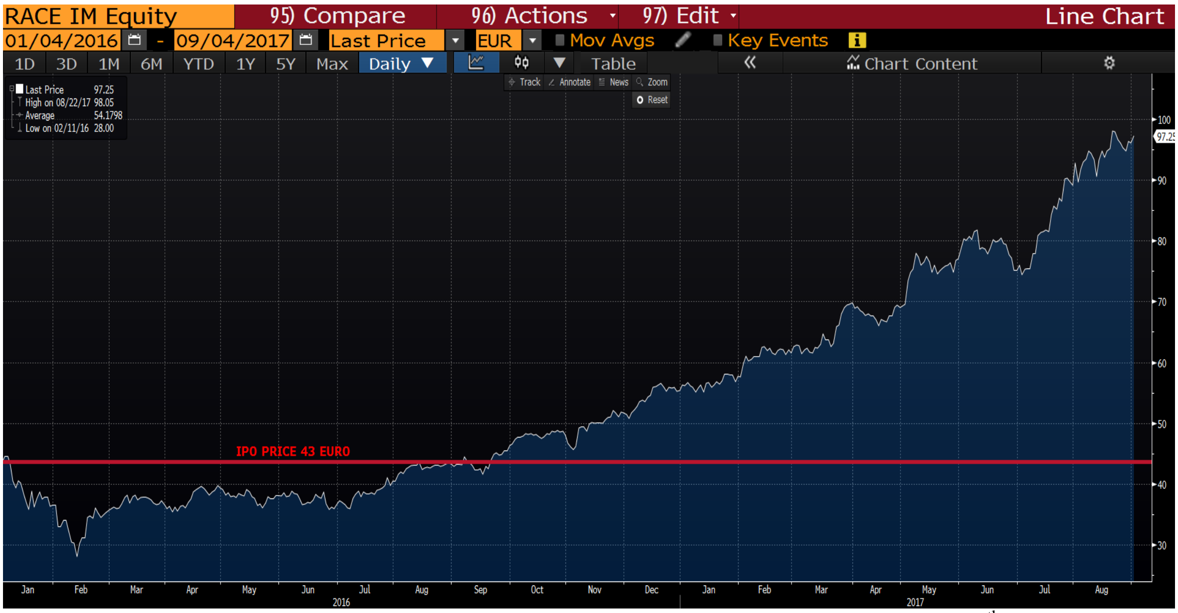

Fig.34 Ferrari shares performance since IPO. Source Bloomberg as at Sept 04th 2017

Also the Ferrari shares listed on the "NYSE" followed the same growth pattern, and doubled its IPO price.

Fig.35 Ferrari shares performance since IPO. Source Bloomberg as at Sept 04th 2017

4.2.4 Ferrari vs Luxury peers: There is no "RACE"

As seen, Ferrari IPO valuation and multiples were in line with pure luxury brands, 2 years after the IPO we might ask if that valuation was correct. Is really Ferrari a pure luxury brand? The answer is in the chart below.

Fig.36 Ferrari shares vs luxury peers since IPO. Source Bloomberg as at Sept 01th 2017

As it is possible to see, there is no "Race", Ferrari (the red line) in the last year strongly outperformed all the major luxury brands, with the market that recognized it as more than a luxury brand

Fig.37 Ferrari shares vs MSCI World Luxury Index since IPO. Source Bloomberg as at Sept 01th 2017

Furthermore, Ferrari also outperformed the MSCI World Luxury Index.

4.2.5 Sell Ferrari shares and hold only FCA shares

The FCA shareholders has also in hand the option to sell Ferrari shares after the spin-off, earning 43 € per share or 430 € every 10 shares held, and still hold only FCA shares. This is strategy results in similar return as prior strategy of sell FCA shares and hold only Ferrari shares. Indeed, the excess return on the initial investment in the 3 years between the day of the announcement and Sept. 2017 is +257%

Portfolio Value Pre announcement				**Portfolio Value with Ferrari sale as at 04/09/17**			
Shares	N.of Shares	Price	Value	Shares	N.of Shares	Price	Value
FCA	100	4,7872	€ 478,72	FCA	100	13,43	€ 1.343,00
				Ferrari (SOLD)	10	43	€ 430,00
Initial Value			**€ 479**	**Total Final Value**			**€ 1.773**
				Overall Return on Initial investment			270%
				FTSE MIB INDEX RETURN			13,74%
				Excess return			**257%**

Fig. 38 Portfolio performance of an imaginary investor with Ferrari sale. Source personal elaboration

However, if we narrow the time horizon only at the period after the spin-off, despite the positive performance, the option to sell Ferrari shares is not a good choice. Indeed, as the figure below points out Ferrari in the last 9 months outperformed FCA and selling Ferrari shares, our investor sacrifices great part of the gain.

Fig.39 FCA and Ferrari post Spin-off performance spread. Source Bloomberg

4.2.6 Still hold both FCA and Ferrari shares

With all this in mind, it is easily to understand that the best choice would be still hold both FCA and Ferrari shares as the figure evidences.

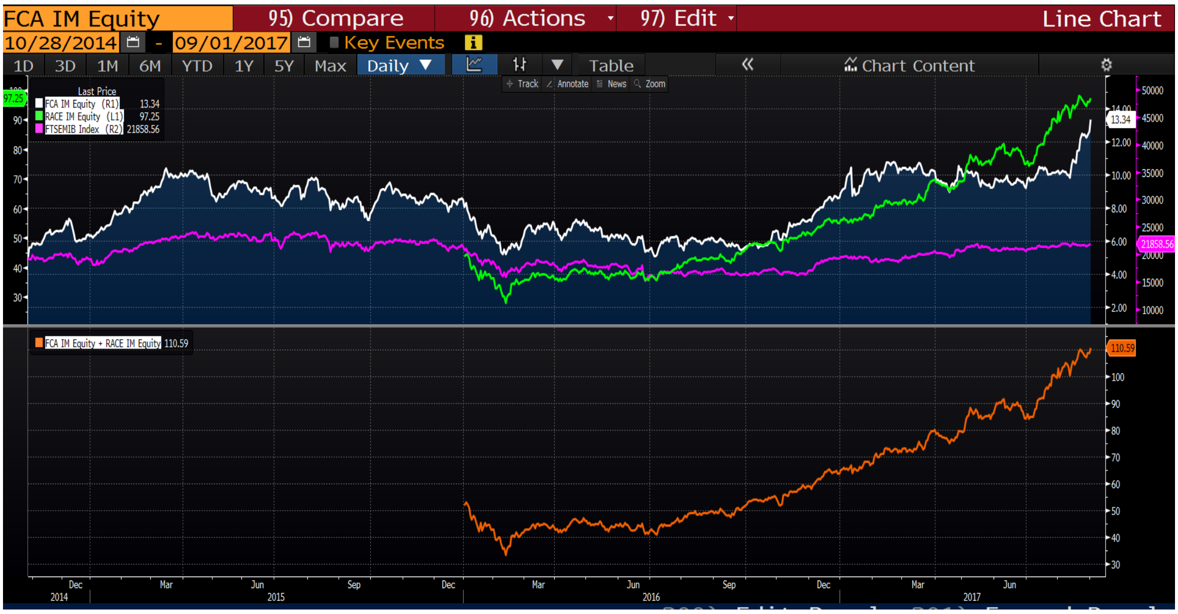

Fig. 40 FCA and Ferrari post spin-off performance aggregate. Source Bloomberg

Results are incredible, an initial investment in 100 FCA shares of 479 € made before the announcement of Ferrari carve-out generated a return of **+384%** after 3 years. With an excess return of 370% respect to the FTSE MIB INDEX.

Portfolio Value Pre announcement				Portfolio Value with both FCA&Ferrari as at 04/09/17			
Shares	N.of Shares	Price	Value	Shares	N.of Shares	Price	Value
FCA	100	4,7872	€ 478,72	FCA	100	13,43	€ 1.343,00
				Ferrari	10	97,25	€ 972,50
Initial Value			**€ 479**	**Total Final Value**			**€ 2.316**
				Overall Return on Initial investment			384%
				FTSE MIB INDEX RETURN			13,74%
				Excess return			**370%**

Fig. 41 Portfolio performance of an imaginary investor with both FCA&Ferrari. Source personal elaboration

The success of the operation is also reflected in the incredible growth of FCA and Ferrari Market Capitalization in 3 years, since the day of the announcement. Looking at the figure below we can understand how the Market Cap of FCA, included Ferrari was 7,07 € bn before the announcement. After 3 years, on Sep 04th 2017, FCA as stand alone firms reached a Market Cap of 19,9 € bn that summed with the 18,8 € bn of Ferrari, now separated, is equal to 38,64 € bn.

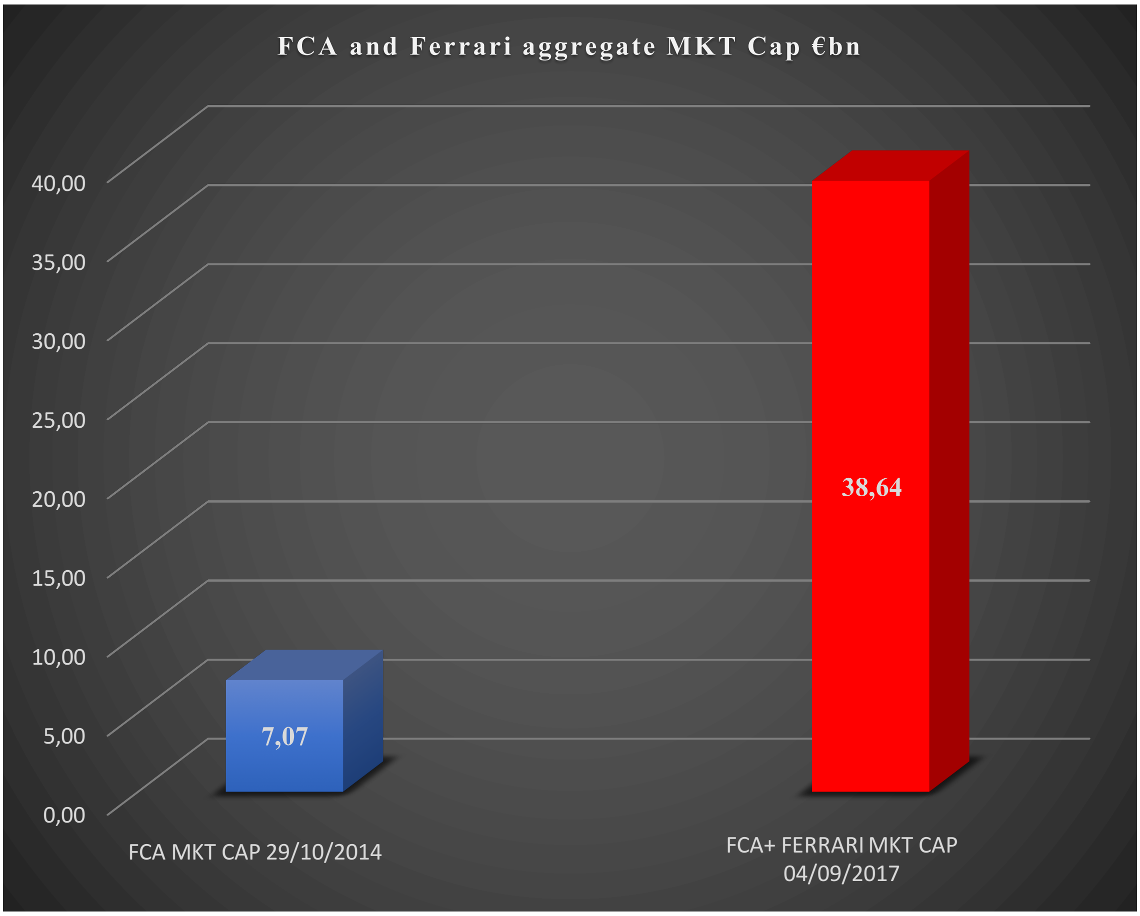

Fig. 42 FCA and Ferrari aggregate MKT CAP. Source: Personal elaboration Borsa Italiana data.

Looking at these numbers the answer to the initial question : "*Did the separation create value for shareholders* ?" Must be necessarily " Yes, It did".

Table below summarizes the possible choices that Value investor could make after the spin-off of Ferrari and the returns he could earned over an initial investment of 479 €.

STRATEGY	INITIAL INVESTMENT	FINAL VALUE	RETURN	EXCESS RETURN	TIME HORIZON
Sell Both FCA&Ferrari Immediately After Spin-Off	479 €	**1.190 €**	149%	**143%**	15 months
Sell FCA And Hold Ferrari Until 04/09/2017	479 €	**1.732 €**	262%	**248%**	3 Years
Sell Ferrari And Hold FCA Until 04/09/2017	479 €	**1.773 €**	270%	**257%**	3 Years
Hold Both FCA&Ferrari Until 04/09/2017	479 €	**2.316 €**	384%	**370%**	3 Years

Fig. 43 Summary of the possible strategies to adopt after spin-off. Source personal elaboration

4.3 The Reasons Of The Success

4.3.1 The use of proceeds to repay debt

The most obvious motive for equity offerings in general is the raising of external financing. An Equity Carve-out also allows the parent company to realize cash through the IPO sale, which can be attractive for companies who need money, but do not have access to debt and equity capital markets on a lowcost basis (Volk, 1999; Allen and McConnell, 1998; Miles and Woolridge, 1999). The financing hypothesis claims that carve-outs are used for financing the parent firm, the subsidiary firm or both (Lang, Poulsen and Stulz, 1995).

Evidences exist that the gains in value associated with carve-outs change according to the intended use of funds (Allen and McConnell 1998; Vijh 1999). Carve-outs in which firms announce that the funds raised will be used wholly or primarily to repay debt, the average excess return is higher than when firms announce that proceeds will be used wholly or primarily for investment-related purposes (Allen and McConnell 1998). That is one of the reason of behind the success of separation because FCA uses the proceeds of the carve-out of Ferrari to repay its debt.

Indeed, as a result of a series of transactions, made before the IPO, including distributions and transfers of cash, FCA received a net amount of **$2.8 billions** (€2.25 billions) in cash from Ferrari, as the table below highlights

	30/09/15 (Pre- Ferrari IPO)	**31/12/15 (Post-Ferrari IPO)**
	$ bn	
Cash Maturities	30,6	27,5
Bank Debt	*12,4*	*12,3*
Capital Debt	*16,5*	*16,6*
Other Debt	*1,7*	*1,6*
GROSS DEBT	**31,1**	**27,8**
CASH & MKTABLE SEC.	*-20,4*	*-21,1*
NET DEBT	**10,3**	**6,5**

Fig. 44 FCA Gross debt breakdown. Source: personal elaboration FCA data.

The **$2.8 billions** received by Ferrari, summed with the **$1 billion** collected with the IPO drastically cut off FCA NET DEBT by **$3.8 billions**, from $10,3bn down to $6,5bn.

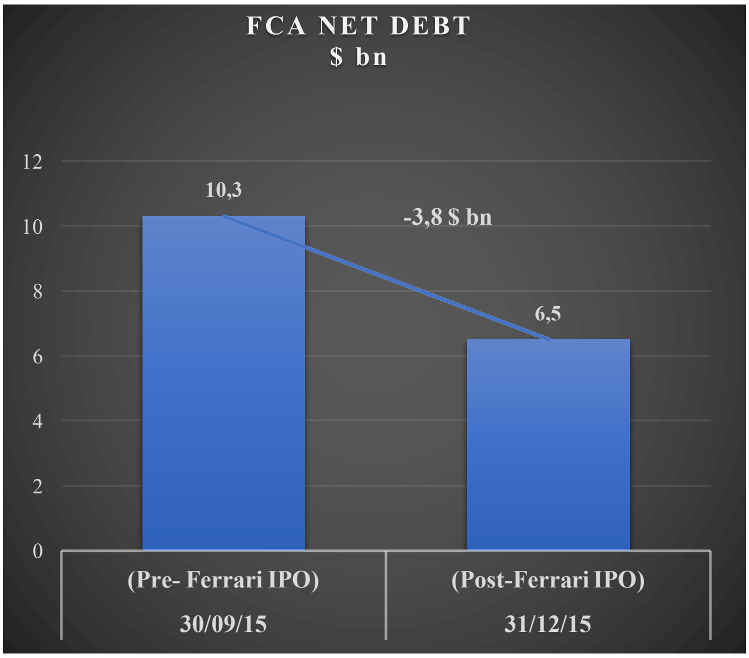

Fig.45 FCA NET DEBT after Ferrari IPO. Source: personal elaboration FCA data.

DEBT reduction means an improvement in the *D/E* ratio. That in only one quarter, from Sep. 2015 to Dec. 2015, due to the IPO of Ferrari, falls from 0,7 to 0,55. A -21,5% reduction.

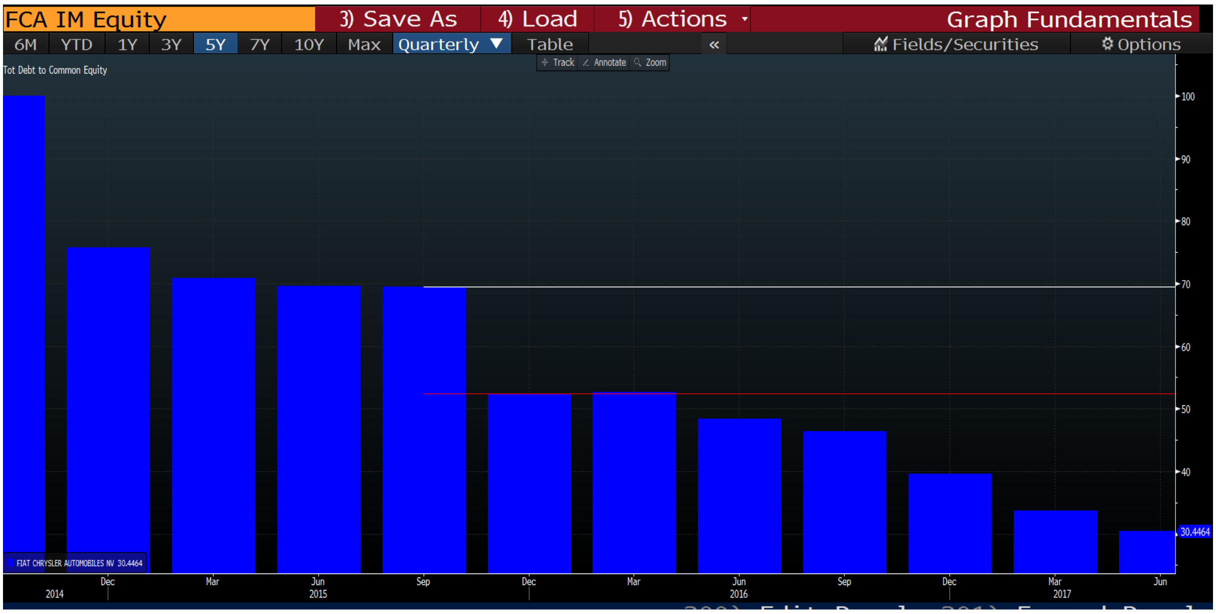

Fig.46 FCA *D/E* ratio after Ferrari IPO. Source: Bloomberg.

4.3.2 Increase visibility and analyst coverage

One of the main force behind carve-outs appears to be the desire to maximize the proceeds from selling shares in a subsidiary, as these IPOs are particularly sensitive to a "window of opportunity" (Rajan and Servaes, 1997; Pagano, Panetta, and Zingales, 1998). Indeed, firms execute carve-outs, because under the right circumstances, they provide parents with an opportunity to generate cash by selling potentially overvalued equity (Powers, 2003). With this in mind, we can easily understand why broker Sump-Of-The-Part (SOTP) valuation shows a strong increase in the Ferrari embedded value since separation announcement.

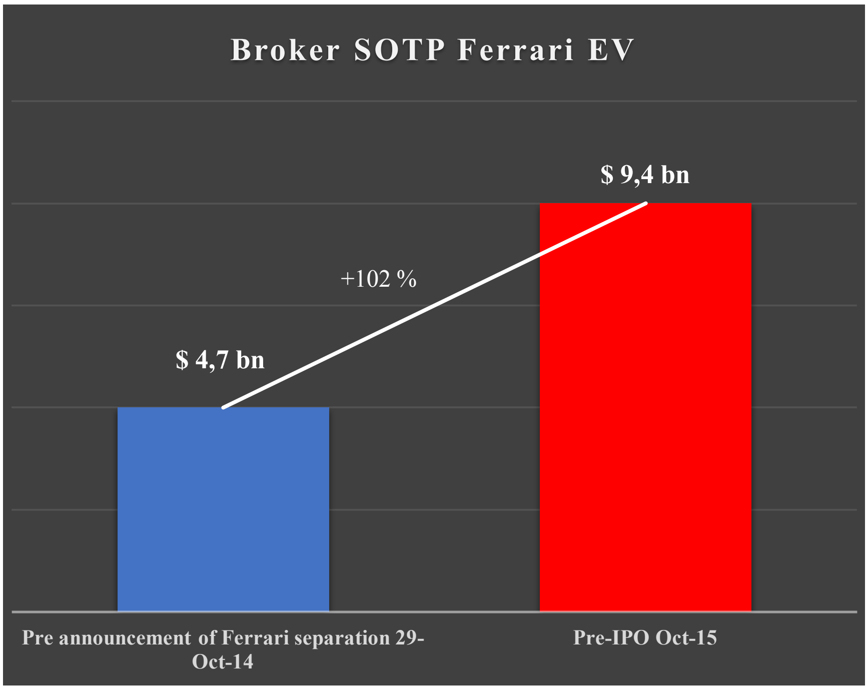

Fig.47 Broker SOTP Ferrari EV. Source: personal adaptation from research repots,Factset as of Oct. 20°, 2015

As the figure shows, the Ferrari *EV* doubled in 1 year, from **$4,7bn** of pre-announcement of Ferrari separation 29-Oct-2014 up to **$9,4bn** Pre-IPO of Ferrari in Oct 2015. That happened because, the carve-out, functioned as a marketing device and increased the visibility of FCA as well as of the carved-out division Ferrari. That is also consistent with some literature researches that demonstrated how carve-outs are a means of exploiting over-and under-valued stock (Slovin et al.,1995; Slovin and Slushka,1997; Nanda, 1991; Powes, 2003). Indeed, through the Ferrari carve-out decision FCA highlighted the difference between the market value and FCA Top management perceived value of both the subsidiary and the parent, signaling markets that the parent firm was undervalued.

4.3.3 Ferrari as a real option for FCA

As seen in Chap. I of this work, in some circumstances the equity carve-out appears to constitute a valid strategy to "buy time". Therefore, the carve-out of a subsidiary provides the parent firm with an indefinite *American style option* to buy back the remaining ownership from the minority shareholders or to sell out its ownership to a third-party (Desai, Klock and Mansi, 2011).
That is, Carve-out gives the opportunity to mitigate the possible negative results, by selling out part of the share, while retaining the flexibility to subsequently reacquire or to sell-off the subsidiary depending on how synergies evolves over time (Perotti, Rossetto and Kranenburg ,2002). While the other option is to postpone the decision at a future date when the firm will still have the opportunity to either carve-out, spin-off or again postpone the decision, depending on how things evolve (Perotti and Rossetto, 2005 and 2007).
Are that studies suitable for the Ferrari case? The answer is yes. FCA announced the carve-out of Ferrari on Oct. 29th 2014, but then waited the market answer, and only after 1 year, on Oct. 21th 2015, effectively made the IPO. Furthermore, as it is possible to read in the company Sec Filing of Oct. 9th 2015[10]: after the carve-out, FCA still reserved the possibility to postpone the decision about the Spin-off or even to not undertake it, perhaps to wait for the market reaction to Ferrari IPO.
At the same time, this strategy to "buy time" contributed to create more interest and appetite around Ferrari increasing the demand before the IPO.

4.3.4 Spin-off as a surprise for the market

The Ferrari Case also confirms the evidence existing in the literature that often equity carve-out is only the first step of a two-stage process (Klein et Al. 1991; Hand and Skantz, 1999; Miles, Woolridge and Tocchet; 1999; Boone, 2002). In the same direction a study by McKinsey indicates that after five years, just 8% of carved out firms remains public under the control of the parent (Annema, Fallon, and Goedhart, 2002).
As Ferrari case shown, a carve-out is often followed by either a M&A, secondary offerings, spin-offs or reacquisitions. However, as demonstrated by Otbsubo (2008) the stock market expects a secondary

[10] "*We currently expect that the Separation will be completed in early 2016. However, we cannot assure you that the Separation will be carried out as described in this prospectus or completed within the expected timeline or at all. Completion of the Separation is within FCA's discretion and remains subject to various conditions, risks and uncertainties including market conditions.*" **Source**: *Ferrari SEC Filings 9-OCT.-2015.*

event after a carve-out and hence evaluates the potential gains from the combination at the announcement of the carve-out.
In particular, the market expects M&A as secondary event, and hence has a positive reaction upon the announcement of a carve-out (Otsubo 2008 and 2009). Nevertheless, the stock price of a parent company does not change significantly upon the announcement of subsequent M&A, because it has already priced the gain into its reaction to the announcement of the carve-out. By contrast if the secondary event is not an M&A there is a surprise in the market and the stock price may react more positively.
In the Ferrari case, the secondary event, is not an M&A but a spin-off, that market surprise is another reason that could explain the positive magnitude of the abnormal excess return the day of the announcement.

4.3.5 The elimination of information asymmetry

The last literature-related motive of the Ferrari success is due to the elimination of the asymmetry information. Thanks to the carve-out, Ferrari has the chance to increase the transparency to the outside world and generally investors are more attracted to companies with less asymmetric information.
Indeed, separate financial statement and publicly traded carve-out equity improve the ability of investors to gather information and profit from it, unlocking value hidden in parent firms (Gilson et al., 2001). In addition, the market value of Ferrari net assets becomes readily observable.
As Milgrom (1988), Bagwel and Zechner (1993) and Harris and Raviv (1996) showed, asymmetries between lower and top management, in information, preferences, or incentives may result in an inefficient allocation of capital.
By separating Ferrari projects from those of FCA, the carve out of Ferrari also reduced the asymmetry of information between managers and investors regarding the asset base underlying the securities offered. Furthermore, the separation and their capital and organizational structure offered both firms a flexible and beneficial environment that allowed them to access directly sources of equity and debt capital to finance their business on favorable terms, as well as the opportunity to reward their most loyal shareholders with their loyalty voting program.

4.3.6 Ferrari intrinsic Factors

Literature-related motives explain part of the gain accumulated by FCA after the announcement of Ferrari carve-out. However, there are some Ferrari intrinsic competitive strengths that have been the primary drivers of Ferrari success and contributed to determine the success of the IPO.

- **An iconic brand with superior, enduring power, benefiting from a loyal customer base.** Ferrari brand is one of the most iconic and recognizable in the world. Ferrari brand and prancing horse logo symbolize luxury, exclusivity, innovation, state-of-the-art sporting performance and Italian design and engineering heritage. The Ferrari brand has also been ranked as one of the world's most powerful brands by independent surveys, including in 2014 and 2015 surveys published by Brand Finance.

  Ferrari name and image have been burnished over decades of unparalleled success in automotive racing, particularly through Formula 1 racing team, Scuderia Ferrari, and the performance and styling of its luxury performance cars. Moreover the power of Ferrari brand is preserved and enhanced by the rigorous production and distribution model, which promotes hard-to-satisfy demand and thus scarcity value in Ferrari cars. In addition Ferrari promotes this passion by fostering a community of enthusiasts and rewards loyal clients through various initiatives, such as driving events and client activities in Maranello. Ferrari also generate revenues from its brand through licensing partnerships, Ferrari retail stores and a theme park, Ferrari World. The success in these activities demonstrates the value of Ferrari as a true global absolute luxury brand.

- **Global access to growing wealth creation**. Ferrari targets its products to the upper end of the luxury performance car segment and buyers of its cars tend to belong to the wealthiest segment of the population. The size and spending capacity of its target client base has grown significantly in recent years. In many of its markets, spending by Ferrari target clients has proven to be relatively insulated from short term economic downturns.

  Following the sharp recession of 2008-2009, the luxury performance car market has been resilient to further economic downturns and stagnation in the broader economy, although the luxury performance car market has not yet returned to the pre-recession levels.

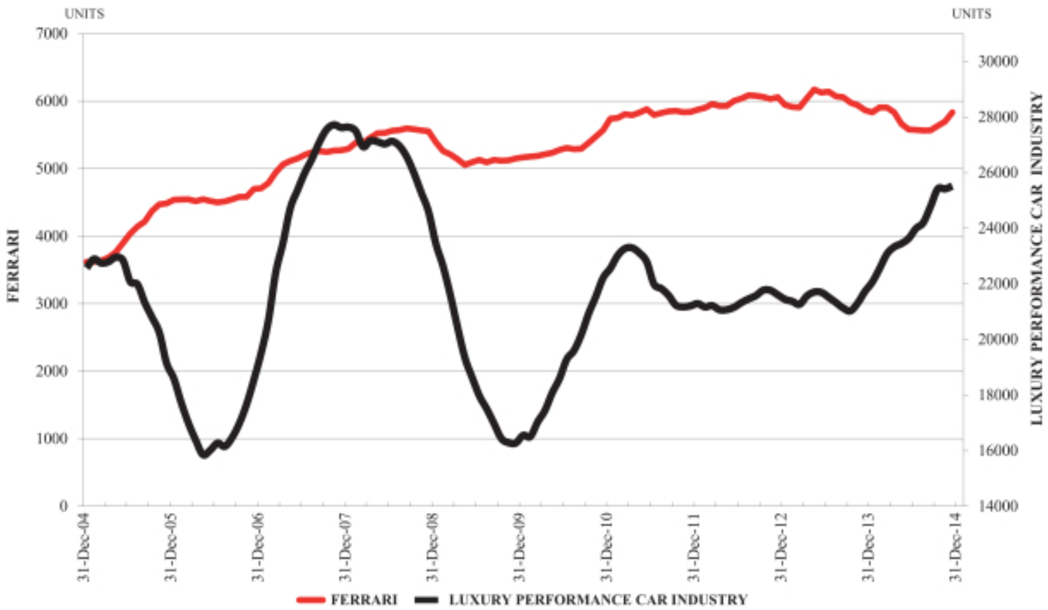

Fig. 48 Ferrari and Luxury Performance car industry. Source: *Ferrari SEC Filings 9-OCT.-2015*

However, as shown in the chart above, Ferrari sales in recent years have proven less volatile than luxury peers. Indeed, during the financial crisis Ferrari suffered only a single year of modest (less than 5 percent) decline in shipments, despite the luxury status of its cars and the discretionary nature of their purchase. We could say that Ferrari "does not fear the crisis". This is due to Ferrari strategy of maintaining low volumes compared to demand, as well as the higher number of models in its range and its more frequent product launches compared to its competitors.

- **Exceptional pricing power and value resilience** Another aspect of Ferrari success is the controlled production and distribution model that promote premium prices for the new cars. Furthermore, Ferrari has focused on extending the quality, performance and craftsmanship of its cars further into the upper end of the market, through special limited editions selling at prices exceeding **€1 million** per car, as well as bespoke, one-off cars and extensive personalization of cars, which on average add 15 percent to selling prices. These limited edition and bespoke vehicles enhance Ferrari reputation for exclusivity which in turn supports premium pricing on its standard Sports and GT models.

- **Racing heritage**. Ferrari also benefits from its racing heritage and foundation and success in Formula 1 World Championships. The research and development initiatives and the know-how developed through designing, engineering and producing circuit racing cars has allowed Ferrari to streamline its new car design and development schedule, to implement a range of cutting-edge innovations to deliver best-in-market performance in Sports and GT cars and to design, engineer and sell its special series, limited edition and one-off cars, all of which attract significant price premiums.

  In addition to the research and development support from the racing activities, the prominent role in Formula 1 racing provides Ferrari with an incomparable platform from which to promote its brand and technological prowess. In light of this, Ferrari does not use mainstream product advertising because the success and prominence of Scuderia Ferrari, the most successful team in Formula 1 history, gives it a strong marketing advantage in the luxury performance car market.

- **Flexible and efficient development and production process** . Ferrari focus on the upper end of the luxury performance car market, the dedication and skill of its engineers and developers and the clarity and focus of its product marketing objectives, allow to design and develop new models exceptionally quickly. The speed and flexibility of development process reduces development costs for new models and allows newest models to be fully responsive to changes in technology and market demand. This also allows Ferrari to renew its model line-up on a more frequent and regular schedule with the launch of at least one new model every year.

- **Superior Talent**. Finally, Ferrari benefits from the experience and expertise of a strong team of managers, technical employees and racing talent, combining industry knowledge, technological expertise, sporting success and financial savvy. Its brand and technological heritage has enabled Ferrari to attract the best technical talent from a wide range of fields, including a large number of highly skilled engineers, designers, technicians and artisans.

- **Strong and resilient financial performance and profile.** All the success factors, described until now, of Ferrari brand, clients and product positioning provide the "*Prancing Horse*" with an exceptional track record of financial performance that has withstood market challenges throughout economic cycles. In the year ended December 31, 2014, Ferrari recorded:[11]

- ❖ Net revenues of **€2,762 million**,
- ❖ Net profit of €**265 million**,
- ❖ Adjusted **EBITDA** of **€693** million and **Adjusted EBITDA** margin of **25.1 %**
- ❖ **EBIT of** €**389** million and **EBIT margin** of **14.1** %
- ❖ **7,255** shipped cars

From 2005 to 2014 Ferrari achieved a compound annual growth rate in net revenues of **70%** and the 2014 Adjusted EBITDA margin of **25.1 %** represented an increase of 6.9 % points over 2005. As seen, this exceptional financial performance positions Ferrari as not just a leading luxury automaker, but as one of the world's leading absolute luxury brands.

[11] Source: *Ferrari SEC Filings 9-OCT.-2015*

Figure below summarizes the combination of factors that contributed to the success of Ferrari separation.

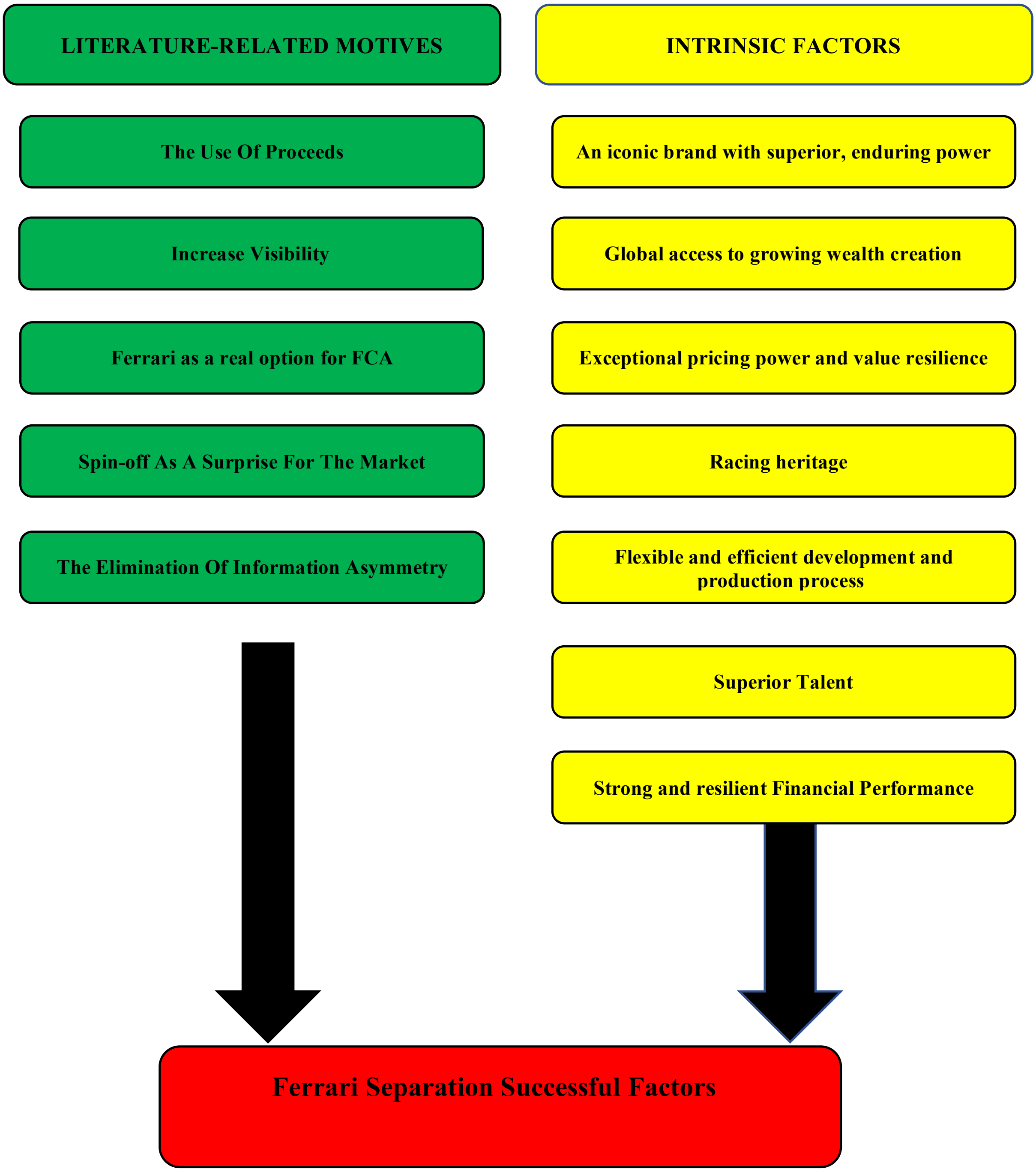

Fig.49 Ferrari Separation Successful Factors. Source: personal elaboration from literature on ECOs and *Ferrari SEC Filings 9-OCT.-2015 data.*

Conclusions And Personal Considerations

The aim of this work was to demonstrate how a well-conduct equity carve-out can create value for shareholders. My deep analysis of the literature about equity carve-outs bring me to affirm that equity carve-outs are value-creation operations *per se*. The use of the proceeds collected to increase the cash or repay debt, the elimination of the information asymmetry, the increase visibility and analyst coverage as well as the possibility of secondary events after the carve-out are only some of the factors that made carve-outs better choices respect to other forms of divestitures to start a path of separation. Moreover, as Ferrari and FCA case shows, carve-out announcements create a positive *momentum* around the parent firm that often continues even after the separation of the carved-out subsidiary.

However, the Ferrari case should be considerate as an isolate case. The power and the magnitude of the excess return generated both by the carve-out announcement both by separation does not have precedent in the literature. Intrinsic factors related to the power and exclusivity of Ferrari Brand, its history and heritage, the strong and resilient financial performance plus the recognized status of more than a luxury brand are an explosive mix that pushed the shares before and after the IPO.

Finally, my choice of consider the perspective of a saver-investor, is not casual. My opinion is that they are one of the weaker category of shareholders, which often suffer of information asymmetry with respect to the top managements and other big markets players like banks or hedge funds which can influence the dynamics of a share with the huge volume of their operations.

Often managers' tangible and intangible compensation is correlated with the size of the firm and/or the dollar amount of assets under their control. As a consequence, given the choice, managers prefer not to sell off or carve-out assets even if doing so would be in shareholders' best interests generating a loss of value for little shareholders.

In the Ferrari case, instead, that asymmetry information between top management and investors, works well. Saver-investors, that held the shares before the announcement and still hold it today are the real winners along with the FCA and Ferrari top management. In effect, Ferrari shares represent a gift that FCA gave to its shareholders, and that gift has proven to have great value.

One question still remains open, what is Ferrari? Before the IPO a lot of analysts and investment banks tried to explain what Ferrari was. As shown, during the IPO Ferrari was considered as an High End Luxury brand like Hermès as regards trading multiples. However, the strong resilience of Ferrari revenues during the financial crisis of 2007-2008 compared with other luxury brands and primarily the extraordinary performance of Ferrari shares with respect to other luxury peers since the IPO, show that Ferrari should be considerate neither a simple carmaker neither only a luxury brand. But it is something more.

I think that the only possible definition of Ferrari, is enclosed in the words of Ferrari Founder, Enzo Ferrari:

"Ferrari is not only a carmaker, Ferrari is not only a luxury brand.
Ferrari is a dream..."

Enzo Ferrari

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Department of *Impresa e Management*
Chair of Advanced Corporate Finance

How to create value for shareholders

The Ferrari case and the impact of its carve-out and spin-off on FCA

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Abstract

In this work following existing literature, I try to condense the motives that lead firms to choose an equity carve-out. The decision to go public is one of the most important and least studied questions in corporate finance, the conventional wisdom is that going public is simply a stage in the growth of a company (Pagano, Pannetta and Zingales, 1998). In an Equity Carve-out the subsidiary has the possibility of finding its ideal shareholder base and can even gain new financial resources through a capital increase. On the other hand, the parent can improve its capital structure through reorganization (Aron, 1991; Meyer, Milgrom, and Roberts 1992; Holmström and Tirole, 1993). Furthermore, the popularity of both companies rises through the IPO process and the public listing, and carve-outs could increase the quantity and quality of analyst coverage as well as improve the information environment for post-breakup firm (Gilson, Healy, Noe, and Palepu, 2001).

Equity carve outs also creates synergies, which increase the total value of the group (Perotti, Rossetto and Kranenburg, 2002) while at same time give the parent firm the possibility to keep in hand an indefinite American style option to buy back the remaining ownership from the minority shareholders or to sell out its ownership to a third-party (Perotti, Rossetto and Kranenburg, 2002, 2005; Desai, Klock and Mansi, 2011).

The equity carve out decision, implies costs that the benefits must outweigh like adverse selection costs, flotation costs and costs due to loss of confidentiality. With all this in mind, it is possible to affirm that going public is not a stage that all companies eventually reach, but it is a choice (Pagano, Pannetta and Zingales, 1998).

Based on these studies, following existing literature, I analyze the case of the Carve-out and Spin-off of Ferrari from FCA trying to understand whether the separation resulted in value creation for FCA shareholders.

The starting point of my analysis was the positive performance of FCA the day of Ferrari carve-out announcement. Existing literature on equity carve-out announcements (Schipper and Smith, 1987; Allen and McConnell 1998; Klein *et al.,* 1991; Nanda, 1991; Vijh, 2002; Otsubo, 2009) helped me in understanding the reasons behind this positive market reaction. Divestiture gains such as obtaining separate financing for the subsidiary's investment projects, designing more efficient compensation contracts for the subsidiary's managers, and the creation of pure-play stocks (Schipper and Smith, 1987) are certainly some of them. Often with an equity carve out announcement, the market prices the possibility that the carve-out will be followed by a secondary event, like M&A, secondary offerings, spin-offs, or reacquisitions (Klein *et al.,* 1991; Vijh, 2002; Otsubo, 2009). Moreover, the asymmetric information that lead managers to choose to issue equity in the subsidiary instead of a seasoned stock offering by the parent is also a possible explanation to the gain associated with equity carve-outs announcements (Myers and Majluf, 1984; Power, 2003; Slovin *et al* 1995; Slovin and Slushka, 1997; Nanda, 1991). That is, equity carve-outs where the parent firm sells a portion of its

ownership in a subsidiary via an IPO, are unique because they combine characteristics of both restructuring and financing transactions (Powers, 2003).
However, as I will show in Chapter IV, these *literature-related* motives, could only explain part of the abnormal positive performance accumulated by FCA after the Ferrari carve-our announcement or the success of the Ferrari IPO. We must necessarily consider literature-related motives coupled with some features that are linked to the uniqueness of Ferrari and its brand. I call it Ferrari *Intrinsic Factors* of the success.

My work is divided into four chapters. In the first chapter I summarize the results of my analysis on equity carve-outs motives into five main reasons: Financing, Market Time Considerations, Internal Conflict Motives, Visibility Motives and Synergies Benefits. In the second part of the chapter, I condense the existing literature on the costs generally associated with and equity carve-out and going public: Adverse Selection Costs, Flotation Costs and Costs due to Loss Of Confidentiality.
In Chapter II, I analyze all possible reasons for the positive share price reactions to an equity carve-out announcement. First of all, I explain the features that make equity carve-outs similar, but at the same time different from other forms of divestitures. Later, I report the empirical studies and results on equity carve outs announcements, showing that although almost all the authors agree that equity carve-outs announcements lead to positive market reactions, different should be the magnitude of the average excess return.
In Chapter III, I briefly present recent trends in Equity carve-outs by dividing it by World Regions and by Sectors. In addition, I show recent trends in Spin-offs and other alternative forms of separation.

The heart of my thesis is Chapter IV. In this chapter I analyze all the steps made by FCA in the separation of Ferrari. I show how the separation was conducted by FCA Top management, looking for value creation. The chapter is divided into three parts. In the first part I briefly recap all the key steps of the deal: the first announcement of Ferrari carve-out, the IPO of Ferrari and the spin-off from FCA. In the second part, I assume the perspective of an FCA shareholder trying to figure out whether the operation created or destroyed value. Finally in the last part, I analyze the reasons behind the success of the operation.

The IPO and the first day of trading

October 21th,2015

FERRARI N.V.
NYSE : RACE

$ 893 million

Initial Public Offering
Price $ 52.00
Shares : 17,175,000

Implied valuation:

- ***Equity value* $9.8 bn**
- ***Enterprise value*: $10. 8 bn**

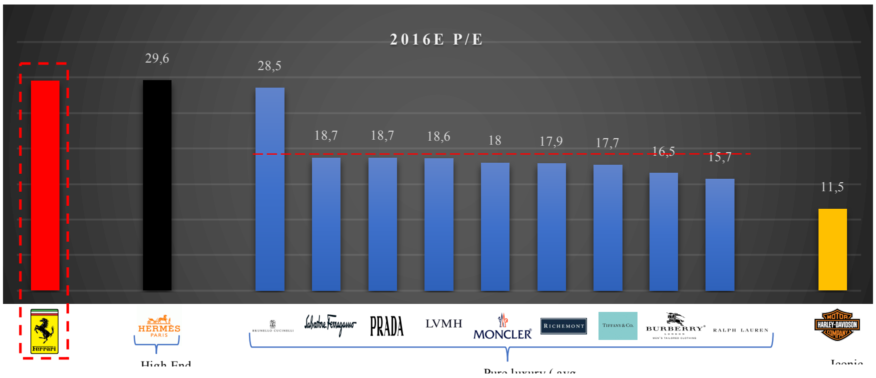
Share price closed +6% above offer price.

Fig.1 Ferrari IPO summary. Source Personal elaboration

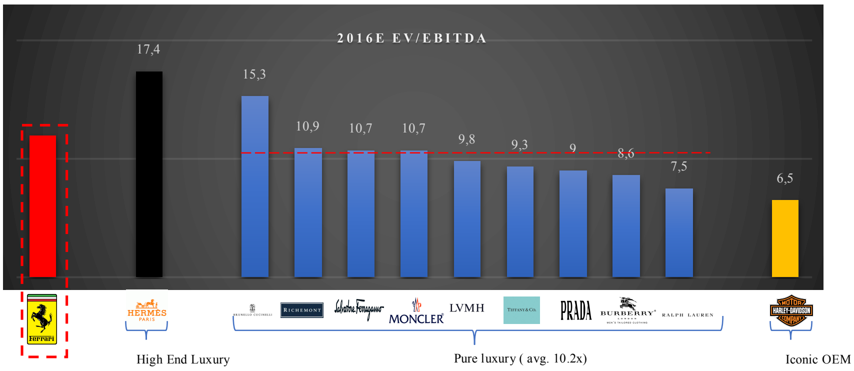
STRENGHTS	CONCERNS
Premier Global Brand Recognition	Limited Growth Trajectory, Brand Dilution Risk
Ultimate Luxury Positioning	Drag From China Slow Down
Attractive Exclusivity/ Pricing Power Dynamics	Capital Increase And Leverage Consistency With Luxury Peers
Strong (but new) Management Team	Formula 1 Is A “ Black Block”
	Capital Market Context And Technicals Pressuring Shares

Fig. 2 Investor Feedback Summary. Source: personal adaptation Ferrari data- Ferrari @copyright

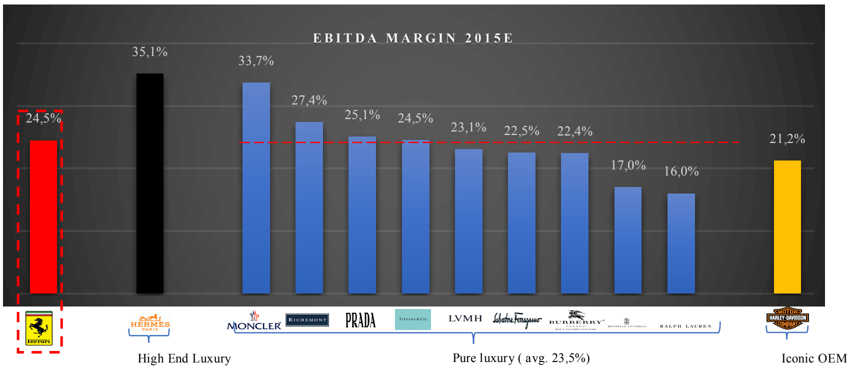
The final offer price implied an Equity Value of $9.8 bn and EV of $10.8 bn, that valuation was in line with absolute luxury peer Hèrmes on a P/E basis

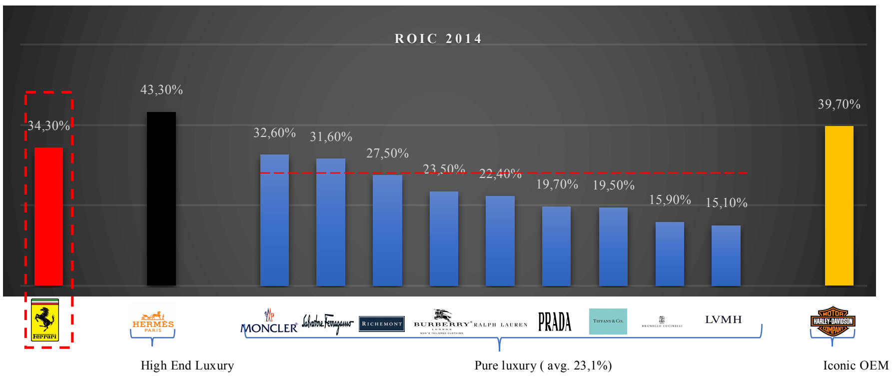


Also the EV/EBITDA was in line with Hermès and High-end luxury segment above the average of the other luxury players



Ferrari's EBITDA margin was in line with other luxury peers, while the ROIC was in the top range





***All Peers' trading multiples,** source:personal adaptation from Company filings, research reports, Facset as of Oct. 20th, 2015.Ferrari @copyright

Did The Separation Create Value For Shareholders?

To understand if the separation of Ferrari from FCA created or reduced the value for FCA shareholders, I assume the position of a shareholder typology that I named **Value Investor**, for example a classic Italian saver, a long-term return fund, or an investor that simply trusts in FCA management. That Value Investor does not have short-term trading goals but a 3-5 years investment time horizon. In my imaginary situation to properly judge only the Spin-off and Carve-out operations, I do not consider:

1. Investors that held FCA shares before the day of the announcement because it is not possible to know all the prices at which they bought shares.
2. Capital gain taxes.
3. The effect of the Inflation because at that time was near zero or even negative.
4. The presence of any other alternative investments because I analyze the situation of a shareholders that experiences the operation and can make his choices only after the announcement and the spin-off.

Assume that our Investor bought **100** or multiples FCA shares at the opening bell of Oct. 29th 2014, the starting price was **4,7872** € per share. The worth of his participation was **479** euro or multiples. At the end of the day, with shares that due to the Ferrari spin-off announcement effect jumped **+17.97%** up to **5,6474** € per share, the worth of his participation was **565** euro or multiples. The excess return respect to the FTSE MIB Index was even higher **+19,6%.**

Portfolio Value Pre announcement				**Portfolio value post announcement**			
Shares	N.of Shares	Price	Value	Shares	N.of Shares	Price	Value
FCA	**100**	**4,7872**	**€ 478,72**	**FCA**	**100**	**5,6474**	**€ 564,74**
Initial Value			**€ 479**	**Total Final Value**			**€ 565**
				Overall Return on Initial investment			17,97%
				FTSE MIB INDEX RETURN			-1,64%
				Excess return			**19,61%**

Fig.3 Excess return of an imaginary investor the day of the announcement. Source: Personal elaboration

That results was amazing considering that existing literature about carve-outs announcement reports an abnormal performance between 3 to 5 day after the announcement in a force between +**1,1%** (Vijh, 1999) and + **6,63%** (Allen and McConnell, 1993). Indeed, in the 5 days after the announcement FCA shares climbed to the price of 5,7623 **+ 20,3%** respect to closed price before the announcement.

Fig. 4 FCA shares 5-day after Ferrari carve-out announcement. Source Bloomberg

Only Comparing that results with prior researches on equity carve-outs we can understand the magnitude and the importance of Ferrari carve-out.

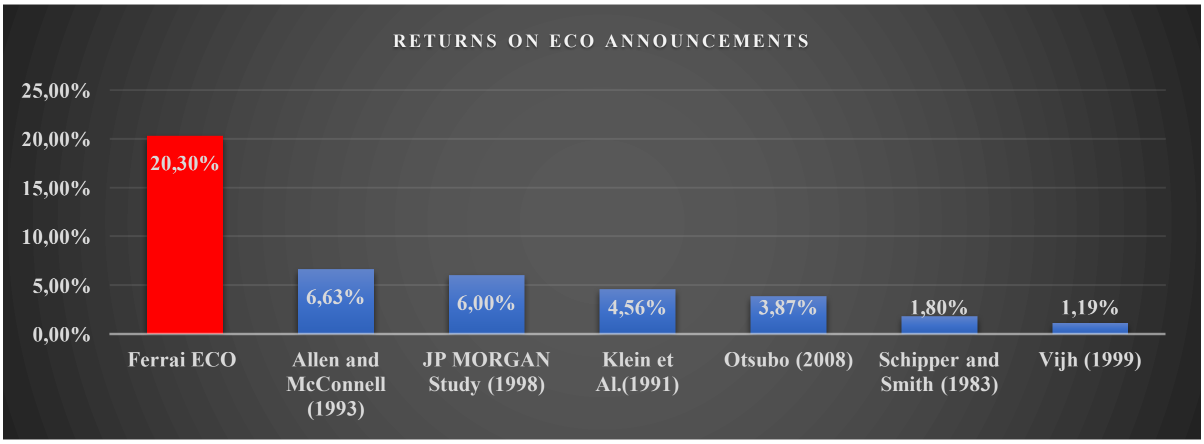


Fig. 5 FCA performance and existing literature on ECO announcements. Source: Personal elaboration.

The performance of FCA shares in the year after the announcement was extraordinary +84%, despite some "*black swans*" that pressured the market like the Greek Crisis of May 2015, the Chinese stock Market Crash of August and September 2015 and finally the Volkswagen emission scandal revealed that caused the crash of all the automotive sector.

Fig. 6 FCA shares 1 year after Ferrari carve-out announcement. Source Bloomberg.

As figure shows, FCA never lost the accumulated gain after the Ferrari Spin-off announcement. Furthermore, after the first announcement, FCA shares benefited of an extraordinary *momentum* that pushed shares for more than one year with analysts and investment banks that continuously rose their target price. That result is consistent with the argument of Gilson, Healy, Noe, and Palepu (2001), that showed how breakups increase the quantity and quality of analyst coverage as well as improve the information environment for post-breakup firm.

FCA also strongly outperformed the FTSE MIB Index, S&P 500 Index, Euro Stock 50 Index in the year after the announcement.

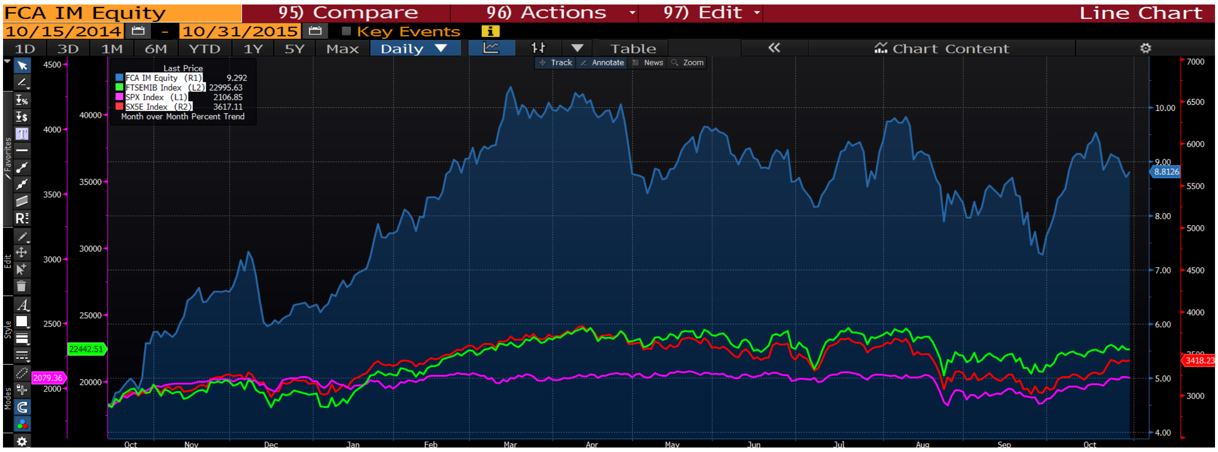


Fig. 7 FCA shares and main indexes 1 year after Ferrari carve-out announcement. Source Bloomberg.

Even if not all the gain can be ascribable to Ferrari announcement, because all the automotive sector lived a positive year. However, as figure below points out, since Oct. 29th 2014, the day of the Ferrari announcement, FCA represented by the blu line, crossed all the other lines, and started to over perform all major automotive brands, General Motors, Ford, Peugeot, Volkswagen, and Renault.

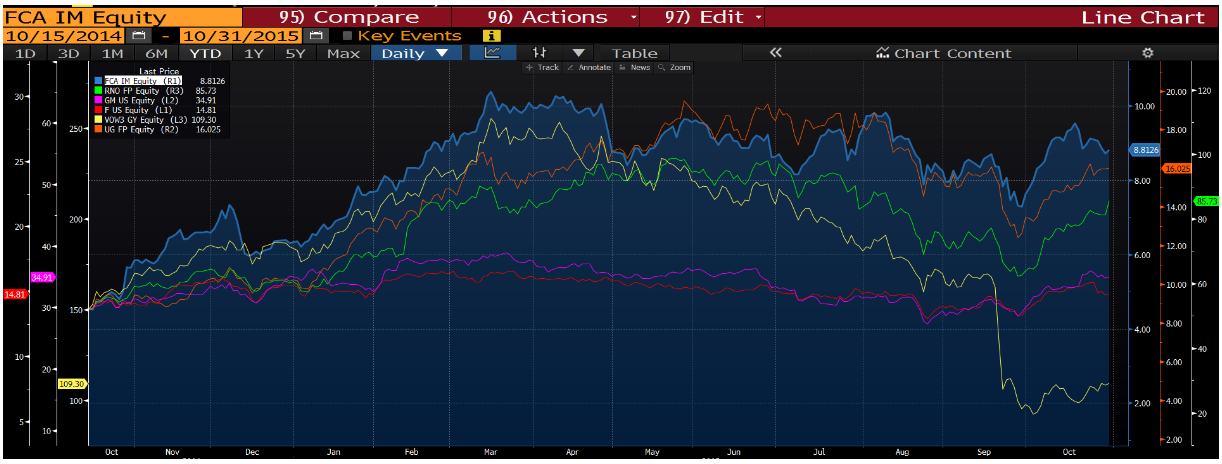


Fig. 8 FCA and other automotive brands 1 year after Ferrari carve-out announcement. Source Bloomberg

The value investor

As said, our Investor is a value investor and he does not sell the shares waiting for the Spin-off and *pro rata* distribution of Ferrari shares. At the Spin-off date, we might expect that because of the separation, FCA shares come back to **4,7872** price or near and the loss of value is compensated with the value of Ferrari shares assigned *pro rata*, as in a zero-sum game, classical in spin-off operations.

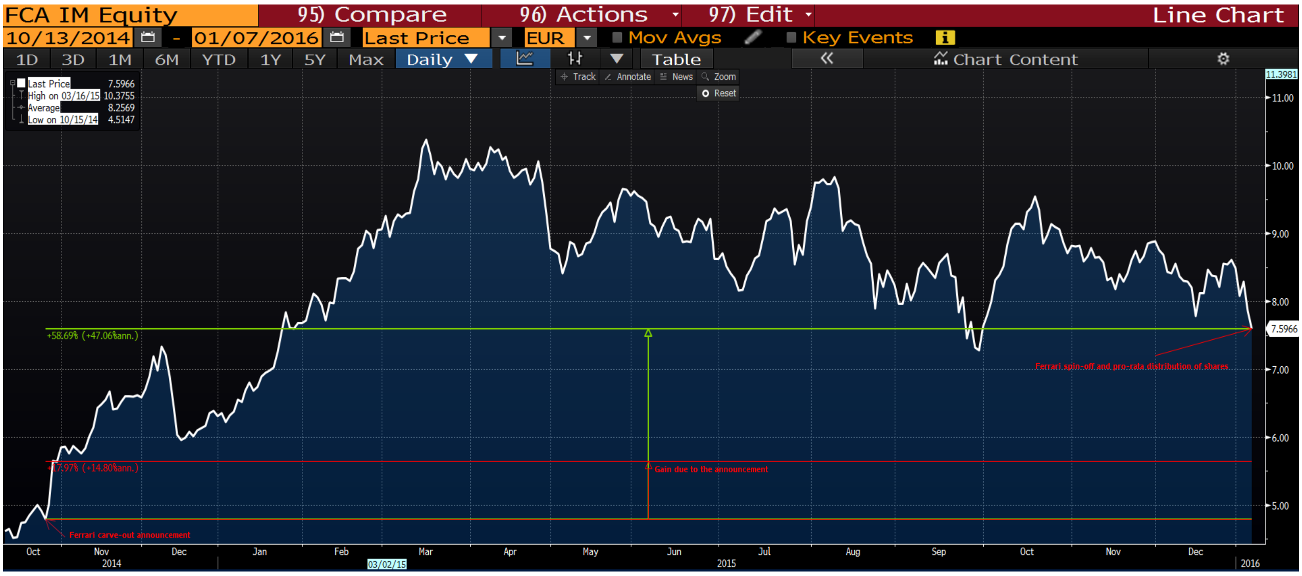


Fig.9 FCA shares performance since Ferrari announcement until spin-off. Source Bloomberg

As the figure shows, instead, on Jan. 7th 2016, after all the adjustments and *pro rata* distribution of Ferrari shares, the value of FCA shares was **7,5966** that means an amazing capital gain of **+ 58,7%** for the value investor without considering the Ferrari shares now held. Moreover the sum of Market Cap of FCA and Ferrari after the spin-off more than doubled the Market Cap of FCA before the announcement, climbing from **7,07** €bn up to **19,53** €bn. To exactly compute the overall return on the initial investment, we must consider Ferrari shares now in the portfolio of our investor. Indeed, if we add to the 100 FCA shares held by the Investor, the **10** Ferrari shares (1 Ferrari share for every 10 FCA shares held) at the price of the Ferrari IPO **43** euro, the total final value of his portfolio is now **1190** euro (760 FCA + 430 Ferrari).

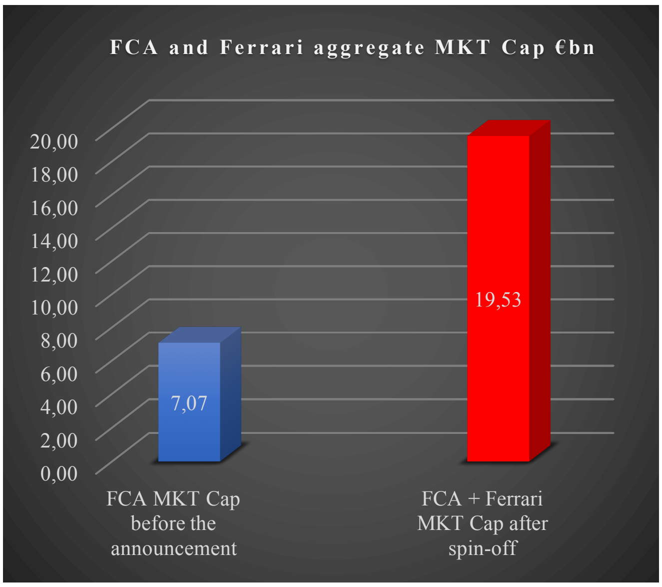


Fig. 10 FCA and Ferrari aggregate MKT Cap. Source personal elaboration Borsa Italiana data.

Remembering that the initial value of the portfolio was 479 euro, adding the new value of FCA shares and the shares of Ferrari the return on the initial investment is + **149%**.

Portfolio Value Pre announcement				Portfolio Value post spin-off as at 07/01/16			
Shares	N.of Shares	Price	Value	Shares	N.of Shares	Price	Value
FCA	100	4,7872	€ 478,72	FCA	100	7,5966	€ 759,66
				Ferrari	10	43	€ 430,00
Initial Value			**€ 479**	**Total Final Value**			**€ 1.190**
				Overall Return on Initial investment			149%
				FTSE MIB INDEX RETURN			5,40%
				Excess return			**143%**

Fig.11 Excess return of an imaginary investor post Spin-off. Source: Personal elaboration

The excess return over 15 months is **+143%** with our Investor that made nothing, just held FCA shares, since the day of the announcement until the day of the spin-off. At that point we can say with certainty that the combined carve-out and spin-off of Ferrari not only created value for shareholders but also offered our investor the possibility to make other 4 choices:

1. Sell both FCA and Ferrari shares and earn a +149% immediately.
2. Sell FCA shares, take the gain and hold only Ferrari shares.
3. Sell Ferrari shares and hold only FCA shares.
4. Still hold both FCA and Ferrari shares.

Table below summarizes the possible choices that Value investor could make after the spin-off of Ferrari and the returns he could earned over an initial investment of 479 €.

STRATEGY	INITIAL INVESTMENT	FINAL VALUE	RETURN	EXCESS RETURN	TIME HORIZON
Sell Both FCA&Ferrari Immediately After Spin-Off	479 €	**1.190 €**	149%	**143%**	15 months
Sell FCA And Hold Ferrari Until 04/09/2017	479 €	**1.732 €**	262%	**248%**	3 Years
Sell Ferrari And Hold FCA Until 04/09/2017	479 €	**1.773 €**	270%	**257%**	3 Years
Hold Both FCA&Ferrari Until 04/09/2017	479 €	**2.316 €**	384%	**370%**	3 Years

Fig. 12 Summary of the possible strategies to adopt after spin-off. Source personal elaboration

Still hold both FCA and Ferrari shares.

The best choice would be still hold both FCA and Ferrari shares as the figure evidences.
Results are incredible, an initial investment in 100 FCA shares of 479 € made before the announcement of Ferrari carve-out generated a return of **+384%** after 3 years. With an excess return of + 370% respect to the FTSE MIB INDEX.

Portfolio Value Pre announcement				Portfolio Value with both FCA&Ferrari as at 04/09/17			
Shares	N.of Shares	Price	Value	Shares	N.of Shares	Price	Value
FCA	100	4,7872	€ 478,72	FCA	100	13,43	€ 1.343,00
				Ferrari	10	97,25	€ 972,50
Initial Value			**€ 479**	**Total Final Value**			**€ 2.316**
				Overall Return on Initial investment			384%
				FTSE MIB INDEX RETURN			13,74%
				Excess return			**370%**

The success of the operation is also reflected in the incredible growth of FCA and Ferrari Market Capitalization in 3 years, since the day of the announcement. Looking at the figure below we can understand how the Market Cap of FCA, included Ferrari was **7,07** € bn before the announcement. After 3 years, on Sep 04th 2017, FCA as stand-alone firm reached a Market Cap of 19,9 € bn that summed with the 18,8 € bn of Ferrari, now separated, is equal to **38,64** € bn. Looking at these numbers the answer to the initial question : "*Did the separation create value for shareholders* ?" Must be necessarily " Yes, It did".

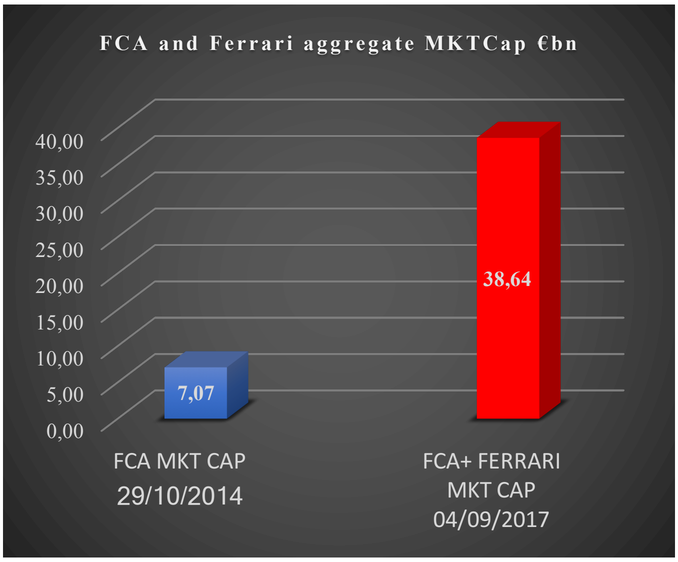


Fig. 13 FCA and Ferrari aggregate MKT CAP. Source: Personal elaboration Borsa Italiana data

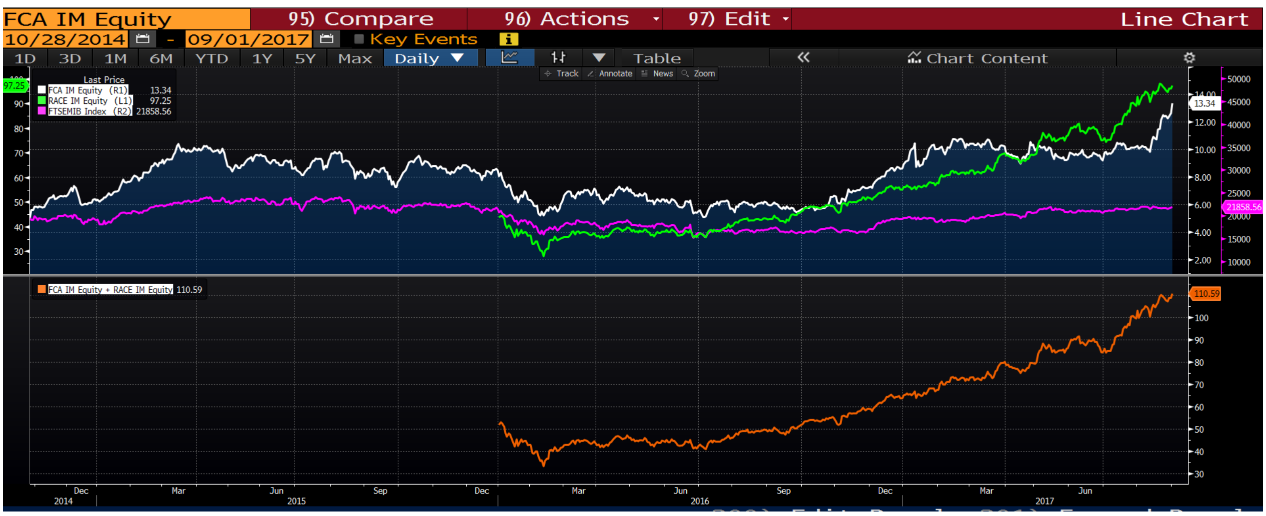


Fig. 14 FCA and Ferrari post spin-off performance aggregate. Source Bloomberg

That performance is due to the extraordinary path of growth of Ferrari shares. Indeed, after a period where the market needed to understand if the IPO price was justified by the fundamentals of the firm, Ferrari started an incredible bull trend that brought the shares to more than double the IPO prices after 20 months.

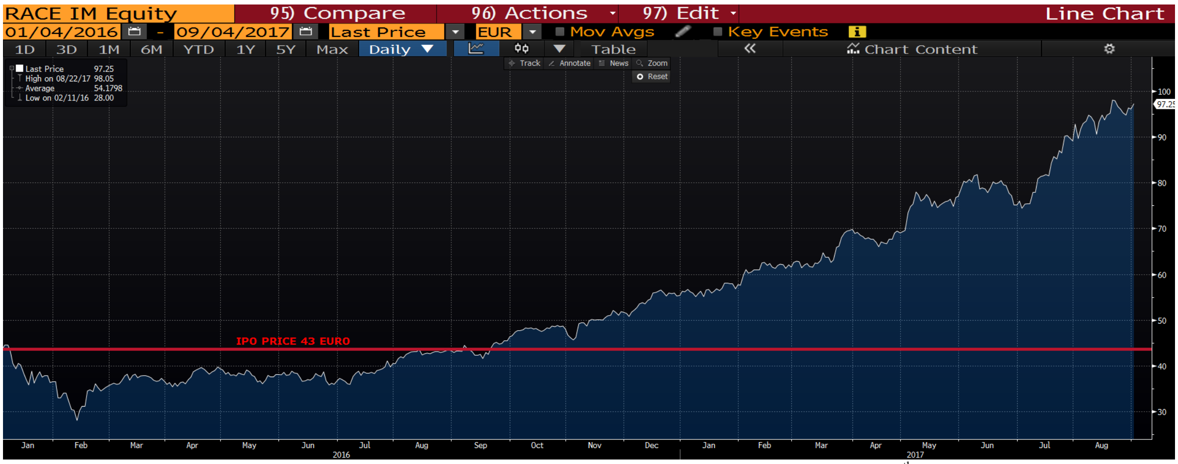


Fig.15 Ferrari shares performance since IPO. Source Bloomberg as at Sept 04th 2017

<u>*Ferrari vs Luxury peers: There is no "RACE*</u>

Ferrari IPO valuation and multiples were in line with pure luxury brands, 2 years after the IPO we might ask if that valuation was correct. Is really Ferrari a pure luxury brand? The answer is in the chart below.

Fig.16 Ferrari shares vs luxury peers since IPO. Source Bloomberg as at Sept 01th 2017

As it is possible to see, there is no "Race", Ferrari (the red line) in the last year strongly outperformed all the major luxury brands, with the market that recognized it as more than a luxury brand. Furthermore, Ferrari also outperformed the MSCI World Luxury Index.

The Reasons Of The Success

The use of proceeds to repay debt

The most obvious motive for equity offerings in general is the raising of external financing. An Equity Carve-out also allows the parent company to realize cash through the IPO sale, which can be attractive for companies who need money, but do not have access to debt and equity capital markets on a lowcost basis (Volk, 1999; Allen and McConnell, 1998; Miles and Woolridge, 1999). The financing hypothesis claims that carve-outs are used for financing the parent firm, the subsidiary firm or both (Lang, Poulsen and Stulz, 1995).

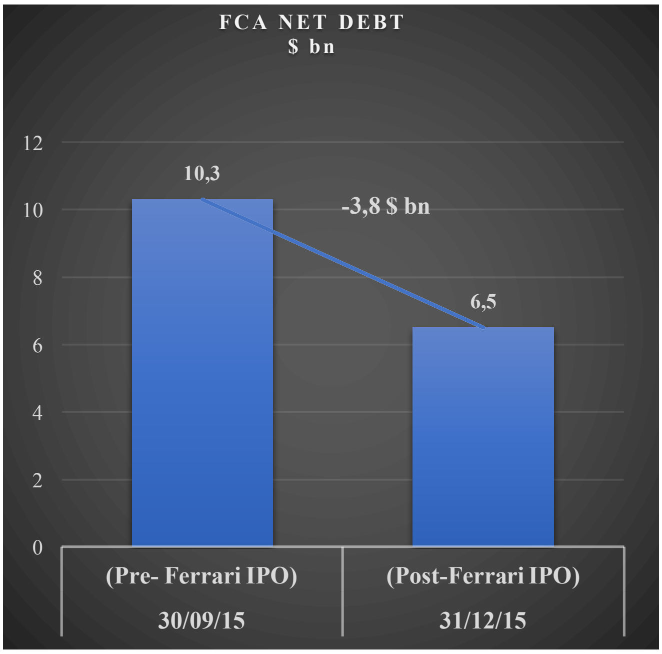
Evidences exist that the gains in value associated with carve-outs change according to the intended use of funds (Allen and McConnell 1998; Vijh 1999). Carve-outs in which firms announce that the funds raised will be used wholly or primarily to repay debt, the average excess return is higher than when firms announce that proceeds will be used wholly or primarily for investment-related purposes (Allen and McConnell 1998). That is one of the reason of behind the success of separation because FCA uses the proceeds of the carve-out of Ferrari to repay its debt. Indeed, as a result of a series of transactions, made before the IPO, including distributions and transfers of cash, FCA received a net amount of **$2.8 billions** (€2.25 billions) in cash from Ferrari, as the table below highlights

	30/09/15 (Pre- Ferrari IPO)	**31/12/15 (Post-Ferrari IPO)**
	$ bn	
Cash Maturities	30,6	27,5
Bank Debt	*12,4*	*12,3*
Capital Debt	*16,5*	*16,6*
Other Debt	*1,7*	*1,6*
GROSS DEBT	**31,1**	**27,8**
CASH & MKTABLE SEC.	*-20,4*	*-21,1*
NET DEBT	**10,3**	**6,5**

Fig. 17 FCA Gross debt breakdown. Source: personal elaboration FCA data.

The **$2.8 billions** received by Ferrari, summed with the **$1 billion** collected with the IPO drastically cut off FCA nET DEBT by **$3.8 billions**, from $10,3bn down to $6,5bn. DEBT reduction means an improvement in the *D/E* ratio. That in only one quarter, from Sep. 2015 to Dec. 2015, due to the IPO of Ferrari, falls from 0,7 to 0,55. A -21,5% reduction

Fig.18 FCA NET DEBT after Ferrari IPO. Source: personal elaboration FCA data.



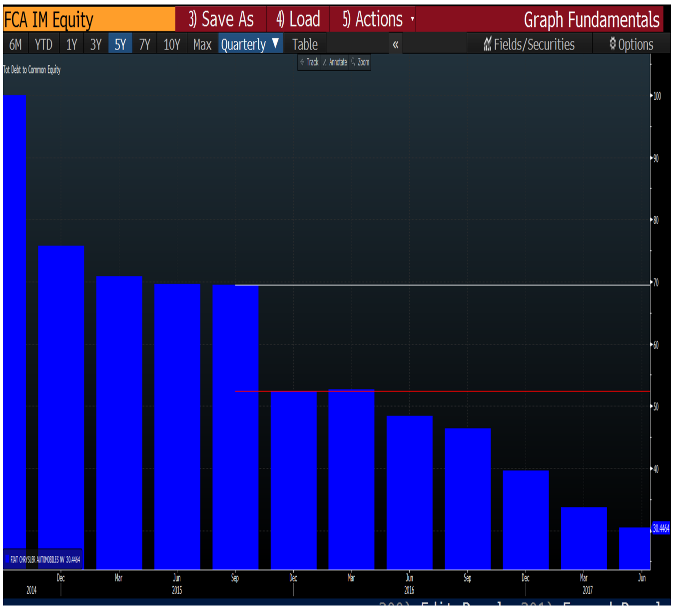


Fig.19 FCA *D/E* ratio after Ferrari IPO. Source: Bloomberg.

Increase visibility and analyst coverage

One of the main force behind carve-outs appears to be the desire to maximize the proceeds from selling shares in a subsidiary, as these IPOs are particularly sensitive to a "window of opportunity" (Rajan and Servaes, 1997; Pagano, Panetta, and Zingales, 1998). Indeed, firms execute carve-outs, because under the right circumstances, they provide parents with an opportunity to generate cash by selling potentially overvalued equity (Powers, 2003). With this in mind, we can easily understand why broker Sump-Of-The-Part (SOTP) valuation shows a strong increase in the Ferrari embedded value since separation announcement.

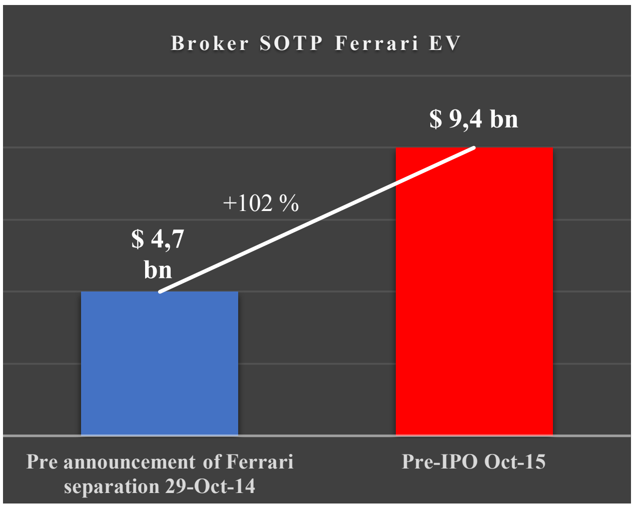


Fig.20 Broker SOTP Ferrari EV. Source: personal adaptation from research repots,Factset as of Oct. 20°, 2015

As the figure shows, the Ferrari *EV* doubled in 1 year, from **$4,7bn** of pre-announcement of Ferrari separation 29-Oct-2014 up to **$9,4bn** Pre-IPO of Ferrari in Oct 2015. That happened because, the carve-out, functioned as a marketing device and increased the visibility of FCA as well as of the carved-out division Ferrari. That is also consistent with some literature researches that demonstrated how carve-outs are a means of exploiting over-and under-valued stock (Slovin et al.,1995; Slovin and Slushka,1997; Nanda, 1991; Powes, 2003). Indeed, through the Ferrari carve-out decision FCA highlighted the difference between the market value and FCA Top management perceived value of both the subsidiary and the parent, signaling markets that the parent firm was undervalued.

Ferrari as a real option for FCA

As seen in Chap. I of this work, in some circumstances the equity carve-out appears to constitute a valid strategy to "buy time". Therefore, the carve-out of a subsidiary provides the parent firm with an indefinite *American style option* to buy back the remaining ownership from the minority shareholders or to sell out its ownership to a third-party (Desai, Klock and Mansi, 2011).
That is, Carve-out gives the opportunity to mitigate the possible negative results, by selling out part of the share, while retaining the flexibility to subsequently reacquire or to sell-off the subsidiary depending on how synergies evolves over time (Perotti, Rossetto and Kranenburg ,2002). While the other option is to postpone the decision at a future date when the firm will still have the opportunity to either carve-out, spin-off or again postpone the decision, depending on how things evolve (Perotti and Rossetto, 2005 and 2007).
Are that studies suitable for the Ferrari case? The answer is yes. FCA announced the carve-out of Ferrari on Oct. 29th 2014, but then waited the market answer, and only after 1 year, on Oct. 21th 2015, effectively made the IPO. Furthermore, as it is possible to read in the company Sec Filing of Oct. 9th 2015[12]: after the carve-out, FCA still reserved the possibility to postpone the decision about the Spin-off or even to not undertake it, perhaps to wait for the market reaction to Ferrari IPO.
At the same time, this strategy to "buy time" contributed to create more interest and appetite around Ferrari increasing the demand before the IPO.

Spin-off as a surprise for the market

The Ferrari Case also confirms the evidence existing in the literature that often equity carve-out is only the first step of a two-stage process (Klein et Al. 1991; Hand and Skantz, 1999; Miles, Woolridge and Tocchet; 1999; Boone, 2002). In the same direction a study by McKinsey indicates that after five years, just 8% of carved out firms remains public under the control of the parent (Annema, Fallon,

[12] "*We currently expect that the Separation will be completed in early 2016. However, we cannot assure you that the Separation will be carried out as described in this prospectus or completed within the expected timeline or at all. Completion of the Separation is within FCA's discretion and remains subject to various conditions, risks and uncertainties including market conditions."* **Source***: Ferrari SEC Filings 9-OCT.-2015.*

and Goedhart, 2002).
As Ferrari case shown, a carve-out is often followed by either a M&A, secondary offerings, spin-offs or reacquisitions. However, as demonstrated by Otbsubo (2008) the stock market expects a secondary event after a carve-out and hence evaluates the potential gains from the combination at the announcement of the carve-out.
In particular, the market expects M&A as secondary event, and hence has a positive reaction upon the announcement of a carve-out (Otsubo 2008 and 2009). Nevertheless, the stock price of a parent company does not change significantly upon the announcement of subsequent M&A, because it has already priced the gain into its reaction to the announcement of the carve-out. By contrast if the secondary event is not an M&A there is a surprise in the market and the stock price may react more positively.
In the Ferrari case, the secondary event, is not an M&A but a spin-off, that market surprise is another reason that could explain the positive magnitude of the abnormal excess return the day of the announcement.

4.3.5 The elimination of information asymmetry

The last literature-related motive of the Ferrari success is due to the elimination of the asymmetry information. Thanks to the carve-out, Ferrari has the chance to increase the transparency to the outside world and generally investors are more attracted to companies with less asymmetric information.
Indeed, separate financial statement and publicly traded carve-out equity improve the ability of investors to gather information and profit from it, unlocking value hidden in parent firms (Gilson et al., 2001). In addition, the market value of Ferrari net assets becomes readily observable.
As Milgrom (1988), Bagwel and Zechner (1993) and Harris and Raviv (1996) showed, asymmetries between lower and top management, in information, preferences, or incentives may result in an inefficient allocation of capital.
By separating Ferrari projects from those of FCA, the carve out of Ferrari also reduced the asymmetry of information between managers and investors regarding the asset base underlying the securities offered. Furthermore, the separation and their capital and organizational structure offered both firms a flexible and beneficial environment that allowed them to access directly sources of equity and debt capital to finance their business on favorable terms, as well as the opportunity to reward their most loyal shareholders with their loyalty voting program.

Ferrari intrinsic Factors

Literature-related motives explain part of the gain accumulated by FCA after the announcement of Ferrari carve-out. However, there are some Ferrari intrinsic competitive strengths that have been the primary drivers of Ferrari success and contributed to determine the success of the IPO.

- **An iconic brand with superior, enduring power, benefiting from a loyal customer base.**
- **Global access to growing wealth creation**.
- **Exceptional pricing power and value resilience.**
- **Racing heritage**.
- **Flexible and efficient development and production process** .
- **Superior Talent**.
- **Strong and resilient financial performance and profile.**

Figure below summarizes the combination of factors that contributed to the success of Ferrari separation.

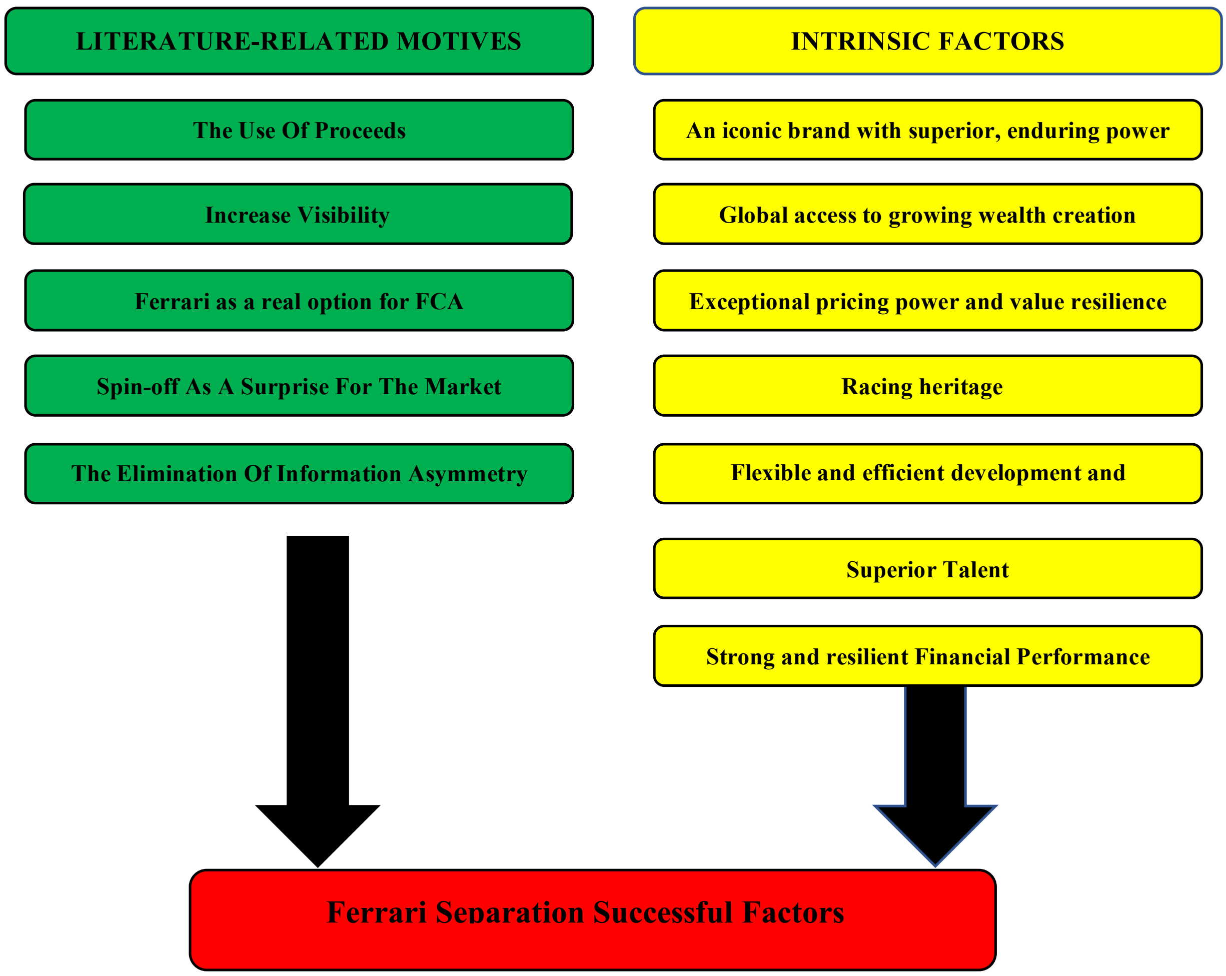


Fig.49 Ferrari Separation Successful Factors. Source: personal elaboration from literature on ECOs and *Ferrari SEC Filings 9-OCT.-2015 data.*

Conclusions And Personal Considerations

The aim of this work was to demonstrate how a well-conduct equity carve-out can create value for shareholders. My deep analysis of the literature about equity carve-outs bring me to affirm that equity carve-outs are value-creation operations *per se*. The use of the proceeds collected to increase the cash or repay debt, the elimination of the information asymmetry, the increase visibility and analyst coverage as well as the possibility of secondary events after the carve-out are only some of the factors that made carve-outs better choices respect to other forms of divestitures to start a path of separation. Moreover, as Ferrari and FCA case shows, carve-out announcements create a positive *momentum* around the parent firm that often continues even after the separation of the carved-out subsidiary.

However, the Ferrari case should be considerate as an isolate case. The power and the magnitude of the excess return generated both by the carve-out announcement both by separation does not have precedent in the literature. Intrinsic factors related to the power and exclusivity of Ferrari Brand, its history and heritage, the strong and resilient financial performance plus the recognized status of more than a luxury brand are an explosive mix that pushed the shares before and after the IPO.

Finally, my choice of consider the perspective of a saver-investor, is not casual. My opinion is that they are one of the weaker category of shareholders, which often suffer of information asymmetry with respect to the top managements and other big markets players like banks or hedge funds which can influence the dynamics of a share with the huge volume of their operations.

Often managers' tangible and intangible compensation is correlated with the size of the firm and/or the dollar amount of assets under their control. As a consequence, given the choice, managers prefer not to sell off or carve-out assets even if doing so would be in shareholders' best interests generating a loss of value for little shareholders.

In the Ferrari case, instead, that asymmetry information between top management and investors, works well. Saver-investors, that held the shares before the announcement and still hold it today are the real winners along with the FCA and Ferrari top management. In effect, Ferrari shares represent a gift that FCA gave to its shareholders, and that gift has proven to have great value.

One question still remains open, what is Ferrari? Before the IPO a lot of analysts and investment banks tried to explain what Ferrari was. As shown, during the IPO Ferrari was considered as an High End Luxury brand like Hermès as regards trading multiples. However, the strong resilience of Ferrari revenues during the financial crisis of 2007-2008 compared with other luxury brands and primarily the extraordinary performance of Ferrari shares with respect to other luxury peers since the IPO, show that Ferrari should be considerate neither a simple carmaker neither only a luxury brand. But it is something more.

I think that the only possible definition of Ferrari, is enclosed in the words of Ferrari Founder, Enzo Ferrari:

"Ferrari is not only a carmaker, Ferrari is not only a luxury brand.
Ferrari is a dream..."

Enzo Ferrari