

THE NEW WAVE OF MERGERS AND ACQUISITIONS IN THE AUTOMOTIVE INDUSTRY

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Abstract

This project focuses on two acquisitions that happened in the automotive industry during the last decade, the selling of Jaguar, Land Rover and Volvo by Ford and the acquisition of Jaguar and Land Rover by Tata and the of Volvo by Geely. These two transactions were very important for the sector and marked a game-changer for the companies involved in them, because it was the first and second time respectively that three prestigious European premium brands were acquired by two companies from emergent markets. In this project, the author analysed the reasons that were behind both the selling and the buying decisions, contextualizing them with the evolution of the automotive sector and how have Jaguar Land Rover and Volvo's financial performance evolved in the post-acquisition period to understand if they added value by using data provided in the corporate and annual reports of the companies involved and also other sources like articles from specialised websites. The methodology that was used by the author, consisted on the analysis of some profitability ratios like the ROE and the ROIC, the FCFF method, the EVA and the EV multiples analysis. The analysis made, confirmed that both companies improved under their new owners and they are now profitable, however it showed that there are still some challenges that need to be overcome.

Keywords: M&A, Acquisitions, Financial Analysis, Growth, Automotive Industry

JEL Classifications: G30; G34

Resumo

Este projecto centra-se em duas aquisições que ocorreram na indústria automóvel durante a ultima decada, a venda da Jaguar, Land Rover e da Volvo por parte da Ford e a aquisição da Jaguar Land Rover por parte da Tata Motors e da Volvo por parte da Geely. Estas duas transações foram muito importante para o sector automóvel e marcaram uma mudança de paradigma no sector, já que foi a primeira e segunda vez respectivamente que empresas premium europeias foram adquiridas por duas empresas provenientes de mercados emergentes. Neste projecto explicamos as razões que estiveram por trás destas duas transações, tanto do lado do comprador como do vendedor, contextualizando com a evolução do sector automóvel e analisando a performance financeira destas duas empresas no período posterior à aquisição de modo a perceber se as mesmas acrescentaram ou não valor utilizando dados presentes em relatórios das empresas envolvidas e também outras fontes como artigos de sites especializados. A metodologia utilizada pelo autor consistiu na análise de alguns rácios como o ROE ou o ROIC, bem como o método do FCFF, o EVA e também múltilpos utilizando o Entreprise Value. A análise realizada confirmou a melhoria na situação financeira de ambas as empresas sob a nova liderança bem como a sua capacidade de gerar lucro, embora também demonstre que ainda existem alguns desafios que ainda tem de ser ultrapassados

JEL classifications: G30; G34

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List of Abbreviations

βl - Levered Beta

βu - Unlevered Beta

D/E - Debt to Equity ratio

D/(E+D) - Debt divided by Equity plus Debt

E/(E+D) - Equity divided by Equity plus Debt

EQV - Equity Value

EV - Enterprise Value

EVA - Economic Value Added

FCFE - Free Cash Flow to Equity

FCFF - Free Cash Flow to the Firm

IC - Invested Capital

JLR - Jaguar Land Rover

M&A - Mergers and Acquisitions

MRP - Market Risk Premium

rD - Return on Debt

rE - Return on Equity

Rf - Risk free rate

ROA- Return on Assets

ROC - Return on Capital

ROE - Return on Equity

ROIC - Return on Invested Capital

SUV - Sports Utility Vehicles

WACC - Weighted Average Cost of Capital

WC - Working Capital

1. Introduction

The subject that will be address in this project, Mergers and Acquisitions is something very important for the economy because it can change the business structure of the sectors leading to new innovations or ending up in a failure. This topic has been subject to several studies seeking an answer to the questions related to it, including the different types of M&A, as well as the reasons behind it, the defence mechanisms against it and also studies over some practical cases and industries. However, among the M&A ecosystem, the automotive sector has not been subject of many studies. In fact, during these last decade, the sector has been reshaped by a wave of Mergers, Acquisitions and Corporate Restructurings as well as by new innovations that have brought a major change to this sector. Another trend in the business world and also in the world economy has been the rise of the emergent economies, particularly China and India. Their internal markets have been growing fast and companies with origin in these two countries are expanding and looking for profitable investments.

This project combines these two new phenomenon, while focusing on two specific M&A deals: the Tata-Jaguar Land Rover in 2008 and the Geely-Volvo Cars in 2010. These deals present a new scenario in the automotive industry ecosystem, since they were the most influent acquisitions of historic European premium brands, such as Volvo Cars, Jaguar and Land Rover, by relatively unknown brands from emerging markets, like Geely (China) and Tata (India). This project aims to explain the reasons behind the previous owner's decision, Ford, for selling these premium brands to emerging companies. Furthermore, it is also studied the motivation that led these emergent companies to get through with the acquisition of such companies.

The main question on which this project focuses, is whether these deals were value-creating for the two acquired companies Jaguar Land Rover and Volvo Cars. In order to perform this study, it is required a careful analysis of the corporate and financial reports of these companies, while analysing for the financial performance of the companies and also doing a corporate valuation. Additional data like the share price of Ford, Tata and Geely, along with some corporate information that will also be used aiming to analyse the impact these deals had to the different companies' owners. Finally, a strategic analysis of the companies, including their opportunities and threats for the future, is also put forward.

This project starts with a review of literature starts about the general M&A events. After it is presented the data and the methodology that will be used in its elaboration. Then it is made a presentation about the M&A waves and about the automotive industry and the new trends that are

reshaping it. After this a brief history of the three brands is put forward and then the reasons that were behind Ford's decision to sell Jaguar, Land Rover and Volvo and Geely and Tata's decision to acquire these companies. The next chapter focuses on the financial analysis and valuation of both companies in the period after the acquisitions have taken place. A qualitative analysis about future opportunities, challenges and threats is made and to finalise this project the final remarks that conclude if these two acquisitions were or not positive for the parts involved.

2. Review of literature

Mergers and Acquisitions are one of the most important strategic moves that can be used by companies and they can have a deep impact of the business environment of a sector or even of a country.

The following table shows us the sixteen biggest M&A deals of all time:

Table 1

Acquirer Name	Target Name	Announced	Announced Value	Payment type
Time Warner Inc	Historic TW Inc.	1/10/00	$186.2 billion	Stock
Vodafone Group PLC	Vodafone Holding GmbH	11/14/99	$185.0 billion	Stock & debt
Verizon Communications	Cellco Partnership	9/2/13	$130.1 billion	Cash & stock
Shareholders	Philip Morris International	8/29/07	$107.6 billion	
Multiple acquirers	RBS Holdings NV	4/25/07	$100.0 billion	Cash & stock
Pfizer Inc.	Warner-Lambert Co.	11/4/99	$87.3 billion	Stock
AT&T Inc.	BellSouth Corp.	3/5/06	$83.1 billion	Stock
Exxon Mobil Corp.	Mobil Corp.	12/1/98	$80.3 billion	Stock
Royal Dutch Shell PLC	Shell Transport & Trading Co.	10/28/04	$80.1 billion	Stock
Comcast Corp.	Comcast Cable Communications	7/9/01	$76.0 billion	Stock
Sanofi	Aventis SA	1/26/04	$73.4 billion	Cash & stock
GlaxoSmithKline PLC	SmithKline Beecham Ltd.	1/17/00	$72.4 billion	Stock
Verizon Communications	GTE Corp.	7/28/98	$71.1 billion	Stock
Citigroup Inc	Citicorp/Old	4/6/98	$69.8 billion	Stock
AT&T Inc.	AT&T Teleholdings Inc.	5/11/98	$68.2 billion	Stock
Comcast Corp.	Time Warner Cable Inc.	2/13/14	$67.6 billion	Stock

Source: Business Insider

2.1 Basics concepts about M&A

As previously stated, Mergers and Acquisitions are one of the most important corporate strategy instruments being widely used since the end of the XIX century, we are now going to explain the main concepts behind these operations.

2.1.1 Merger

A merger occurs when two or more separated companies join themselves to form a new company combining the resources and capital of the companies that created it. In a Merger there is a process of negotiation before the two, or more, companies complete their combination. One kind of merger is the **merger of equals** (MOE's), in which generally, two large companies in an oligopolistic market merge in order to have synergies but also a more dominant position in the market that will enable them to have higher profits. According to Galpin and Herndon (2014) true merger of equals are extremely rare.

2.1.2 Acquisition

An acquisition occurs when one or more companies are taken over by another company, becoming then part of the acquiring company. An acquisition generally follows this: The predator company presents a takeover bid, that is above the current value of the company because it includes a premium that accounts for the synergies that predator company expects that it will obtain with the acquisition of the target company. After the takeover bid is present, the executive board of target company has two options, it can accept the proposal making it a friendly takeover or it can reject it making it an hostile takeover (instructing the shareholders not to sell their positions to the predator company). The premium in a takeover bid is given by:

$$Premium = \frac{New\ Price\ per\ Share\ (After\ takeover\ bid) - Old\ Price\ per\ Share\ (Before\ takeover\ bid)}{Old\ Price\ per\ Share\ (Before\ takeover\ bid)} \quad (1)$$

2.1.3 Horizontal M&A

A Horizontal M&A consist in the merger (or acquisition) with atleast a company that operates in the same industry. There are several reasons that could lead to a horizontal M&A like the possibility of synergies between the two companies, increasing the market share or expanding to new markets, among others.

2.1.4 Vertical M&A

A vertical M&A consists in the merger or acquisition of companies that operate in distinct parts of the production process of a certain product or service. There are two types of vertical M&A, backward integration when a company expands itself in order to control suppliers of the raw commodity it uses to produce its goods and forward integration in which a company acquires the control of its distributors.

2.1.5 Conglomerate M&A

In a conglomerate M&A a company acquires or mergers with another company that operates in a completely different business field. Most of the times this happens when a large multinational company acquires another company as a way of diversifying their investment portfolio, spreading out the risk or alternatively, using the acquisition to enter in new markets in which the company was not previously present with the objective of getting new costumers for their products. One example of this type of company is given by Brealey, Myers and Allen (2014) about Tata that in the recent years acquired Eight O'Clock Coffee, Corus Steel, Jaguar Land Rover, Ritz Carlton and British Salt.

2.2 Reasons for Mergers and Acquisitions

2.2.1 Increasing Market Share

One of the main reasons behind M&A is the possibility of an increased market share and the benefits that arise from it. It generally happens in the case of horizontal mergers in which two companies that produce the same products or service merge in order to get a bigger control of the market and thus of the price of the products, sometimes it can lead to an oligopolistic or even monopolistic market. This type of M&A happened during the 2013 merger between Zon and Optimus, two telecommunications companies in Portugal, creating NOS, now one of the market leaders. The main objective of this was to get higher profits and decrease their competition. These larger companies can also be more prepared to face international rivals.

2.2.2 Creating Synergies

One of the most important reasons behind any M&A deal is the possibility of creating synergies in the production process which means producing with higher integration as two separated entities (economies of scale and scope). By incorporating the know-how of the other firm, production processes can become faster and cheaper and inefficiencies may be eliminated, creating economies of scale that decrease the average costs of the goods produced . Synergies are common in both Mergers and Acquisitions but sometimes there objective may not be achieved and we can even see diseconomies of scale with an increase in the average cost of the product. Two recent acquisitions in the automotive industry, the Geely Volvo and the Tata Jaguar Land Rover had the motivation of acquiring the advanced know how that Geely and Tata missed because they were still relatively new and inexperienced car manufactures. According to Ficery, Herd and Pursche (2007) the six most common mistakes made by executives of predator companies are: defining synergies too narrowly or broadly; missing the window of opportunity; incorrect or insufficient use of incentives; not having the right people involved in synergy capture; mismatch between culture and systems ; and using the wrong process. So as we can see, managers must carefully manage the process in order to get the most synergies possible.

2.2.3 Expansion to other markets

In certain situations firms use M&A in order to expand to new markets. This is the typical case of a firm that acquires another firm that produces the same or a similar good in a different market. They use the reputation and experience that the acquired firm has in that specific market in order to get an easier expansion (shaping their products more accordingly to the taste of those customers) enabling the predator company to consolidate their international position. Automobile industry M&A tend to have this has one of the main motivations like the Fiat Chrysler merger.

2.2.4 Decreasing the specific risk/ Diversification

For large companies, M&A can also represent an investment with the objective of diversifying their portfolio of investments. There are two types of risk the Market risk or systematic risk and the specific risk or unsystematic. The former is the risk associated with the evolution of the financial markets as a whole and cannot be eliminated through diversification. The latter is a type of risk that affects only the company. Thus, by spreading their assets through different production lines and markets, the company is decreasing its specific risk which can make investors more eager to invest there, providing it with the necessary capital. This willingness to invest is linked to the potential of growth of the acquired firm. Firms with high cash-flows and lack of investment opportunities can also invest in a merger or an acquisition rather than just redistributing that money in dividends to the shareholders. However, according to Hartford (1999) acquisitions by cash-rich companies are value decreasing and that is reflected by a negative stock price reaction to the announcement and is followed by a subsequent poor operation performance of the new company.

2.2.5 Psychological factors

Psychological factors can also be an important motivation for an M&A process. Some managers may be willing to undertake a merger or an acquisition not because there are synergy opportunities or the opportunity of expanding the company but because managers want to build a larger company, with a higher market value, (empire) in order to increase their reputation and wage level. This behaviour hurts shareholders and that is the reason why is more frequent in companies with a dispersed shareholder base because is more difficult for them to control the managers actions than in a company with large shareholders. Another related phenomenon is the Hubris hypothesis. It consists in managers overconfidence and arrogance that can lead to some risky investments. According to Roll (1986) the hubris effect, explains why bids are made in corporate takeovers even when a valuation above the current market price represents a valuation error. Another study Hayward and Hambrick (1997) found that there was a positive correlation between the CEO hubris and acquisitions premiums paid and the amount of shareholder losses. This means that CEO's with an higher hubris are more willing to pay higher premiums in acquisitions but their shareholders will ultimately suffer bigger losses with the acquisition. The hubris phenomenon is not exclusive to M&A but is also frequent in others contexts, like among stock market traders.

2.3 Defence mechanisms against Mergers And Acquisitions

2.3.1 Poison Pills

One of the most used strategies in order to discourage takeover bids is the poison pills. In the case of flip-in poison pills they may be triggered when a certain shareholder buys more than a certain

percentage of shares. When this happens, the shareholders, except the one who bought the 'excessive' percentage of shares, will be offered new shares at a discount price and also more voting rights. However there are still doubts concerning the effectiveness of this measure in terms of stopping takeover bids. According to Jensen (1988) the takeovers benefited the shareholders of target companies with the premium in hostile takeovers raising from an average of 30% up to an average of 50% in the 1980 decade. However companies need to be careful with the adoption of this type of measures because markets tend to see the adoption of poison pill clauses as a sign of weakness and that the shareholders interests are not been taken into account.

2.3.2 Corporate Charter Amendments

Another protective measure against hostile takeovers are corporate charter amendments.

One of them, the supermajority provisions that defines that for some issues of great importance to be approved, like a merger or an acquisition, it's necessary more than the typical percentage of shareholders votes (for example a two thirds majority) or more usually an 80% majority.

Another option is the adoption of a dual capitalisation amendment that gives more voting rights to a group of shareholders than to the other. Commonly, the class with inferior voting rights has one vote per share while the class with upper superior voting rights has ten votes per share. Ruback (1987) refers that that the stock with superior voting rights is typically distributed to shareholders and these stock can be exchanged for common stock that there shareholders will have an interest to trade by common stock because the stock with reduced voting rights has, generally, less profitable and lower dividends and so the shareholders will have a good reason to make the trade of stock with superior voting rights to the stock with inferior voting rights. By doing that there is a power shift in the company.

2.3.3 Golden Parachutes

Golden Parachutes are another type of anti-takeover measure that consists in giving substantial benefits to top managers and executives if they are terminated after the merger or acquisition has taken place. These benefits may include cash bonuses, severance pay or stock options. According to Jensen (1988) the golden parachutes can be used to entrench managers at the expense of the company's shareholders. So a company should be careful when using a 'golden parachute' in order to avoid conflicts between shareholders and managers. A possible solution proposed by Jensen (1988) is to encourage stock ownership by managers and directors that will provide incentives to reduce conflicts with shareholders.

2.3.4 Greenmail

Another antitakeover measure that target companies can apply is the Greenmail. According to Jensen (1988) it consists in an offer by management to repurchase, at a premium, the shares of a subset of shareholders that the company suspects are trying to acquire them. As in the case of the Golden Parachutes a conflict of interest between the managers and the shareholders may arise because the managers can use Greenmail to protect themselves from competition. Studies by Holderness and Sheehan (1985) and Mikkelson and Ruback (1985, 1986) found that when prices are measured from the initial purchase level up to the final repurchase of the shares, the price of the stock raises and shareholders end up benefiting with the process. In opposition, when greenmail is used after a takeover bid has taken place, the shareholders lose the premium and end up worse with the sequence of events. A measure that appears sometimes related with greenmail are standstill amendments. On this the target company set a deal with the predator company that prevents the predator company of buying further shares until a certain date in order to keep its independence. An empirical study conducted by Dann and DeAngelo (1983) found that the adoption of this kind of agreements was associated with a fall in stock prices of around -4%.

2.3.5 Capital Structure Changes

By increasing the D/E ratio the company became a less attractive target because the predator company would have to pay more loans to the bondholders. However a large increase in the D/E ratio may leave the company financially more vulnerable, especially in companies with risky businesses.

2.3.6 Litigation

One of the most common defences against a takeover bid is a litigation process against the target company. This measure has two different objectives, one of them is delaying the bidding process which may tempt other firms to make a bid that the target company considers more appropriate. The other objective is to make the bidder increase the offer price to see if the target company ends up dropping the law suit in other to keep its expenses in check. Jarell (1985) found that between 1962 and 1980 litigation processes occurred in around 33% of the tender offers.

2.3.7 White Knight/ White Squire

In this strategy the target company makes use of another company with the objective of stopping the takeover from happening. In the case of the White Knight, this company makes a more favourable takeover bid than the previous company, the Black Knight, whose takeover bid is considered as hostile by the target company. The target company seeks another company because the White Knight may promise, per example, not to break up the company after the acquisition has taken

place. The White Knight strategy typically benefits the shareholders of the target company but it may be negative for the 'predator company' because it can result in an 'overbidding' that hurts their own shareholders. A study by Niden (1993) found that white knight acquisitions neither benefit their own shareholders, nor result in large synergies and that 45% of the white knight companies, examined in his study became targets, adopted some takeover defences or restructured during the following five years after being a White Knight. A modified version of this strategy is the White Squire. The White Squire company will 'ally' itself with the target company but instead of acquiring it, the white squire company will buy a large amount of shares. By becoming one of the company's largest shareholders the white squire can stop the takeover. As showed by Niden (1993) this strategy can have clear benefits for the target company but there are also some risks that need to be considered before using this strategy, one of those is a possible 'betrayal' of the white knight that can gain control over the company but then sell those shares to the black knight.

2.3.8 Pacman defense

The Pacman defence is perhaps the most aggressive defence measure that a company can adopt against a takeover bid because the target company starts buying shares of the predator company. This strategy is only suited if the target company is larger than the predator company but even in these conditions this strategy can have severe consequences for both companies because of the high costs and leverage typically associated with it.

3. Data

During the elaboration of this project several data was used. The first set of data that was data that provides an overview about the automotive sector today and the evolution that it had over time including information over the biggest companies in this sector and also some historic M&A of the sector specially the ones related with the companies that are analysed in this project. This data was acquired in some scientific articles about this sector, on the websites of the companies and on other reliable websites. To complement the analysis, relevant macroeconomic data about some countries was also used.

The final and most important set of data, is the data directly used in the financial analysis of the Tata-Jaguar Land Rover and Geely-Volvo M&A. We analysed the annual reports of Jaguar Land Rover from 2008/2009 (the year of the Tata acquisition) up to the present and also the annual reports of Volvo Cars from 2011 (the year after the Geely acquisition) up to the present to find if these two acquisitions improve the financial situation of both companies. Some Ford annual reports were analysed, from the years prior to the selling of these brands, 2003 up to 2010. In order to analyse the impact of Jaguar Land Rover and Volvo for their main shareholders, market data about the performance of Ford, Geely and Tata Motors was also used, as well as some reports of the buyer companies.

4. Methodology

As it was previously stated this project begins with an overview analysis about the M&A phenomenon providing a background for the rest of the work, followed by an analysis of the automotive industry sector and the M&As in the sector.

The main question of this project is to find out if the Geely-Volvo and the Tata-Jaguar Land Rover acquisitions were value creating and improved Volvo and Jaguar Land Rover financial situation.

In order to answer this double question we will analyse the annual reports of Volvo, Jaguar Land Rover starting in the year of the acquisition, 2008 for Jaguar Land Rover and 2010 for Volvo Cars, until the present, and also some Ford's corporate reports due to the fact that Ford was the previous owner of Volvo and Jaguar Land Rover and by doing so that it will shed some light on the reasons that were behind the selling of these three companies. Additionally, we may also analyse some financial articles and papers of Geely and Tata to understand the reasons behind these acquisitions of historic European car makers and how the deals affected the brands' image. We will also analyse the share price of Ford Motor Company as well as of Geely and Tata to find the impact that these M&A had in the share price of their former and present owners. To find if these M&A were value creating or not, some methods of corporate valuation will be used like the FCFF, the EVA and the EV multiples, and also the analysis of sundry performance indicators such as the ROE and the ROIC, besides a complementary analysis of sales and revenues.

So, this project follows an empirical approach using available data to answer the research question, if the Geely-Volvo and Tata-Jaguar Land Rover were value creating and if their financial situation improved under their new owners, or in opposition if the acquisitions destroyed value and worsened the companies' financial situation.

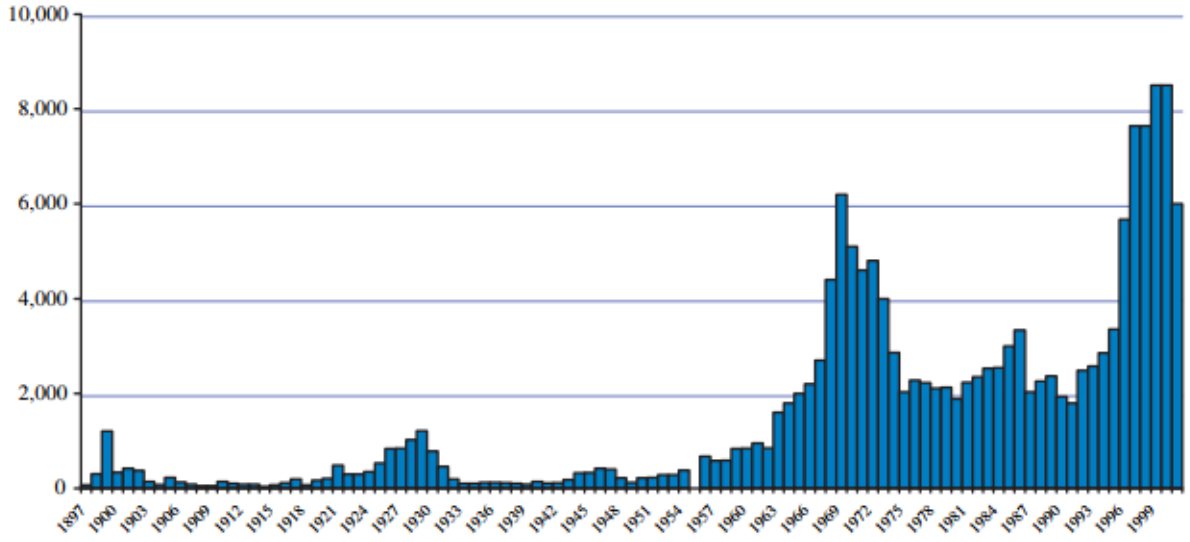
5. The Automotive Industry

5.1 Why are there M&A waves?

There are several factors that contribute to the emergence of a M&A wave. Although sometimes there are specific factors for each M&A wave, other factors tend to be more or less constant in each wave. These will be explored in this subchapter.

Chart 1

Total number of Mergers and Acquisitions in the US in the period 1897-1999



Source: (Martynova and Renneboog, 2008)

In this chart we can observe five of the six M&A waves considered by most literature. Despite some common factors among all of these, each one of them had its own specificities.

-First M&A wave

This first M&A wave happened in the end of XIX and in the beginning of the XX century, with a peak between 1899 and 1901. It was characterised mostly by the abundance of horizontal M&A, particularly mergers in the United States of America. These M&A deals happened mostly among some of the biggest companies in certain sectors creating big oligopolies and even monopolies. Nelson (1959) points to the desire for market control as an important factor that induced companies to merge. The raising stock market gave companies an opportunity to execute those M&A deals because there was an expectation of gains in the stock market.

-Second M&A wave

This M&A wave started around the end of 1910 decade up to 1929. This wave was characterised by the existence of vertical M&A in which some companies acquired some of their suppliers and retailers or distributors. One of the sectors involved in this wave was the automobile sector. During this wave horizontal M&A were also registered with small companies of the same business merging themselves in order to gain market power. The 1929 Crash and the Great Depression that followed ended this M&A wave.

-Third M&A wave

This period saw the emergence of large conglomerates in which companies acquired companies from other sectors in order to diversify the risk of their businesses. As we can see in the graph above this wave was much larger than the previous ones, reaching a peak in the end of the 1960s decade and in the beginning of the 1970s decade. Probably, the main reason that motivated the end of this wave was the negative performance of these conglomerates. According to Gaughan (2011) 60% of the cross industry acquisitions that happened between 1970 and 1982 were sold or divested by 1989. Since this wave represented a movement way from specialisation the failure of many of the deals could be related with the fact that the executives and managers did not understand their new businesses.

-Fourth M&A wave

This wave happened during the 1980s decade but it had its origins in the 1970s decade. The most distinctive characteristic of this M&A wave was the hostility of many of the deals. Hostile takeovers became common, financed by mostly by debt including new instruments such as junk bonds. The deregulation and privatisation trend of the 1980s also fuelled this kind of deals. Another characteristic that differentiated this wave from the previous ones was the size of the deals. Despite the fact that this wave was smaller than the previous one the M&A deals became larger, according to Gaughan (2011) the number of $100 million dollar transaction increased more than 23 times from 1974 to 1986. Some of the major sectors involved in M&A deals were the oil and the banking sector.

-Fifth M&A wave

The fifth M&A wave was characterised by its size, both the large size (megamergers) of the deals and all the large number of deals that were made mainly during the period between 1995 and 2001.

This wave was also more geographically spread than previous ones, with large deals happening also in Europe and in several Asian countries. A catalyst for this wave might have been the economic and financial markets boom of the 1990s, fuelled by the rise of technological companies and the spread of the privatisation and deregulation trend to non-Anglo Saxon countries Martynova and Renneboog, (2008). According to Gaughan, (2011) between 1998-2001, the P/E ratio reached more than 40 and 87 deals had losses of more than $1 billion to the shareholders. The 2001 stock market crash ended this wave.

-Sixth M&A wave

The sixth M&A wave was a truly international wave. It followed the fifth wave, starting in 2003 immediately after the economic slowdown brought by the 2001 market crash and lasted until the 2008 crash and subsequent Great Recession. According to Alexandridis, Mavlovtis and Travlos, (2012) acquisitions by frequent acquirers were 35% during this sixth wave when compared with the previous wave. The average premium paid by predator companies was also lower than in the fifth wave, 37.9% instead of 45% which implies more rational decisions. However acquiring companies still destroyed the same value for their shareholders than during the fifth wave.

5.2 The automotive sector

The automotive industry is one of the most important industries in the world's economy, since its responsible for the road transportation and thus it is an essential sector to the functioning of a society enabling things ranging from the simple distribution of goods, dislocation of workers to their jobs and even social gatherings like family meetings. A study by Hill, Cooper and Menk, (2010) found that historically, the automotive industry is directly responsible by 3% to 3,5% of the American GDP and it contributes to the development of other goods that are used during the production of automobiles. The automotive industry employs directly a total of 1,7 million people in the United States and it has an impact on almost 8 million American jobs. The industry also spends around $18 billion dollars every year, in several Research and Development activities. In the United Kingdom the automotive industry directly accounts for 4% of the GDP, in the amount of £60.5 million and employs, directly or indirectly more than 900.000 people. A total of 1.6 million cars were produced. So, as we can see the automotive industry is a key sector for both the US and the UK and it has a similar degree of importance in other European countries such as Germany, France, Spain and even Portugal.

Since the creation of the automobile by Karl Benz in 1885 and its subsequent commercialisation, the automotive industry has been marked by innovations that have been shaping this sector. At first, several small brands appeared many of them with a radically different concept of vehicle because the automobile was not yet a standardised product. To give an example of these differences, some of the earlier cars run on a combustion engine (diesel or petrol) but there were other radically different proposals that run on electricity and even steam. However, in the beginning of the XX century with the standardisation process and mass production (started with the Ford Model T) the use of cars got more common specially in the United States of America.

The 1920 and the 1930 decade were a period in which the use of the automobile spread throughout the Western world. New companies were created in several countries like in France, the United Kingdom and Germany and the market became more fragmented between the several carmakers, typically they had a larger market share in their own country due to import tariffs that made exports more difficult. During this period the automobile became a symbol of status used to demonstrate the belonging to an upper class. The period after the Second World War marked the expansion of the car brands that started to make different vehicles for people with different necessities in different countries, in this period the decrease in import tariffs and the fast economic growth meant that some automobile companies became truly international companies, with some of them even opening factories in other countries. The 1970s and 1980s marked the rise of a new player in the automotive world, the Japanese car makers. Fuelled by a fast growing economy, the Japanese car makers (like Toyota, Honda, Mitsubishi or Nissan) started by making cars for the internal market but they rapidly spread to larger markets, such as Europe and the United States where they gained clients with a combination of low running and production costs and strong reliability. During this period the number of market segments as well as market demand had an exponential growth and in order to fulfil those the large car makers created new brands or acquired other smaller premium brands to expand their portfolio. The three companies studied in this dissertation, Jaguar (1990), Volvo (1999) and Land Rover (2000) were all acquired by Ford in a decade's time in order to give Ford a stronger presence in the premium and luxury car segments.

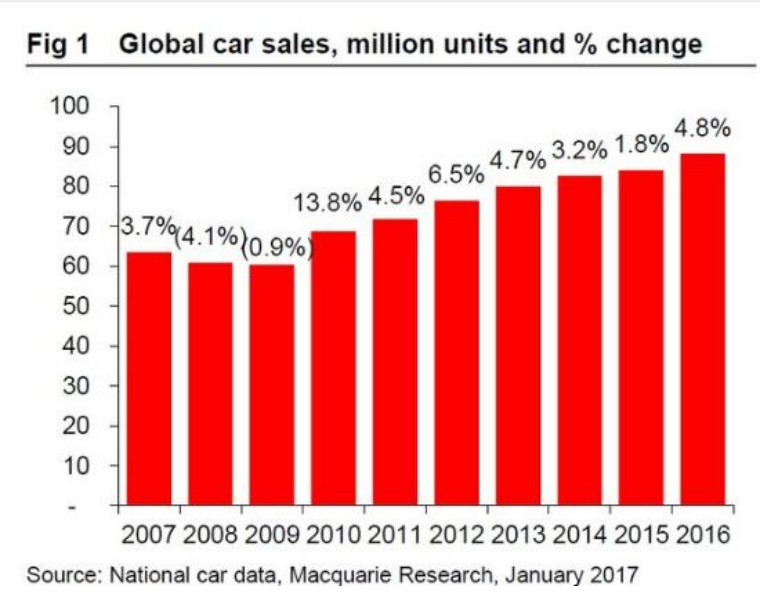
However the 2008 financial crisis and subsequent economic contraction throughout the world change this trend. The big three American automotive groups (Ford, General Motors and Chrysler) were in big financial trouble during this period and despite each one having their own specific problems the financial and subsequent economic crisis was a delicate moment for every one of them. In order to guarantee their financial sustainability, these big automotive groups had to sell or to close some of their companies, especially the ones that had losses or the ones that were not

essential for their new strategy , in order to have more capital to repay debt and also to create a more simple brand structure within the group. In the case of the Ford group they not only sold their foreign brands Aston Martin, Jaguar, Land Rover and Volvo but they also closed the American brand Mercury in 2012. General Motors that had an history of bad deals, sold or closed several of its brands in the years following the financial crisis, like Saab, Hummer, Pontiac or Opel, while Chrysler that had been acquired by Daimler in 1998 was sold 2007 after having 1.5 billion loses in 2006, ended up acquired by Fiat group in 2014.

In order to avoid cannibalisation and unnecessary costs, nowadays many of the largest automotive groups have a reduced number of brands or in the cases in which they have more brands, like VW Group or Fiat Group, they have a clearly stratified structure and some of their brands are only sold in some specific markets.

Just like it is presented in the chart below, the automotive market has been expanding overall in the last decade with a particularly big increase in the 2010 and the following years due to the recovery of the European and American market but particularly due to the large fast growth of the Chinese and other emergent markets. During the last few years, the global market has been slowing down but is it still growing, having registered a growth of 3.3% in 2017 with an expected 3.6% growth in 2018 led by a predicted 11% increase in Russia and 6.7% increase in Japan, in contrast with the lower growth rates in Western Europe and Northern America and a recent slowdown in the Chinese market.

Chart 2



Not only the global car sales have been increasing, but the choice of bodywork and segment has also been changing since the beginning of the 2010's decade. The consumers choices have been also shifting in these last year's which presents new challenges for car companies that have to adapt to these new trends. Consumers are now less interested in three volume bodywork saloon/sedan cars and in sports cars and more interested in SUV (high bodied automotive vehicles with atleast some off-road capabilities) and in the growing urban metropolis, compact cars. The SUV/crossover trend is particularly interesting because many consumers that previously bought regular saloon or estate cars are now buying SUV's. So these new SUV's are not being bought to be used off-road like it happened previously but rather with the intent of giving its occupants a more dominant view over the road and a higher sense of safety. This trend has been happening in almost every segment from the small compact SUV's built by low-cost companies like Dacia, Tata or Skoda up to luxury SUV's built by companies like Bentley, Rolls Royce, Lamborghini or Maserati. This is also a global trend that started in the United States and Europe but is now expanding to emergent markets like China. For car companies this presents an opportunity to increase profits because SUV's are build using the same platform, engines, gearbox and other technologies as a saloon or estate car of roughly the same length but with a few extra panels they can put a 10% or 15% higher price tag increasing the profit margin for each vehicle sold. Even in the SUV market the diversification continues to grow with the emergence of SUV coupé bodyworks. The graph below shows the dramatic increase in global SUV sales and SUV market share. In just four years the market share for this bodywork rose almost 52% from 22.4% to 34% and China and in the US their market share is already around 40%.

Chart 3

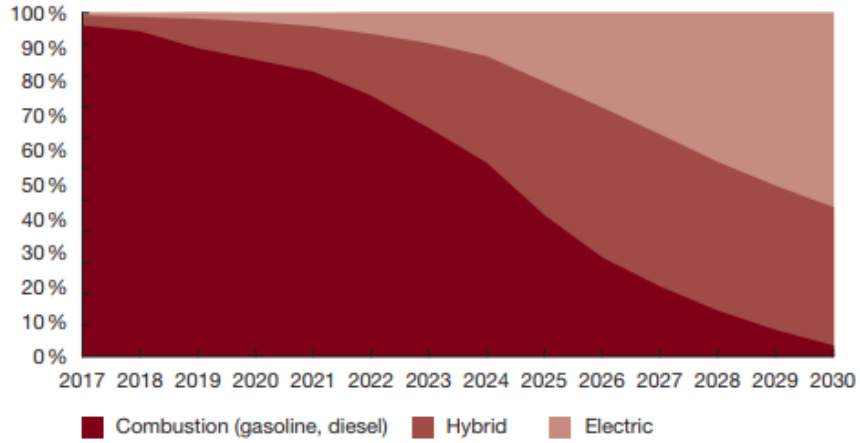


Source: JATO

The automotive sector is also facing unprecedented challenges in this last decade. Tighter greenhouse gases emissions regulations and a larger environment conscience of the consumers are pushing carmakers to build more sustainable vehicles that produce a lower environmental impact. Adding to this, the VW diesel emission scandal and the discovery that diesel cars continue to pollute more than they have announced, is turning the public against these cars. Several countries like Norway, Germany or France are even thinking in banning the sale of diesel cars in 2025 or 2030 with some cities planning to ban diesel or even all internal combustion cars from the city centre in the coming years. In Norway electric cars already accounted for 15.7% of all new cars sales in 2016 and according to a PWC study from 2018, by 2030 over 55% of all new car sales could be fully electrified while almost all of them will be at least partially electrified. However in order to reach these values full electric cars will need to overcome some challenges that make them less attractive to most costumers like the relatively low autonomy and also a lack of charging infrastructure. This is a big advantage that Tesla products have because not only their brand image is very strong but their products also have larger autonomy than its rivals and an exclusive Supercharging network that allows cars to be charged in around 30 minutes. The predict shift of the market to electrified cars is represented in the following chart.

Chart 4

Development of power train systems (New car sales)



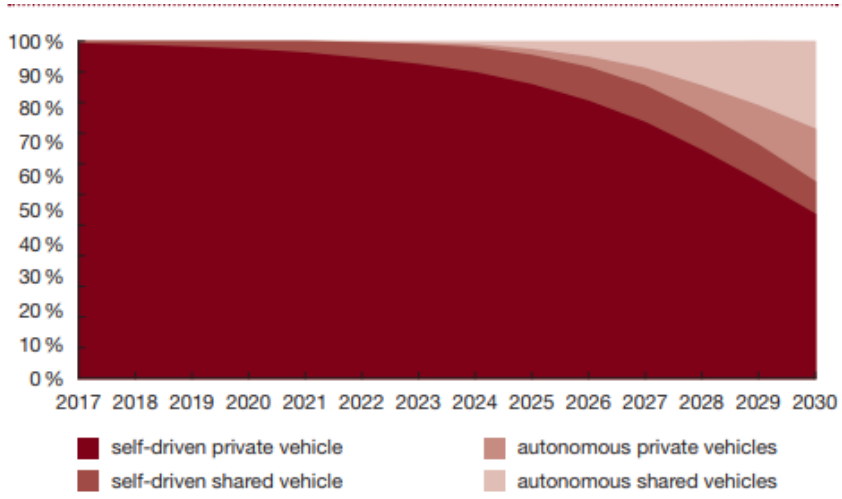
Source: PWC

However the technological innovations in the automotive industry go far beyond electrification. Another trend that is rapidly changing the automotive industry are autonomous car technologies. These are also being developed by several manufacturers and they will continue to increase up until

a point in which they will change radically one of the most important concepts of cars, the driver, that will eventually become obsolete. This emergence of autonomous vehicles will also likely be associated with the emergence of car sharing technologies in which a driverless vehicle own by a company can be used to bring workers to a company and then carry them home for example. According to a PWC study in 2030, 40% of the mileage driven in Europe could be covered by autonomous vehicles in 2030. This car sharing phenomenon will also very likely decrease the vehicle inventory because some people will no longer need a personal vehicle because they will be able to rent or share a car when needed. The PWC study predicts that Europe's vehicle inventory will reduce from 280 million to 200 million cars in 2030. Related to this, a KPMG study from 2017 predicts that by 2025, more than half of today's car owners will not want to own a car and this trend is more noticed in the younger age groups which provides yet another challenge to the automotive companies in order to keep their profitability. This market shift towards autonomous and shared vehicles is represented in the following chart.

Chart 5

Europe mobility forms (2017-2030)



Source: PWC

A similar trend to this is also expected to happen in the other markets such as United States and China. However we need to have into account that there are currently legal restrictions to autonomous driverless cars, mainly due to safety reasons, so it's future evolution depends upon how fast will these cars ensure that they are totally safe to be driven without a driver and still be able to react to any possible danger and follow the road code. Only then can we expect these restrictions on autonomous cars to be lift.

In order to accommodate the latest more connectivity systems, cars will also need to have much shorter product lifecycles than the usual five to eight years at the moment with more frequent restyling already a reality in certain segments.

5.3 Recent M&A wave

The 2000's decade was marked by huge changes at an economic level, which contributed to the emergence of this recent automotive M&A wave. Developing countries like China and India started to register a very strong economic growth, closing the gap with the developed countries, particularly the economic powerhouses, Germany, United Kingdom, United States and Japan. These dynamics were further enhanced by the 2007-2008 Financial crisis and the Great Recession that followed. While Western economies plummeted, emergent economies like China or India were barely affected and continued their strong growth path with an expanding middle class demanding more consumption goods, like automobiles. This economic evolution during the 2000 decade is clearly described in the following table:

Table 2
GDP growth rates during the period 2000-2010

Countries/Years	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
China	8.5%	8.3%	9.1%	10%	10.1%	11,4%	12,7%	14,2%	9,7%	9,4%	10,6%
India	3.8%	4.8%	3.8%	7.9%	7.9%	9.3%	9.3%	9.8%	3.9%	8.5%	10.3%
Germany	3%	1.7%	0%	-0,7%	1.2%	0.7%	3.7%	3.3%	1.1%	-5.6%	4.1%
Japan	2.8%	0.4%	0.1%	1.5%	2.2%	1.7%	1.4%	1.7%	-1.1%	-5,4%	4.2%
United Kingdom	3.7%	2.5%	2.5%	3.3%	2.4%	3.1%	2.5%	2.4%	-0,5%	-4.2%	1.7%
United States	4.1%	1%	1.8%	2.8%	3.8%	3.3%	2.7%	1.8%	-0.3%	-2.8%	2.5%

Source: World Bank

This macroeconomic evolution had a clear impact in the business sector. Many Western companies were severely affected by the economic downturn and some of them even went bankrupt especially on traditional industries like the automobile industry. The ones that were able to survive had to make structural changes that in many cases included creating less complex structures, laying off workers and reducing the number of products and factories. It was what happen with Ford Motor Company that had already endured difficult times before the crisis and with the Great Recession it faced the danger of bankruptcy.

Another factor that helps to explain this new M&A is the rise of the so called emergent markets, that grown at very high rates in the 1990 and 2000 decades. According to data from the World Bank, China had a GDP growth rate always above the 8% level during each year of the 2000

decade, reaching a peak in 2007 with an impressive 14,2% growth rate, with a slightly lower growth rates during the 2010 decade. India started this industrialisation process later than China but still, since 2003 has been having consistently growth rates above 5%.These numbers are in striking contrast with the Western nations that recorded much lower growth rates during that period, in the United States, in Germany and in the United Kingdom never grew more than 5% in any year and they registered negative growth rates in more than one year, particularly during the period of the Great Recession, that was hardly felt in the Eastern Asian countries. They also generated big current account superavits due to large exports of goods and services, when compared with the imports. This means, countries like China had large sums of savings and capital to invest in assets. Some of these capital is being invested in the acquired Western companies which allow them to develop the technology needed in order to make the transition from low value added industries to high value added industries, like automobiles. In fact, China and India, already produced automobiles, but their automobiles had very low quality and a low price being just sold in Emergent countries because they don't have the technology or the quality needed to be sold in Western countries that require a much higher quality patterns and technological levels. So, the Chinese and Indian car companies need the know-how to develop the advanced technology in order to sell high volumes in the Western countries. Ford's difficult financial situation, and consequent depreciation of their assets led to an opportunity for Tata and Geely to acquire prestigious European companies at a lower price than the one they would have to pay if these companies and the Ford group itself were in a stable financial situation.

However to understand better why these specific companies, and not others, were subject of acquisitions in this last decade we are now presenting a brief analysis of the history of Jaguar, Land Rover and Volvo.

6 Companies' history

6.1 History of Jaguar

Jaguar is a luxury/premium automotive car maker founded in the UK in 1935 by Sir William Lyons. Their first car was the SS Jaguar 100. During the 1950 and 1960 decades the company became well known for producing iconic sports cars, like the XK120 the fastest car in the world when it was launched in 1949, the XK150 (1957-1961) presented in the image above and the E-Type, that was considered by some including Ferrari founder Enzo Ferrari, as the most beautiful car ever made. Part of the success of the brand was due to its achievements on the race track, Jaguar won five times the 24 hours of Le Mans during the 1950s. The company also produced many recognisable luxury saloon cars like the Mark series or the Jaguar XJ, this last one still gives name to the flagship of the Jaguar brand. The company met different owners during its history. In 1965 Jaguar merged with British Motor Limited. Afterwards, in 1968, British Motor Limited now called British Motor Holdings merged with Leyland Motor Corporation Limited but due to financial problems it was nationalised in 1975. Due to lack of capital to develop new models, Jaguar became an independent company again, entering the stock market in 1984. This was a prosperous period in Jaguar's history, quality and productivity improved and profits increased due to higher prices and higher sales. In 1990, a new chapter of Jaguar's history began when Ford acquired Jaguar by an amount of $2.5 billion. During this period Jaguar stated to lose sales to its German rivals in part because the cars became technologically obsolete and also because the design language was still similar to the one used in the vehicles produced during the 1970s and 1980s. In 2001 Jaguar launched the X-Type, which was the company's first attempt in the popular premium D-segment, however despite increasing Jaguar's sales it still sold far less than expected. The financial difficulties of Ford groups were exacerbated by the 2008 Financial crisis and Ford decided to sold Jaguar together with Land Rover to the Indian group Tata by an amount of $2.3 billion dollars, less than half of the amount it had paid what it paid for both companies combined.

In 2013 Jaguar Cars was officially merged with Land Rover to form the Jaguar Land Rover company. In that same year Jaguar launched the F-Type, a convertible sports car, which is the spiritual successor to the E-Type. In 2016, to answer the increasing global demand for SUV's, the company launched the F-Pace, a premium mid size SUV which is aimed at costumers that value a more driver focused experience and a less boxy design than the Land Rover products. The Jaguar Land Rover group also built new factory facilities, in China, India and Brazil, that are used to produce cars for emergent markets, although the majority of the production still comes from the United Kingdom, where hundreds of jobs have been created in these last years.

Today, Jaguar is a premium brand that together with Land Rover is incorporated in the Tata group and they produce a total of seven models XJ, XF, XE, F-Type, F-Pace, E-Pace and the I-Pace, Jaguar's first electric car ever, a car that represents a new chapter in the company's history.

6.2 History of Land Rover

The first Land Rover was launched in 1948, as a model of Rover Company, being developed by Maurice Wilks, the chief designer of Rover, taking inspiration in the American Jeep. The objective was to make an off-road vehicle capable to tackle even the toughest terrain. In 1967, Rover became part of Leyland Motors, a group that also included Jaguar. In 1970, the iconic Range Rover was introduced, a vehicle that promised the off-road capacities of a Land Rover but a luxurious interior and comfort. Afterwards, in 1975, British Leyland was nationsalised following financial distress. More than one decade after, in 1988, Rover group was privatised and acquired by British Aerospace. In the following year, a versatile seven seater was introduced, the Discovery, becoming the third model of the brand.

In 1994, BMW acquired Rover group for the amount of £800 million and in that same year, the second generation of the Range Rover was introduced. Three years after a more compact and cheaper model was launched, the Freelander. After being unable to achieve the objectives that had been planned, BMW broke up the Rover group and sold Land Rover to Ford for an amount of $2.73 billion. In the following years, new generations of the existing line-up were introduced and in 2005 a fifth model was introduced, the Range Rover Sport, which delivered a more sporty drive while keeping the Range Rover attributes intact. During the Ford ownership period, Land Rover products became heavily linked with Jaguar and despite the fact that Land Rover was profitable during most of the years, the financial crisis and the group's difficult situation led to the sale of both companies to Tata. In 2011, a new compact model was presented, the Range Rover Evoque bringing many new costumers to the brand. During this period, the brand also divided between two current sub-brands, the Range Rover luxury and driver-focused, the Discovery more off-road and utility focused but still luxurious with a future off-road and working focused Defender sub-brand set to follow in 2019.

In 2013 Land Rover was officially merged with sister brand Jaguar cars to form the Jaguar Land Rover company. Four years later a fourth Range Rover model was introduced, the Velar.

Currently Land Rover's model range consists of six models, the Range Rover, Range Rover Sport, Range Rover Velar, Range Rover Evoque, Discovery and Discovery Sport.

6.3 History of Volvo

Volvo Cars was founded in 1927 in Gothenburg, Sweden. The company was a subsidiary of the SKF, a bearing and seal manufacturing company. Their first car was launched in that same year, the OV4 an open tourer with a four-cylinder engine. In 1944 Volvo presented the PV444, known as 'the little Volvo'. Deliveries began in 1947 and expanded the company's sales. In 1953 Volvo launched the Duett, the company's first estate car, for both work and leisure purposes. It was the first of a long line of Volvo estates. Two years after Volvo began exporting the PV444 for the United States. In 1974 it became Volvo's biggest market. In 1959 Volvo introduced a three point safety belt in its new PV544 model, an innovation which helped to save many lives ever since. The P1800 was a stylish coupe launched by the company in 1961 that later received a shooting brake version in 1972 In 1966, Volvo's new sedan car, the 140 introduced several new safety features like disc brakes all around, a collapsible steering column and a dual-circuit braking system. In the next year Volvo introduced the first rearward-facing child seat in order to protect children more effectively in crashes. During the 1970 decade Volvo consolidated its position with cars like the executive saloon and estate car 240/260 and the compact 340/360, this last made in the Netherlands after Volvo acquired the passenger car division of DAF. The 1980 decade began well for Volvo but the company faced difficulties in the second half of the decade with the increasing rivalry. In 1991, Volvo launched the 850, a car with many new technologies like a five cylinder engine, a Side Impact Protection System and the Delta-link rear suspension. Volvo's safety innovations led to the interest of Ford and in 1999 the Swedish company was acquired for an amount of $6.45 billion entering in the Premier Automotive Group. Three years after, the company launched its first SUV car, the XC90, combining off-road abilities and the versatility of a seven seater MPV. During the Ford period Volvo launched smaller cars based on Ford's platforms like the C30, the S40 and the V50. After Ford sold Jaguar and Land Rover they initially had planned to keep Volvo and invested in a mid-size SUV, the XC60, which followed the success of its larger brother. However the financial crisis and the persistent negative financial results of Ford, led to the need of selling the company.

In the end of 2009 Ford announced that Geely was the buyer and the deal was signed in 28 of March 2010 for an amount of $1.8 billion, a value more than three times less than the one Ford had paid for Volvo back in 1999. At first, Volvo labour unions were not keen on the deal but after they received guarantees that Geely planned to keep their factories in Sweden and Belgium they end up supporting this deal. After the deal was completed, Geely started investing in Volvo and developed new and more efficient three and four cylinder engine while also establishing a plan that divided

Volvo cars in three segment sizes, the 90 series for the E size segment, the 60 series for the D size segment and the 40 series for the C size segment. The first car of this new generation of Volvo's was the second generation XC90 and until the present date it was already joined by the new S90, V90, XC60, V60 and the XC40 with the S60, V40 and S40 set to join them in the next two years.

7. The deals

7.1 Why did Ford sold Jaguar Land Rover and Volvo?

Ford Motor Company is not only one the biggest automobile companies in the world but also a symbol of the United States of America and capitalism. Founded by the influent businessman Henry Ford in 1903, it was the first the company to produce a car that the middle class could afford, the Model T, using a standardised mass production method in assembly lines, a process that was essential to make the automobile a widespread mean of transport in the following decades rather than just an expensive 'toy' for the upper classes. Through the decades the company grew to become not only a huge multinational, selling cars in all the continents, but also one of the world largest and most famous automobile companies.

Ford sale of Jaguar and Land Rover to Tata and Volvo to Geely have to be understood in first place, in the context of the company's strategy. During the 1990 decade Ford group grew a lot in size, acquiring several historic European premium and luxury brands, such as Jaguar, Aston Martin and Volvo. These companies together with the American Lincoln and Mercury were aggregated in the Premier Automotive Group (PAG), Land Rover entered it in the following year because it was acquired only in 2000, a division of Ford Motor company that was responsible for managing these specific brands that Ford considered as needing a different management than the group other brands. This decision was put forward by Ford's CEO at the time, Jacques Nasser, who believed the luxury market had a great potential of growth and thus, Ford needed to acquire several of these brands in order to have a large market share in this segment, both in the United States and in Europe, the two biggest markets at that time. He reckoned that the PAG would be selling 1 million vehicles within 10 years and earning up to 80% of Ford group profit. However in the following years, the PAG started registering losses and the newly appointed CEO, William Clay Ford Jr removed Lincoln and Mercury out of PAG in October 2001 and placed them back under Ford's direct control in an attempt to differentiate more the group's American companies from the European ones. Ford also focused in sharing components, like platforms and engines between the several brands that composed the PAG, like it happened in the case of the Jaguar X-Type which used the Ford Mondeo platform or the Volvo S40 that used the Ford Focus platform as well as other shared components like engines. However as we can see below not only the results of the Premier Automotive Group didn't improve, but also other divisions especially Ford North America were suffering severe losses.

Table 3
Ford Group Results of Operations - Income (loss) before taxes

	2007	2006	2005	2004	2003	2002	2001
Ford North America	(4,161)	(15,992)	(2,469)	684	196	2,534	(5,278)
Ford South America	1,172	661	399	140	129	(620)	(1,358)
Ford Europe	774	371	(437)	65	(1.620)	(711)	(306)
PAG	(1,872)	(2,322)	(1,634)	(850)	171	(858)	8
Ford Asia Pacific and Africa	2	(250)	42	(36)	(23)	(173)	(351)
Mazda	204	245	255	118	69	(15)	
Other international							(606)
Other automotive	(1,059)	247	(55)	(276)	(572)	(1,211)	(996)
Total	(4,970)	(17,040)	(3,899)	(155)	(1.908)	(1,054)	(8,857)

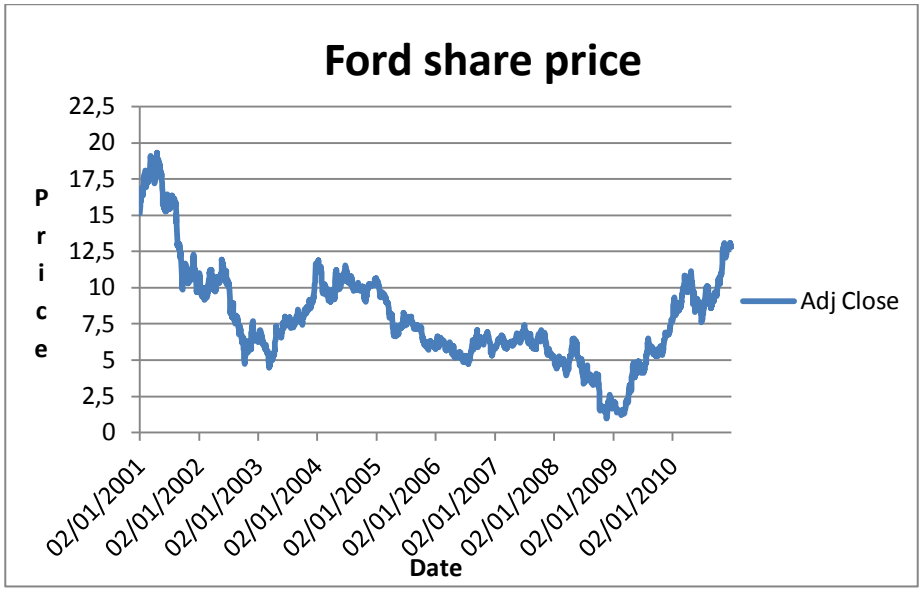
Source: Ford Annual Reports

Table 4
Volvo and Jaguar Land Rover Aston Martin Income (Loss) before taxes

	2009	2008	2007	2006
Volvo	(0,934)	(1,690)	(2,718)	(0,256)
Jaguar Land Rover and Aston Martin	0,003	0,032	0,846	(2,046)

Presented with this negative scenario, the newly appointed CEO (2006), Alan Mullaly had to make some difficult decisions in order to stop these losses and recover the shareholders and investors trust since the bad operational results also affected the share price with a decrease from around 19 dollars in 2001 to around 5 dollars in 2006, as it can be seen in the chart below.

Chart 6



Source: yahoo finance

One of his first priorities was to disband the PAG starting with the sale of British company Aston Martin, 92% of the company was sold on March 2007 to a consortium of investors led by David Richards for $848 million, while Ford kept a minority share of 8%. During the same year, Ford started to plan the sale of both Jaguar and Land Rover a deal that would have a far larger impact in the company than the sale of Aston Martin, a low-volume luxury car brand. On the 1st of January 2008, Ford announced that Tata was the preferred bidder and the acquisition deal was financed with a $3 billion loan from JP Morgan Chase and Citigroup. On the 2nd of June 2008 the sale was completed for an amount of $2.3 billion or (£1.7 billion), with Ford agreeing to keep providing some components, like engines, to Jaguar and Land Rover models. During this period Ford management, led by Alan Mulally declared that it planned to keep Volvo brand on its portfolio although under its direct supervision, since the PAG had been extinct. The stock market reacted positively to this sale and Ford appeared to be on the path to recovery. However, the stock markets started to go deeply bullish during the second half of 2008 and that affected Ford share price. Later that year, in September, the stock market crashed following the Lehman Brothers bankruptcy and that had a very negative impact in Ford's share price, it decreased to less than two USD per share, in November, with investors increasingly worried about Ford's own survival. In order to regain the investors' confidence Ford sold a 20% stake in the Japanese company, Mazda, for an amount of $540 million. Ford also changed its overall strategy by creating more global cars, the One Ford strategy, that would have the advantage of reducing the number of factories, workers and

components used (since the same car would be produced for more markets the number of models produced was reduced) and also developing more hybrid and turbocharged cars in order to improve fuel economy, due to the very high oil prices at that time and lowering emissions to comply with tighter regulations. Ford also benefited from a $9 billion line-of-credit from the government and a $5.9 billion loan from the Energy Department while agreeing, among other things, that it would sell the loss-making Volvo. The Swedish company that was previously profitable started to register losses before income taxes of 1.690 million dollars in 2008 and of 934 million dollars in 2009. So this was decisive in the decision of selling Volvo. In October 2009 Geely was named as the preferred buyer and the deal was completed in the next year for an amount of $1.8 billion dollars. As we can see in the graph above, markets reacted favourably to this deal with Ford's share price recovering to a price level higher than 10 dollars. This rise was also influenced by the improvement in Ford's own financial situation and the recovery of the United States economy. Nowadays Ford is a profitable company and the fifth largest automotive group in the world.

We can conclude that, for Ford, selling JLR and Volvo were two important deals. Despite the fact that JLR and especially Volvo were sold at a much lower price than when they were bought, it was clear that the Ford group had grown into a structure too large and complex and Ford hadn't been able to make the best out of these three brands which were generating losses. Ford group itself was facing difficult times and it needed the capital to refocus itself on its main market, the United States and on the remaining brands on its portfolio. However it is also true that the large recovery of JLR in the years that followed the financial crisis were mainly achieved with products that were either developed in the Ford era or those that were developed already in the Tata era still used Ford components. Considering the large growth in the SUV market and their full SUV portfolio is not far-fetched to think that Ford could have benefitted from keeping a brand like Land Rover in its portfolio.

7.2 Why did Tata Motors acquire Jaguar Land Rover?

Tata Motors is a multinational automobile company that forms part of Tata group, an Indian conglomerate founded by Jamsetji Tata in 1868 in Mumbai. It is the country's biggest industrial group with businesses in sectors as diverse as chemicals, steel or financial services. Tata Motors started making passenger vehicles in 1991, with the Tata Sierra, an SUV. During the 1990 decade the company quickly launched new vehicles that enabled the company to increase its sales. In 2004, Tata Motors acquired the Korean carmaker, Daewoo and entered in the New York Stock Exchange. However in 2007 the company become more famous in the West, due to rumours that it would acquire both Jaguar and Land Rover, two struggling British carmakers that belonged to the Ford

group. The acquisition was completed in the following year for an amount of $2.3 billion less than half of what Ford had previously paid for both companies, $5.3 billion. Overall, markets reacted negatively to this deal because they feared Tata would not be able to turn around the two companies.

One of the reasons that led to the materialisation of this M&A deal was the increase in the automobiles sales in the emerging markets, particularly in China, as we can see in the table below.

Table 5

International Automobile Sales by Region (millions of units)

		1990–1999*	2000–2007*	2008#	2009#
Global sales		39.20	49.19	62.33	51.03
North America	United States	14.55	16.79	13.19	10.40
	Canada	1.27	1.60	1.64	1.46
Asia	China	0.43	2.91	4.98	7.32
	India	0.31	0.78	1.20	1.43
Western Europe	Germany	3.57	3.30	3.09	3.81
Eastern Europe	Russia	0.78	1.37	2.90	1.47
South America	Brazil	0.94	1.37	2.23	2.53

Note: *average annual sales, # annual sales.
Source: Global Auto Report, Global Economic Research.

Other reason that explains this acquisition is the increasing profitability that the company was having in the 2000's decade. As we can see in the table below from 2004 until 2008 the Net Income of the company almost doubled and that extra capacity made the company more suitable to acquire Jaguar Land Rover.

Table 6
Tata Motors - Financial Statement

	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009
EBITDA	1,940.70	2,337.18	2,864.76	3,558.91	3,414.77	2,678.41
EBIT	1,506.46	1,819.9	2,270.04	2,887.6	2,698.11	1,752.7
EBT	1,345.20	1,665.75	2,053.38	2,573.18	2,576.47	1,013.76
Net Income	1,292.34	1,651.90	1,528.88	1,913.46	2,028.92	1,001.26

Source: Tata Motors Annual Reports in crores

So, despite the crisis that affected global sales, Tata saw an opportunity of acquiring two premium European brands by a relatively small value, that had a clear potential of becoming profitable again by focusing more on emergent markets, like China or its domestic market, India that experienced a

big increase in the demand for European automobiles fuelled by a fast economic growth without forgetting the traditional Western European and American markets.

The markets reacted negatively to this acquisition, with a sharp decrease in Tata share price during the first months of 2008, from around 17 dollars to around 9 dollars in June. This happened because markets were pessimistic about the capacity of Tata managing the company and repaying the debt that it had used to complete the transaction. However during the year of 2010 the fast recovery of Jaguar Land Rover contributed to Tata share price reaching a new maximum value of almost 35 dollars.

Tata Motors provided the capital needed for a number of changes to happen, changes that made Jaguar Land Rover products competitive in the major international markets (Europe, US and China) against the German rivals. One of the most important was the introduction of more SUV's including for the first time Jaguar SUV's, a design language capable of attracting more young buyers and new more efficient and cleaner four-cylinder engines.

7.3 Why did Geely acquired Volvo Cars?

Geely is a Chinese group created in 1986 by Li Shufu. The company started building refrigerators, however in 1994 they started building scooters and motorbikes and in 1999 the company began the production of automobiles after receiving the state approval. In 2004, Geely entered in the Hong Kong Stock Exchange after an IPO operation. In August 2010, Geely acquired Volvo Cars after reaching an agreement with the former in March of the same year. Since the acquisition of Volvo, Geely made other important investments including the acquisition of 51% of Lotus, a British sports-car manufacturer and the acquisition of 49.9% of Proton, a Malaysian car manufacturer, both of them in 2017, while it also became the biggest shareholder of Volvo Group, responsible for building trucks, with 8.2% of the stake and 15.6% of the voting rights. In February 2018, Geely acquired a stake of 9.69% on Mercedes-Benz for about $ 9 billion, becoming its largest shareholder.

The reasons behind Volvo acquisition by Geely are more or less the same behind JLR acquisition by Tata.

One of the most important reasons was the possibility of acquiring a prestigious European brand for a relatively low price and with a lot of know-how specially in the area of automotive safety, in which Volvo is class-leading by a relatively small amount, $1,8 billion when compared with $6,45 billion Ford spent to acquire Volvo back in 1999. By having access to Volvo's technology Geely could make synergies that would also improve the overall quality of its Chinese models to make

them more desirable for costumers. The other main reason was the expansion in the demand for European cars in emergent markets, as we can see in the table 5.

As we can see in the table below, Geely experienced exponentially growth in the years between 2007 and 2011, including the total equity and the income for the year, key indicators when analysing a company's financial performance. This meant that Geely had gained the capacity to acquire a medium size carmaker like Volvo and they took advantage from a period in which the traditional carmakers were having difficulties and thus big multinationals like Ford were willing to sell companies for a lower price, due to the 2008 financial crisis and the economic recession that followed in the Western World.

Table 7

Five Years of Financial Summaries of the Geely Group (RMB'000)

Geely Group	**2011**	**2010**	**2009**	**2008**	**2007**
Net sales	20,964,931	20,099,388	14,069,225	4,289,037	131,720
Income before taxation	2,183,208	1,900,323	1,550,460	917,922	307,373
Taxation	(467,359)	(350,612)	(231,432)	(51,869)	(1,606)
Income for the year	1,715,849	1,549,711	1,319,028	866,053	305,767
Assets and Liabilities					
Total assets	27,596,758	23,974,343	18,802,189	10,150,969	2,920,351
Total liabilities	(17,446,643)	(14,896,666)	(11,705,669)	(5,368,488)	(373,281)
Total equity	10,150,115	9,077,677	7,096,520	4,782,481	2,547,070
Equity attributable	9,582,200	8,021,882	6,375,613	4,197,862	2,343,845

May include exchange rates versus US$ at the end of each year.
Source: Geely Annual Reports.

Like in the case of Tata JLR acquisition investors were cautious when they analysed the deal, doubting the capacity of a small Chinese car company that was barely known outside China, of successfully managing and assimilate a medium sized and premium European car company like Volvo. That is why 2010 was a turbulent year for Geely's share price.

In early 2010, when Geely was about to acquire Volvo, Li Shufu made this curious statement: 'A tiger belongs to the wild world and not confined to a zoo, we need to liberate this tiger'. Volvo was the tiger (a company with great potential) but Ford's management of Volvo had left it below that potential. The last few years show that Volvo has being liberated but Geely faced some challenges in order to achieve that. One of them in the perceived quality. Chinese products in general were perceived in Western markets as cheap, badly build and unsafe. This is strikingly different from Volvo's that were seen as very safe and well built cars. So Geely had to avoid that the consumers to associated Volvo with unreliable and bad cars. In order to do this, Geely administration ensured

that Volvo's would continue to be build and engineered in Europe or America and they even reinforced elements of Swedish pride and patriotism in the new models that even feature small Swedish flags attached to the seats or the use of well-known Swedish figures like Zlatan Ibrahimovic in car advertisements (restoring Swedish pride was particularly important after the sale and later disappearance of Saab, the other Swedish car manufacturer). Other more technical aspects were also subject to changes in order to make the Swedish carmaker more competitive against its German rivals. Because Volvo was seen by many as a brand that produced safe but boring cars Volvo changed its design language of its new models with the introduction of a cleaner design more focused on achieving the right proportions. Synergies with the group's Chinese brands are also taking place, with a new platform and the new Volvo's three cylinder engines are being used for one of the group's Chinese brands (Lynk), whose cars will be produced in the Volvo's factory located in Ghent, Belgium and is planned to be sold in Western markets.

8. Financial analysis and company valuation

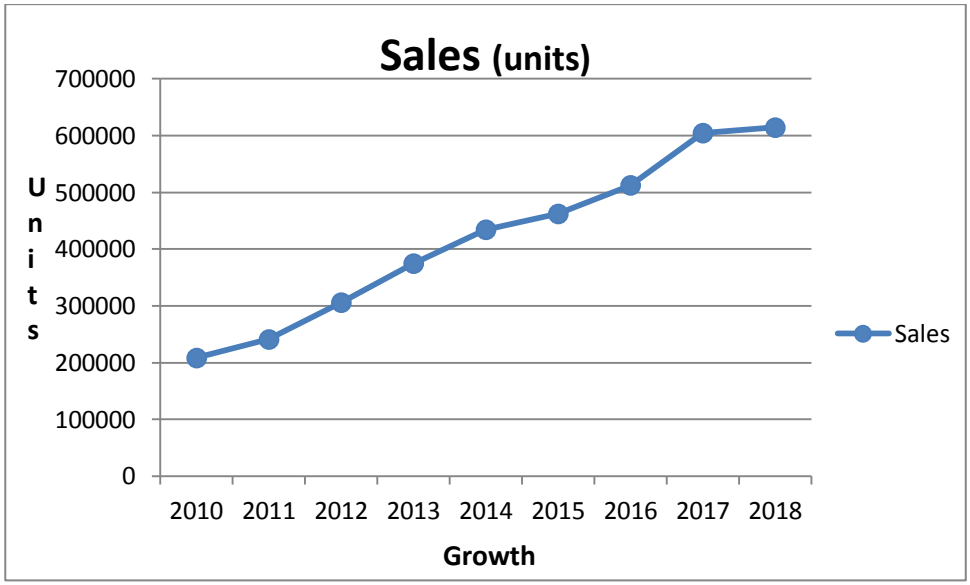
After analysing in the previous chapters', the M&A ecosystem, the automotive industry and the reasons that were behind these two M&A transactions, we will analyse financial data from JLR and from Volvo cars in order to analysed if these transactions improved the financial situation of both companies and if they were value creating for them.

8.1 Jaguar Land Rover

First, we are going to analyse and valuate JLR. The British company (at the time still two separated entities) was acquired in 2008 by an Indian company, Tata motors.

The first metric that we are going to analyse, is perhaps the simplest of all, the sales volume from 2009/2010 up to 2017/2018.

Chart 7

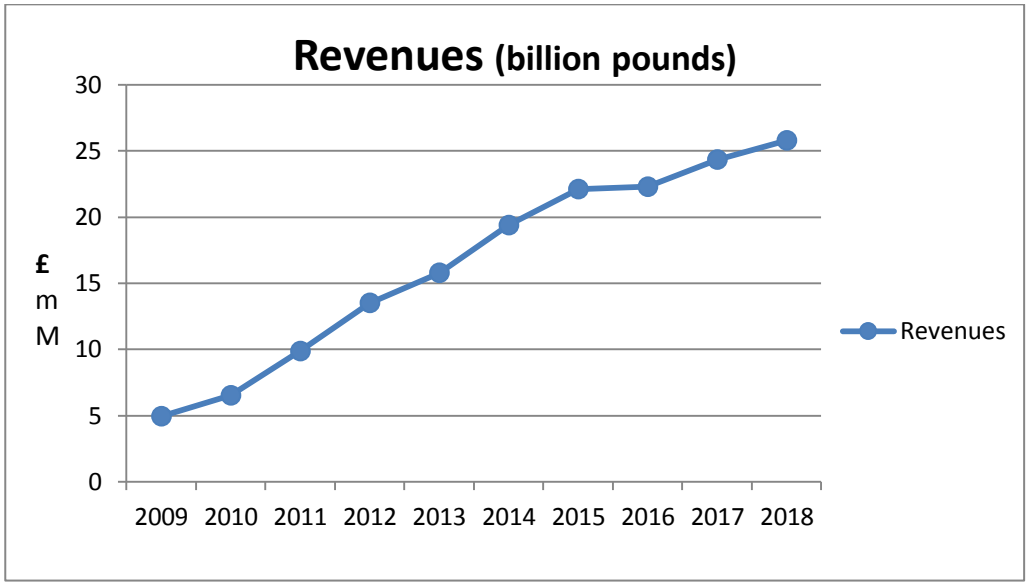


Source: Author based on JLR's Company Reports

As we can see in the chart, JLR sales almost triplicate in the last nine years from 2009/2010 until 2017/2018 from 208,197 units up to 614,309 which is a very large increase even considering the fast economic growth in emergent markets and the economic recovery in the Western world. However in the last year the sales had a very small increase of less than 10,000 units. In terms of markets, sales in China registered a major increase in this nine years from 8% up to 24.40% while sales in its domestic market, the UK, decreased from 27.40% down to 17.70% (more information about JLR's sales per region can be found in the appendix):

After confirming that the units sold increased a lot we need to see if that was met with also an increase in revenues.

Chart 8

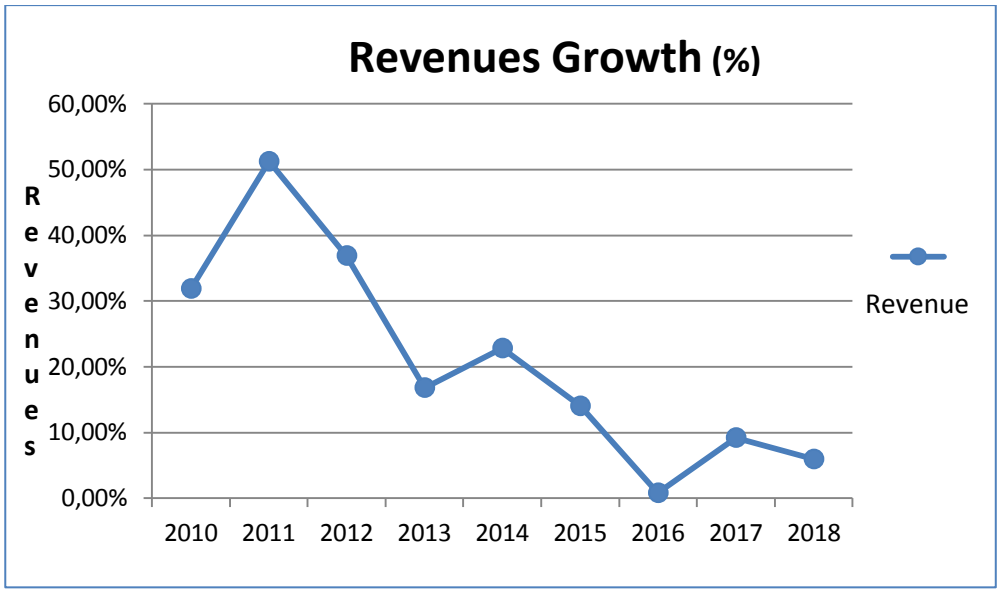


Source: Author based on JLR's Company Reports

As we can see in the chart presented above, the revenues evolution followed a relatively similar trend to the sales evolution, with very large growth in the first years after the acquisition and then gradually the increase in revenues started to become more moderate especially from 2015 onwards. Still, it is just impressive to see how in 10 years, the company's revenues grew from less than 5 billion pounds to more than 25 billion pounds an unprecedented and extraordinary growth for a mid-size car company in the last decades.

The Revenues growth evolution give us a more clear view of the impressive growth that JLR had in the post-acquisition years and the gradual slowdown from 2011 until 2018.

Chart 9



Source: Author based on JLR's Reports

The revenues of Jaguar Land Rover grew very fast after the company was acquired by Tata, reaching more than 50% in 2010/2011, a very high value, however since then the revenues growth of the British company has been sharply decelerating having been barely positive in 2015/2016 and although it recovered in the last two years it is still below 10% and with an overall descending trend. A possible explanation to this evolution is given by Koller, Goedhart and Wessels (2010). According to these authors high growth rates decay very quickly, companies that grow at more than 20% typically will grow at only 8% within 5 years and at 5% within 10 years. The fact that JLR was a relatively small company and the large increase in demand for SUV's helps to explain the high growth values achieved.

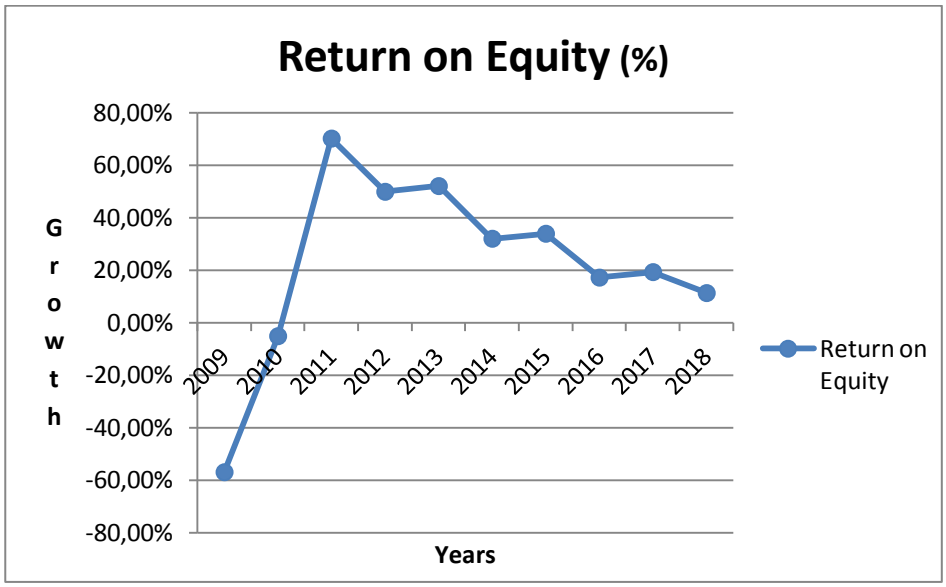
However, in order to see if this huge growth in sales and revenues was reflected in the financial performance of the company we need to analyse some performance ratios like the ROE and the ROIC that have in account costs and other outflows like interest or taxes.

The next metric to be analysed is the Return on Equity. The ROE is given by the following equation.

$$ROE = \frac{Net\ Income}{Equity} \qquad (2)$$

This is one of the most widely used performance ratios because it establishes a relationship between net income (the profit that the company generates after depreciations, amortisations, taxes and interest expenses) and the equity level of the company. In the case of Jaguar Land Rover we analyse the Return on Equity of JLR since 2008/2009 the year of the acquisition until 2017/2018.

Chart 10



Source: Author based on JLR's Reports

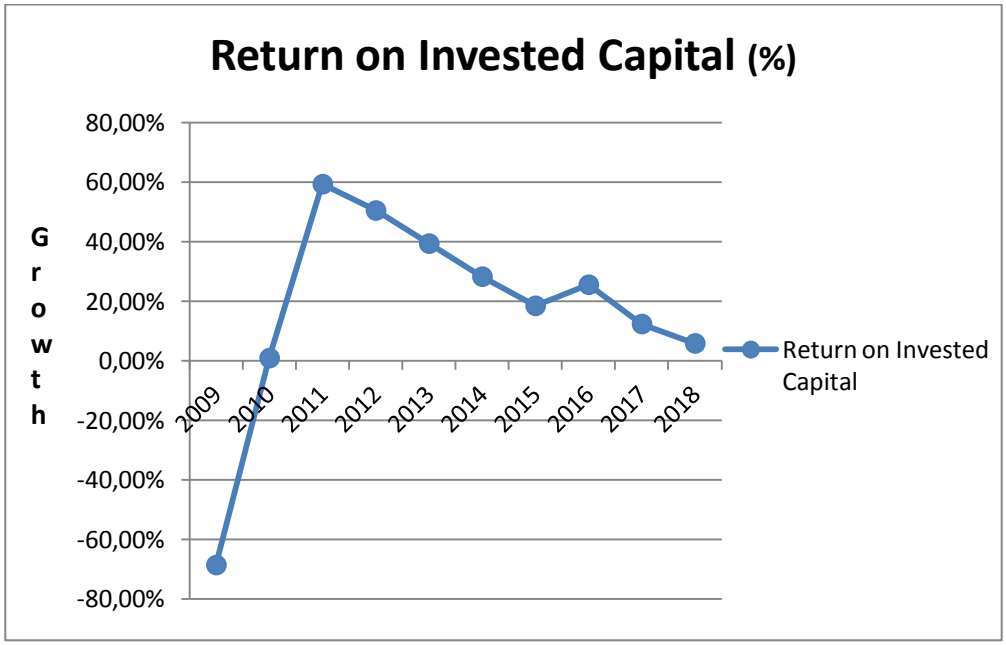
By looking at this chart we see a similar picture to the revenues growth, the ROE of JLR had a staggering growth from 2008/2009 to 2010/2011 when in two years it grew from a ROE of almost -60% (reflecting a negative Net Income) to a ROE of around 70%. This great recovery was fuelled by the huge increase in demand for SUV cars and by the economic recovery from the financial crisis. The fact that JLR was a company with a relatively low volume also helped to explain how such a change was possible, because lower volume companies are more influenced by the business cycles and by the model living cycles. Since then, the ROE was been decelerating sharply reaching just 11% in 2017/2018. Although this value is a bit lower than the 2017 industry average of 12.55% this is still a significant growth.

Another performance ratio to be analysed is the Return on Invested Capital (ROIC)

$$ROIC = \frac{NOPLAT}{Invested\ Capital} \quad (3)$$

The ROIC is particularly important because it gives us a relationship between a growth measure NOPLAT and the total capital that is invested by the company with the objective of achieving that growth. In the case of JLR, the ROIC is going to be analysed from 2008/2009 until 2017/2018.

Chart 11



Source: Author based on JLR's Reports

Like in the case of the Revenues and ROE, JLR's ROIC registered a staggering growth in the years immediately following the Tata acquisition growing to up to a staggering 59% in 2010/2011. After that it gradually decreased until it reached 18,5% in 2014/2015. After a recovery in 2015/2016 the ROIC decreased again and in 2017/2018 it reached a value of just 5,9% a value slightly below the industry average for global auto&truck companies that was 6,51% in 2017. This is in line with Koller, Goedhart and Wessels, (2010) study that finds companies in basic industries which includes the automobile industry, typically earn low ROIC's between 5% and 10% but it is still worrying to see how fast the rate has been declining through the last years something that can be explained by the increasing competition from German rivals in the SUV market.

The evolution of other ratios like the ROA or the ROC can be found in the appendix.

After analysing the performance of Jaguar Land Rover we will analyse the capacity that the British company has of generate cash through its operations using the Free Cash Flow to the Firm metric from 2009/2010 until 2016/2017.

The Free Cash Flow to the Firm is giving by the following equation:

$$FCFF: Noplat - Net\ Capex - Working\ Capital\ Variation \quad (4)$$

The three financial data used in order to reach the FCFF values were calculated in the following way:

$$NOPLAT: EBIT * (1 - tax\ rate) \quad (5)$$

$$Net\ Capex: Total\ Capex - Depreciation \quad (6)$$

$$Working\ Capital\ Var: Working\ Capital\ n - Working\ Capital\ n - 1 \quad (7)$$

Table 8
JLR FCFF

	17/18	16/17	15/16	14/15	13/14	12/13	11/12	10/11	09/10
Noplat	0,718	1,345	1,416	2,279	1,817	1,514	1,027	0,015	-0,272
Net Capex	2,222	1,793	1,442	1,794	1,731	1,646	1,425	0,526	0,962
Depreciation	2,075	1,656	1,418	1,051	0,875	0,622	0,465	0,396	0,316
WC Var	-0,914	0,111	-0,138	-0,480	0,127	-0,184	-0,142	-0,319	0,959
FCFF	-0,590	-0,559	0,112	0,965	-0,041	0,285	0,231	0,820	-1,906

Source: Author based on JLR's Reports

In this table we can analyse the evolution of JLR's FCFF and its components in the last eight years.

As we can see the company started with a negative FCFF of -1,906 in 2009/2010 but though time it gradually increased until it reached a peak of 0,965billion pounds in 2014/2015 before decreasing to a negative value in 2016/2017, having registered -0,590 in 2017/2018. One the main reasons that explains this is the NOPLAT. In the 2009/2010 the company fresh from being acquired by Tata wasn't able to generate much income (it had a negative Net Income) but in the following years with the exponential increase on revenues and net income that we can see in the graphs above the company the NOPLAT became clearly positive, reaching a peak in 2014/2015, before dropping its

value again in the last three years of our analysis mainly due to a slowdown in revenues. The Net Capex has consistently been positive and increasing with time which means that JLR has been actively investing in assets like factories or patents which makes sense because the company is presenting high growth rates. The Working Capital variation has been positive in some years and negative on other years.

After reaching the value of the FCFF it's important to find out does the company finances itself using the Weighted Average Cost of Capital, that will also help us find the Enterprise Value that we will use in the multiples analysis.

In order to reach the WACC value for JLR we had to find the cost of equity and the cost of debt of the British company.

The cost of debt is given by:

$$rD = \frac{Net\ Finance\ Expenses}{Total\ Debt} = \frac{0.068}{3.712} = 0{,}0183 \quad (8)$$

After finding the cost of debt we needed to find the cost of equity in order to reach the WACC value.

The first thing that we needed to find to reach this was the Unlevered Beta of the Auto&Truck industry since there is no Levered Beta for JLR or Volvo specifically. This information was taken out of Aswath Damodaran's website dataset. The value used was 0,91.

After finding the Unlevered Beta for Global companies we computed the Levered Beta.

The formula used to compute it was:

$$\beta l = \beta u * \left(1 + \frac{D}{E} * (1 - tax\ rate)\right) = 0.91 * (1 + \frac{3{,}712}{9{,}988} * (1 - 0.2624)) = 1.16 \quad (9)$$

After finding the Levered Beta we are able to compute the cost of equity by using the return of the risk-free rate (3 month treasury bill) and the risk premium (UK) provided in Damodaran's website.

$$rE = rF + \beta l * MRP = 0.0139 + 1.159 * 0.0565 = 0.0794 \quad (10)$$

So, we conclude that the cost of equity for 2017/2018 is 7.94% and that allows us to find the WACC.

Comparing with the ROE registered for the year 2017/2018, 11.34%, we find that the company is creating value for its shareholders by a margin of 3.4%.

The WACC is given by the following equation:

$$WACC = rE * \frac{equity}{equity + debt} + rD * (1 - tax\ rate) * \frac{debt}{equity + debt} =$$

$$= 0.0794 * \frac{9{,}988}{9{,}988 + 3{,}712} + 0.0215 * (1 - 0.2624) * \frac{3{,}712}{9{,}988 + 3{,}712} = 0.0622$$

This is the effective rate at which JLR financed itself in the year 2016/2017. This value is lower than the average WACC rate of the auto&truck sector in 2017 that according to Damodaran was 7,93%. Despite the fact that the company finances itself more with Equity than with Debt, the D/E ratio is just 37%, both of them are clearly below the sector's average of 11,70% and 4,61% respectively.

Economic spread

ROIC-WACC: $0.0591 - 0.0622 = -0.0031$

Since the economic spread is negative, the company is not making enough money to cover the cost of the investments made.

Economic Value Added (EVA)

The 2017 EVA of JLR was also computed using the following formula

EVA: $Noplat - Invested\ Capital * WACC$ (12)

EVA: $0{,}7185 - 12{,}163 * 0.0622$

EVA: $-0{,}0381$

Like it was expected after the economic spread was negative, the EVA is also slightly negative. According to this metric, JLR adds a negative economic value of -0,0381 billion pounds. The average of the global auto&truck sector that according to Damodaran's data had a negative EVA in 2016, 2015 and 2014.

Entreprise Value

In order to do an analysis using the multiples method we need to find the Enterprise Value for the year 2017/2018 that is given by the formula below:

$$\boldsymbol{EV} = \frac{FCFF\ n+1}{WACC - g} = \frac{0{,}2606}{0{,}0622 - 0{,}04} = 11{,}739 \quad (13)$$

FCFF (2017/2018)+1: This value was computed according with the following formula:

$$FCFF\ n+1 = NOPLAT * (1+g) - g * (Non\ current\ assets\ n + WC\ n) = 0{,}7185 * (1+0.04) - 0.04 * (15{,}610 - 3{,}447) = 0{,}2606 \quad (14)$$

WACC: As it was previously shown and explained, JLR's WACC for 2017/2018 is 6,22%.

growth rate (g): The growth rate that I used for JLR is 4%. Although the company was growing at a much larger in the first years of the 2010 deacde, the growth rate has been slowing down a lot and its now close to the industry average, 5.95% in the last year 2017/2018. However we still predict a lower growth rate because of the economic slowdown in the Emergent markets, especially China, the relatively slow growth in developed economies, particularly the Western Europe and North America and the doubts behind the sustainability of the increasing growth in Russia and Japan. The new trends in the automotive industry that will increase the uncertainty for companies in this sector, because they will need to adapt their technologies and business model to it and to a predicted slowdown in sales. However, this grow still seems reasonable because premium brands like the Germans have been growing at an higher rate than the rest of the sector.

Multiples analysis

After analysing the return ratios as well as the FCFF, the WACC and the EVA it is time to analyse some enterprise multiples. Equity multiples will not be analysed in this dissertation because neither JLR or Volvo are public companies, but rather only their owners Tata and Geely are. Despite the fact that a multiples analysis has some drawbacks like the fact that the global Auto&Truck peer group doesn't exactly reflect the situation of a premium automotive maker this kind of analysis is still useful because it is a comparison within the same industry and because this kind of analysis is particularly interesting in a capital intensive industry, like the automotive.

The EQV was computed using the following formula:

$$EQV = EV + Cash\ and\ equivalents - Debt = 11{,}741 + 2{,}626 - 3{,}712 = 10{,}655 \quad (15)$$

Table 9
JLR Multiples

	JLR 2017/2018	Peer group
EV	11,741	
EQV	10,665	
EV/EBITDA	4.198	9.37
EV/EBIT	12.055	16.16
EV/Noplat	16.343	22.38
EV/Sales	0.455	0.98
EV/IC	0.965	1.08

Source: Author based on JLR's Reports

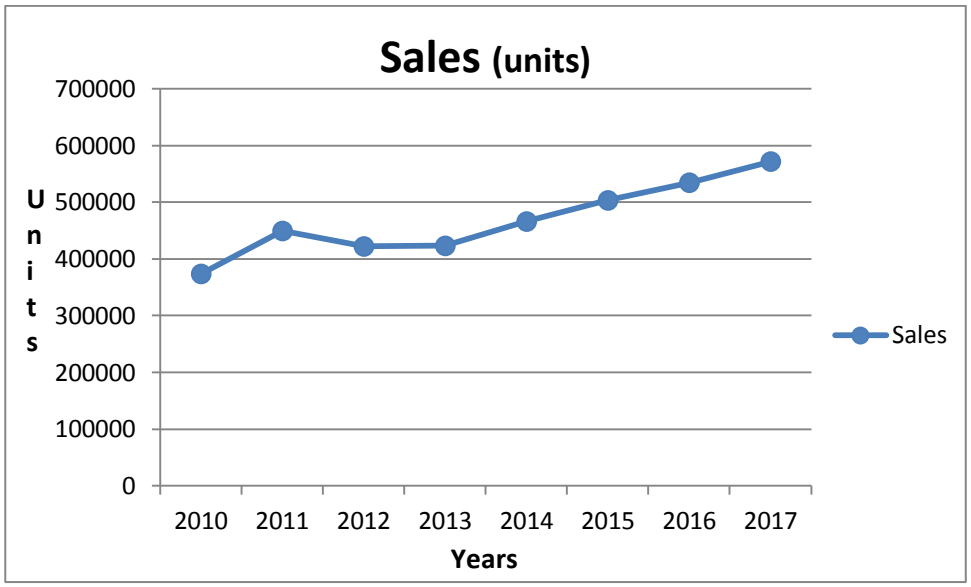
As we can see in the table above, all five JLR's multiples analysed are without exception, lower than the industry average. This is mostly explained by the EV value, that is much lower than Volvo's, due to the much lower FCFFn+1 value. These EV multiples show that despite the fast recovery during the first years after Tata's acquisition, during the last years the company has been growing at a slower pace and with declining performance ratios which is reflected in its valuation.

8.2 Volvo Cars

After having analysed the financial performance and valuation of JLR, we will focus how analyses on Volvo Cars. The Swedish company was acquired more than 2 years later than JLR, by a Chinese owner Geely.

Just as in the case of JLR we will begin by analysing the sales of Volvo in the period between 2010 and 2017.

Chart 12

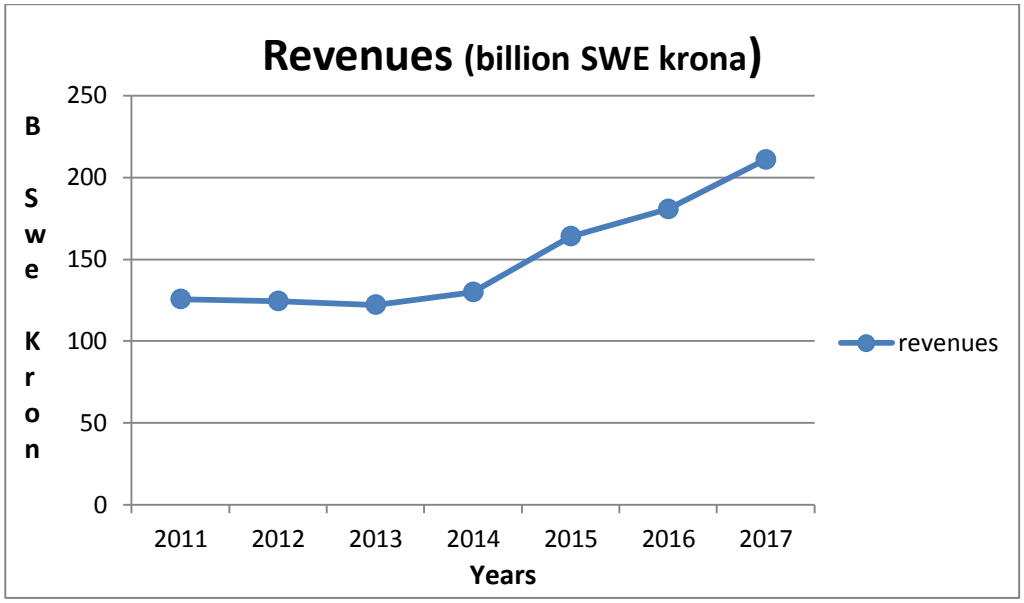


Source: Author based on Volvo's Reports

After having been acquired in 2010, the sales of the Volvo increased a lot in 2011 from 373,525 up to 449,255. This rise reflected mostly the 13.8% increase in global car sales. Afterwards, sales actually decreased slightly in 2012 and 2013 when compared with 2011. However in the last four years the company's sales have been rise at a relatively steady rate, rising from 423,013 cars in 2013 up to 571,577 in 2017, a growth rate much faster than the sector's average that can be seen in graph 2. In terms of sales per market, Volvo registered a similar trend to JLR, with the growing importance of China that in the period between 2010 and 2017 grew from 8.15% up to 20% while sales in Europe decreased from 61.4% down to 50% in the same period of time (more information about the sales per region can be found in the appendix).

However to see if the positive evolution on sales is corresponded by a similar evolution on revenues we will need to analyse the revenues evolution

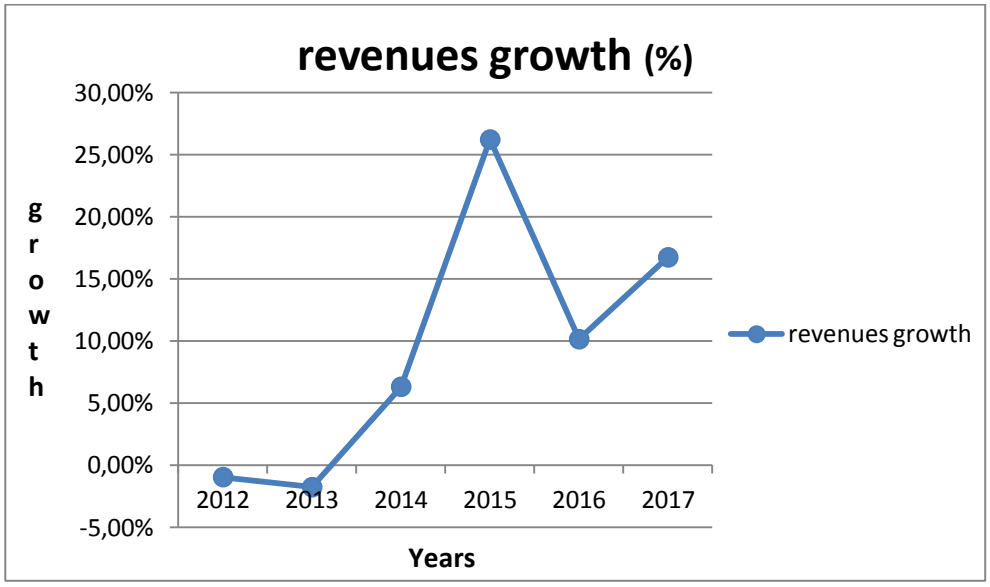
Chart 13



Source: Author based on Volvo's Reports

The evolution of the revenues bares a close resemblance to the sales. In the chart presented above we can clearly see a two period evolution in the post-acquisition Volvo revenues, in the 2011-2014 period the revenues remained more or less stable before entering an upward trend in the 2014-2017 period. This is mainly explained by the fact that the first model fully developed in the Geely era, the XC90, was introduced just in the end of 2014.

Chart 14

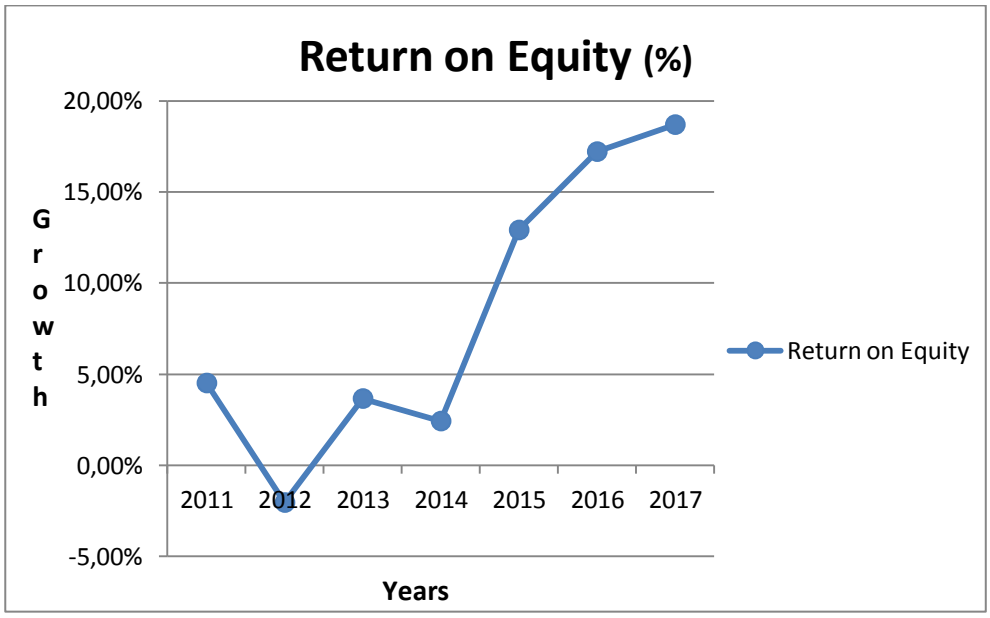


Source: Author based on Volvo's Reports

Just like in the case of the sales the revenues decreased slightly in the 2012-2013 period however in the 2014-2017 they started increasing at a fast rate, although smaller than in the JLR case, reaching a peak in 2015 with a 26% growth rate. The recovery for Volvo wasn't as easy as in the case of JLR because the company didn't produced so many SUV's as JLR and it also had to renew their line-up. However since 2014 with the introduction of the new 90 series models the revenues increased much more and now with the introduction of the new 60 and 40 series models they are expected to continue to increase until the end of this decade. Further away from that, it is unlikely that the double digit growth remains because high growth rates are very difficult to sustain, according to Koller, Goedhart and Wessels (2010) companies growing faster than 20% typically grow at only 8% after 5 years and at just 5% after 10 years. JLR revenues growth evolution also shows how difficult is to sustain extremely high growth rates.

However in order to know if the increase in revenues generated profits for the company we will need to take into account the costs and compute some financial metrics like the ROE or the ROIC

Chart 15



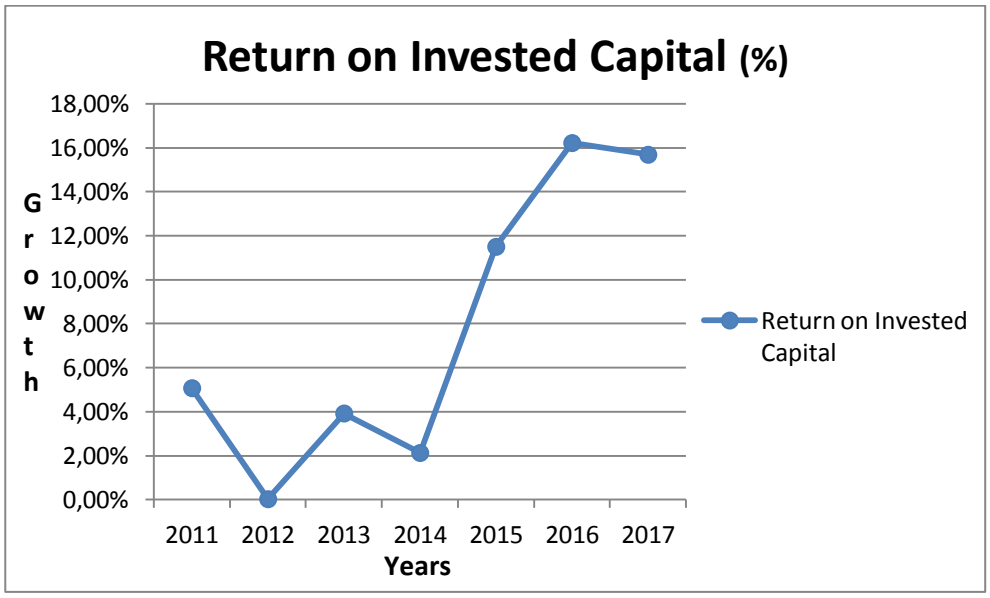
Source: Author based on Volvo's Reports

The chart above shows us that Volvo's ROE has been following a relatively similar path to the Revenues. After being relatively erratic and low in the first four years it has been growing strongly in the last three years and it continues to grow more year after year reaching a peak growth of 18.7% in 2017. The growth of the Volvo's ROE has been less impressive than JLR's because the company was acquired more than two years later and also because the market nowadays is not

expanding as fast as it was in the first years of this decade. Still, using Damodaran's database if we compare this with the sector's average of 12.55% in 2017 Volvo's ROE is still clearly above the sector's average.

However, just as it happened with JLR to have a more complete analysis about performance indicators we will analyse the ROIC between 2011 and 2017.

Chart 16



Source: Author based on Volvo's Reports

. Just like in the case of the previously analysed metrics, in the years between 2011-2014 the value was still relatively low. However in the period between 2015-2017 the large investments made in the new range of models, paid result with Volvo's ROIC reaching 16% in 2017 a value that although it's slightly smaller than JLR's is still more than the double of the sector's average of 6.51%. Furthermore, according to Koller, Goedhart and Wessels (2010) despite tending towards their industry medians, ROIC's levels are more persistent than Growth levels with two-thirds of the companies that earned more than 20% in 1995 were still earning atleast 20%, 10 years later so these double digit ROIC growth rates will likely remain in the next years.

Information about other ratios like the ROA or the ROC can be found on the appendix.

After analysing the performance ratios of Volvo he will analyse the capacity that the Swedish company has of generating cash through its operations from the year of 2012 until 2017.

Table 10
Volvo FCFF

	2017	2016	2015	2014	2013	2012
Noplat	10,9359	8,6298	5,4984	1,2605	1,6247	0,0094
Net Capex	18,780	13,758	-5,784	21,603	4,641	1,639
Depreciation	12,098	10,527	9,399	7,363	7,716	8,016
WC variation	-2,308	-8,317	-5,694	-3,824	-0,096	2,490
FCFF	-5,5361	3,1888	16,9746	-16,5185	-2,0536	-4,1196

Source: Author based on Volvo's Reports

NOPLAT: $EBIT * (1 - tax\ rate)$ (16)

Net Capex: $(Non\ current\ assets n - Non\ current\ assets\ n-1) + Depreciation$ (17)

Working Capital variation: $Working\ Capital\ n - Working\ Capital\ n-1$ (18)

Volvo's FCFF has been very erratic over the last 6 years. It started as negative and it became very negative in 2014, more than 16.5 billion Swedish krona but then it increased exponentially in 2015 before decreasing a lot in 2016 and becoming negative again in 2017 at 5.5 billion krona. The Noplat helps to explain why the FCFF was negative in the first three years, the company hasn't able of generating substantial revenues in the first years after the Geely acquisition but from 2015 onwards the development has been very positive reaching more than 10 billion Swedish krona in 2017. The Net Capex also register very big changes during this period. It had a huge increase in 2014 and after a small decrease in 2015 it increased again sharply in 2016 and in 2017. This shows that Volvo is clearly investing more to fuel its growth not only on fixed assets like factories but also on intangible assets like new patents. Regarding the Working Capital variation it has been negative all the years but it was more negative in 2016 because the resources

After analysing Volvo's FCFF and its components it is important to analyse the rate at which the Swedish company can finance itself by compute the company's WACC.

In order to compute the WACC we should find the cost of debt that is given by:

rD: $\frac{Financial\ Expenses}{Total\ Debt} = \frac{1,269}{26,783} = 0.0474$ (19)

The cost of debt of Volvo is 4.74%.

In order to compute the WACC, after finding the Cost of Debt we need to find the Cost of Equity

Just like in the case of JLR we start by getting the Unlevered Beta for the global automotive companies in Damodaran's website, which is 0.91.

The Levered Beta is given by:

$$\beta l = 0.91 * (1 + \frac{26,783}{54,660} *(1- 0.2223)) = 1.257 \quad (20)$$

Then the cost of equity is given by:

$$rE = 0.0139 + 1.257 * 0.0508 = 0.0777 \quad (21)$$

Compared with the ROE for the year 2017, 18,7% we find that Volvo has a ROE- rE margin of 11% which means that the company is creating a lot of value for its shareholders.

The WACC of Volvo in 2017 was:

$$WACC: 0.0777 * \frac{54,66}{54,66+26,783} + 0.0474 * (1 - 0.2223) * \frac{26,783}{54,66+26,783} = 0.0643 \quad (22)$$

This is the effective rate at which Volvo financed itself in 2017. As we can see this value in very similar to JLR's. In both cases the company is financed more with Equity than with Debt (the D/E ratio is 49%) but just like in the case of JLR, Volvo's cost of equity is much lower than the industry average. The cost of debt however is around the industry average for 2017 and more than the double than the JLR's one, which helps to explain why the final WACC value is slightly higher.

Economic spread

$$ROIC-WACC: 0.1569 - 0.0643 = 0.0926 \quad (23)$$

The economic spread of Volvo is 9,26% which is a very positive value and shows that Volvo can make a lot more money with the capital it invests than the cost it has to undertake while making these investments.

Economic Value Added (EVA)

The 2017 EVA of Volvo was also computed

$$EVA: 10,9356 - 69,718 * 0.0643 = 6,453 \quad (24)$$

Just like it was expected with the very positive value of the economic spread the Volvo's 2017 EVA is clearly positive, 6,453 billion Swedish krona, which means the company generates value from the funds that invests in its business.

Entreprise Value

The Entreprise Value for 2017 was computed using the following formula:

$$\boldsymbol{EV\ 2017} = \frac{8{,}5846}{0.0643 - 0.04} = 353{,}326 \quad (25)$$

The following data was used in the computation.

FCFF 2017+1: The FCFF of the n+1 year (2018) was computed using the following formula.

FCFF n+1: $Noplat * (1 + g) - g * (Non\ Current\ Assets\ n + WCn) = 10{,}9359 * (1 + 0.04) - 0.04 * (100{,}855 - 31{,}137) = 8{,}5846$ (26)

growth (g): Similar to the case of JLR**,** the growth that I chose for the future of Volvo was 4%. I propose this rate by analysing several factors. One of them in the growth rate of several Volvo financial indicators including the ROIC, the ROE and the revenues. On these metrics Volvo is currently growing much more than this 4% or the average of the sector but despite that it is important to note that Volvo starting this strong growth just in 2014 when the new 3x3 model plan was implemented. Especially when we take a long range approach the growth rate of a company tends to be much closer to the sector's average. The sector's average also tends to be closer to the economic growth and developed economies don't grow as much, and China's growth has been declining for a few years and the fast growth in markets like Russia is not sustainable because its heavily linked with the price of commodities. As it was already mentioned in this dissertation, the automotive sector will go through some deep changes in the next years, that will transform the way as we see cars but the studies seem to agree that the sales of cars will decrease in the next years with will not make it easier for car companies to grow more than they currently do.

Multiples analysis

After reaching the value of the enterprise value we can finally analyse some enterprise multiples of Volvo and compare it with a peer group from the automotive sector's average. An enterprise multiples analysis is particularly useful in capital intensive industries like the automotive industry.

The equity value was computed using the following computation.

$$EQV = 353{,}326 + 35{,}402 - 26{,}783 = 361{,}945 \quad (27)$$

Table 11
Volvo Multiples

	Volvo 2017	Peer group
EV	353,326	
EQV	361,945	
EV/EBITDA	13.192	9.37
EV/EBIT	25.128	16.16
EV/NOPLAT	32.309	22.38
EV/Sales	1.675	0.98
EV/IC	5.068	1.08

Source: Author based on Volvo's Reports

As we can see in the table above, unlike in the case of JLR, Volvo's multiples had an higher value than the peer group of the global Auto&Truck companies. Although higher than average EV multiples could present an overvaluation situation, in this case, because Volvo is growing a lot and it has the potential to grow even more, it shows that the acquisition by Geely is creating value for Volvo, and the high ratios found, already anticipate a future growth of the metrics that are in the EV ratios. Another interesting and unusual characteristic is that the EQV is higher than the EV because Volvo's net debt is negative, meaning that the company's cash and equivalents are higher than the total debt of the company. This shows that Volvo is capable of generating a lot of cash from its operations without needing a lot of debt to finance them.

9. Opportunities, challenges and threats

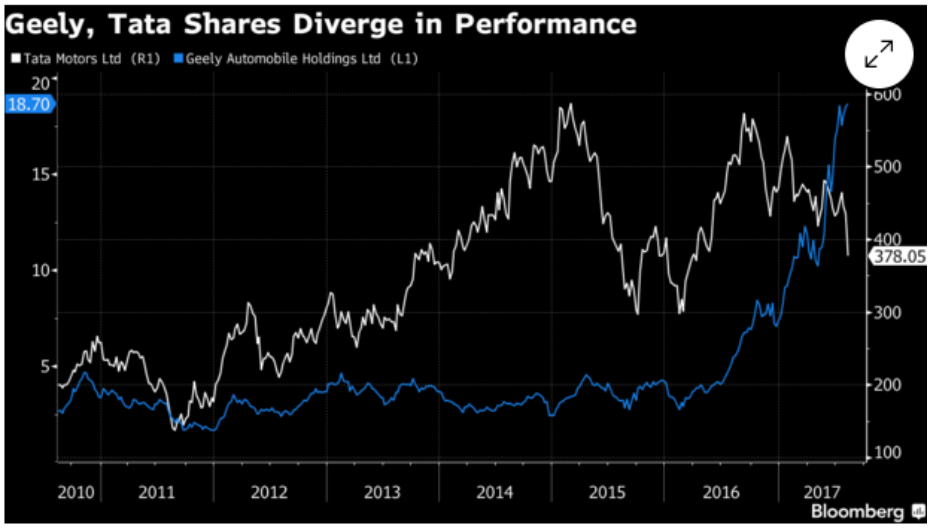
After doing an extensive quantitative financial analysis of JLR and Volvo's performance in recent years it is important to undertake a more qualitative analysis based on the opportunities, challenges and threats that these two companies are likely to face in the future and which could have a deep impact in their future.

In this part it is also important to analyse the differences between Tata Motors and Geely not only in terms of strategy but only in terms of financial sustainability. Geely's as a brand is growing, they sold 330,000 cars before Volvo acquisition and in 2017 they sold 1,247 million cars a 63% increase when compared with the previous year while revenues registered an increase of 73% and profits registered an increase of 108% when compared with 2016. This performance is reflected on the companies' share price that rose a lot in 2016 and 2017 has been decreasing significantly this year (mainly due to the possibility of tariffs that could harm the company's business). The Geely group is also promoting the sharing of components between brands, including platforms and engines which helps improving the quality of their products. In the opposite direction, Tata's Indian brands are registering net losses of more than 1000 crores in 2018 after having been 2400 crores in 2017, due to facing difficulties in their internal markets with the group not being able to generate synergies between JLR and Tata (in part because the companies are almost on extreme opposites in market positioning). During the last few years Tata has become increasingly dependent on JLR's sales and profits and with this recent JLR slowdown the Tata Motors group becomes more vulnerable. This is having a negative impact on the way investors view the company and that is reflected on the share price that is now less than half of what it was in the end of 2016.

The difference between the share price evolution of Tata and Geely can be analysed in the following chart:

Chart 17

Tata Motors and Geely share price



Source: Bloomberg

9.1 Jaguar Land Rover

Table 12

JLR Opportunities, Challenges and Threats

Company factors	**Industry factors**	**Macro environment factors**
Tata's dependency on JLR	Electric cars	Brexit
New models	Self driving cars	Import tariffs in the United States
	Diesel ban	

Source: Author

Besides the financial challenges that JLR faces that are also some opportunities, challenges and threats related with the factors that surround the company. One of these is the more complex structure of the Jaguar Land Rover range, particularly the Land Rover brand that with several models with around the same characteristics like size, engines or even the price. The JLR group also has a total of nine SUV's when compared with Volvo's three. Although more models available is generally good for costumers and despite the fact that the SUV market is still growing at a fast rate the similarity between some of these models may lead to cannibalisation between some of them. Some critics argue that Land Rover should distinguish more between the Range Rover, the Discovery and the future Defender sub-brands.

Another important remark to make, is that due to a poor performance of the Tata Motors traditional brands, Jaguar Land Rover also accounts for 78% of the revenues and 96% of the operational income of the group, which makes Tata Motors almost completely dependent on the performance of the two British brands, which makes the group even more reliant on their performance. A reason for this to happen is that unlike Geely, Tata has not been actively using synergies from JLR to with Tata's own domestic products and it has been losing market share and profits in their domestic market, India and in other emergent markets. It remains to be seen if the company will be able to regain strength in the following years.

JLR will also have to adapt itself to the changes that are happening in the automotive industry. One of the most important being the electrification. While in the moment of Tata-JLR acquisition, electric powered cars were still viewed as a relatively distant solution for a more sustainable future, at the present almost all car companies, including Jaguar Land Rover feel that electric cars, more specifically the ones powered by ion-lithium batteries will replace internal combustion engine cars, sooner or later, in the next decades. That is why JLR already produces several hybrid cars, including a Range Rover and Range Rover Sport plug-in hybrid cars and they launched an electric SUV, the Jaguar I-Pace, in the summer of 2018 with more electric vehicles being promised for the near future like an electric XJ and a car that is being internally called, 'Road Rover'. This presents an opportunity for Jaguar Land Rover to gain an higher market share because apart from Tesla (that builds exclusively electric cars), there aren't more premium car makers producing these vehicles. However there are also some challenges that JLR will face. These will come mostly from German premium car makers like Mercedes-Benz, BMW and Audi, as well as other rivals such as Volvo or Lexus, as they all have plans to launch several electric cars in the coming years. If these investments in electric cars prove to be successful can be a way of recovering some sales that may be lost with the diesel ban that will happen in several places especially in Europe, that can be particularly harsh to a premium company like JLR that sells a large proportion of diesel cars.

Another disruptive technology that has been having a large development in the last years are autonomous cars. Autonomous cars are likely to have a big impact in the automotive industry because they have the potential of revolutionising this industry, eliminating the necessity of having a driver. This presents itself as a challenge that may also be an opportunity for companies like Jaguar Land Rover. Car companies already have some cars with some degree of autonomy like cruise control systems, emergency braking systems or lane assist systems but now several companies are focused in the development of fully autonomous driverless cars. Some companies like Audi, Cadillac or Tesla, with the well-known Autopilot, are in the front line of this technology.

Jaguar Land Rover is already developing advanced self-driving systems in the new Jaguar I-Pace having announced a partnership with Waymo, a 2016 spinoff of Google's self-driving department. They plan to make up to 20,000 I-Pace vehicles available for riders of Waymo driverless service, that would give people an opportunity to call an autonomous car when necessary. However the driverless cars are still a complex and even polemic matter. There are still many doubts over the actual effectiveness of the systems especially regarding the safety of the people in the car, or the ones who cross its path. This became even a bigger concern when it was confirmed that several people had died in Tesla vehicles while having their Auto Pilot activated and in March 2018 a driverless car that was being tested by Uber killed a pedestrian in Arizona. All these events have been undermining the confidence of costumers on these technologies so JLR will have to be particularly careful in the development of these systems.

Finally, two threats related with the economic environment lay ahead in the future of Jaguar Land Rover that cannot be forgotten, are the Brexit and the possibility of higher import tariffs in United States. Being a British company that produces most of its cars in the United Kingdom but which sells lots of cars, 22% of the total during the year of 2017/2018, in the European Union benefitting from belonging in the European Single Market. If a Brexit deal means future tariffs on the import of British goods by European countries, Jaguar Land Rover products would be in a competitive disadvantage when compared with their German rivals since almost all JLR cars sold in Europe are made in the United Kingdom. Regarding a rise in import tariffs, it is well known that President Trump defends the adoption of protectionist measures and he already undertook those measures in imports of steel and aluminium. Specifically about the automotive sector, Trump is thinking about putting a 20% tariff because according to him European car makers are having an unfair advantage in the international trade of automobiles, stating that Mercedes-Benz are very common in New York but almost no Chevrolets are seen in Germany. If these measures take place JLR would be affected with sales likely to decrease in an important market, that represented on the last year, 21% of the total sales of the company. Other factors which may affect both companies are a possible revaluation or devaluation of currencies, especially in the major markets for JLR or in the United Kingdom or some economic policy changes like a tax rate increase/decrease or subsidies.

9.2 Volvo

Table 13

Volvo Opportunities, Challenges and Threats

Company factors	Industry factors	Macroeconomic factors
Polestar brand	Elecritic cars	Import tariffs in the United States
Possible IPO	Self driving cars	
Synergies	Diesel ban	

Source: Author

Just like in the case of the Jaguar Land Rover the acquisition of Volvo by Tata gave the Swedish brand a new life and the opportunity to develop further than during the Ford ownership period. The company has now, new opportunities, but also challenges and threats in the future ahead, some of them internal factors related with Volvo and Geely themselves , others with the industry and others with the macroeconomic environment that surrounds the company.

One of the most interesting factors that is also related with the electric cars question is the creation of the Polestar brand. This brand was launched in November 2017 and it will focus in producing electric cars, with the objective of going head to head with Tesla, and it will use several Volvo components. The company's cars will be produced in Chengdu, China and the first model, the Polestar 1 is already in production. The fact that some costumers still have doubts about products with the label 'Made in China' that may hinder sales in some markets. It is curious to see the difference between the strategies of the two companies. While JLR will keep electric cars inside the brand's portfolio, the Polestar brand will be independent from Volvo (although Volvo will also use electric power trains for some of their current models). Geely group will also launch a new brand, Lynk whose cars will be sold in Western markets and built in a Volvo factory while using Volvo's engines and a shared platform, while in the Tata Motors group, JLR appears more as a separate entity with very few synergies accomplished between JLR and Tata brand vehicles. Volvo itself knows the importance and potential of the electrification and it has already several plug-in hybrid vehicles, the T8 powertrain, and it announced in 2017 that every new car from 2019 onwards will be featuring either a hybrid or fully electric powertrain with plans to produce more hybrid cars and even fully electric XC40 and XC90 cars. Just as in the case of JLR, Volvo also sells a large proportion of diesel cars, although not as high as JLR's, so these new electric cars are particularly important for the financial sustainability of Volvo in the long term. It will also be interesting to see

if Geely continues to expand its brand portfolio after acquiring a majority stake in companies like Proton and Lotus and a 9% stake in Mercedes-Benz, a rival company of Volvo in the premium sector, and how will these investments affect Volvo.

There were also plans for a Volvo IPO in September 2018 but the company decided to drop it due to trade tensions and a downturn in automotive sector stocks. However this IPO may return to the table if the economic and sector conditions improve and this measure may be important for Volvo to raise more capital.

Another ambitious goal set by Volvo is the announcement that by 2020 no one will die in a new Volvo vehicle. Historically, Volvo has been one of the car manufacturers more concerned about safety in the automotive world and they introduced several technologies that increased safety for people in cars and outside them like a collision avoidance system that brakes automatically when obstacles, pedestrians or cyclists are detected in front of the car. This and other systems have already saved several lives and Volvo plans to develop even more sophisticated systems in order to achieve this goal. Associated with that, Volvo is also developing self driving systems which will enable the car to drive itself during the majority of situations. Volvo already has in place a Drive Me program in the headquarter city of Gothenburg in which people can be driven by in XC90 cars in a previously defined route around the city. For a company like Volvo that has in passive and active safety one of their biggest attributes it will be interesting to see if these advanced self driving systems are truly reliable and if they do not affect the company's position as a leader in car safety.

Compared with JLR, Volvo will probably be less affected by the possible American import tariffs on European cars because the Swedish company opened this year a factory in Charleston, South Carolina where the new S60 model will be produced, sold in the US and exported for other markets. However Volvo's CEO Hakan Samuelsson backed the elimination of all import tariffs related with the automotive industry.

10. Final remarks

The objective of this project was to analyse if the Tata-Jaguar Land Rover and the Geely-Volvo acquisitions were or not value creating and if they improved the difficult situation in which these companies were during the Ford ownership period. The conclusions that are taken in this project show that is possible for companies from emergent markets, to successfully acquire prestigious European brands, even in a sector that has a long history of M&A deals that did not meet the objectives set by the parts involved.

Although both JLR and Volvo were able to recover from the difficult financial situation they were in, during the Ford ownership period, their future is looking to be diverging lately.

While the JLR showed huge and almost unprecedented growth rates in the years immediately after the Tata acquisition, now the outlook looks less good when considering the slowdown on performance and financial metrics, negative FCFF and negative EVA in 2018. If we take an industry approach we can say that JLR became a good alternative for someone looking for a premium car but they still can't afford the volumes of the German car makers especially in the saloon cars department. JLR is now entering in the electric cars market and it will soon replace some of its more important models like the Evoque or the XJ so it will be very important to see if the company can improve its profitability ratios, FCFF, EVA and EV multiples.

Regarding Volvo, the Swedish company had a poor financial performance in the post-acquisition years but from 2014 onwards after Volvo put in practice its 3x3 master plan, focusing on the quality, efficiency and image of the products, the company started having a much better performance not only its sales and revenues but also on performance ratios that have been accelerating through the last four years and with EV multiples that are currently much higher, not only than JLR ones, but also than the industry average. It will be interesting to see if the company can keep this kind of growth and multiples in the next years especially considering that just like JLR, it will soon start building electric cars.

However, to answer to the main question of this project, although we can't know for sure what would have happened to both companies if they stayed under Ford's control, both companies are now growing and recovering from the negative profits and ratios with Volvo currently creating a lot of value and JLR despite a slightly negative economic value in 2018 still creates value for its shareholders . However it is important to have into account that both companies, benefitted from the economic conditions at the time, like large growth in the automotive sector in the beginning of the

2010 decade fuelled by China's growth and particularly in the case of JLR, the shift in consumers preferences towards SUV's vehicles.

In spite of the deep study made, this projects still presents some limitations. One of these is related with the fact that Jaguar Land Rover and Volvo aren't currently listed as individual companies in the stock market, which makes more difficult to make a valuation based on how the markets view JLR and Volvo and also using some other multiples like the P/E ratio or the EPS, when compared with some rival companies that are public. Due to the length and complexity of this project it was taken the option of not doing a full valuation prediction for the next years.

This project still leaves some questions open for further scientific investigation and debate. One thing that is not explored in this project but would be interesting in academic value would be a valuation prediction of Jaguar Land Rover and Volvo for the next years regarding the FCFF, the FCFE or multiples. Plus, although this project analysis briefly the impact of these two acquisition on the two buyers, Geely and Tata and on the seller, Ford a more in depth investigation about this matter, would be interesting and it would add academic value.

11. References

Brealey, R., Myers, S., Allen, F., (2014), Principles of Corporate Finance**, McGraw Hill Publisher**

Damodaran, A., 2012, 'Investment Valuation: Tools and Techniques for Determining the Value of any Asset, **Wiley Finance**

Damodaran, A., 2015, 'Applied Corporate Finance', **Wiley**

Dann, L., De Angelo, H., 1983, 'Standstill Agreements, privately negotiated stock repurchases and the market for corporate control', ***Journal of Financial Economics***, 11: 275-300

Ficery, K., Herd, T., Pursche, B., 2007, "Where has all the synergy gone? The M&A puzzle", ***Journal of Business Strategy***, 28: 29-35

Galpin, T., Herndon, M, 2014, "The Complete Guide to Mergers and Acquisitions, **Wiley**

Gates, S., Very, Phillipe, 2003, "Measuring Performance During M&A Integration", ***Long Range Planning,*** 36: 167-185

Hartford, J., 1999, 'Corporate Cash Reserves and Acquisitions', ***The Journal of Finance*** 54: 1969-1997

Hartford, J., 2005, 'What drives merger waves?', ***Journal of Financial Economics*** 77: 529-550

Hayward, M., Hambrick, D., 1997., Explaining the Premiums Paid for Large Acquisitions: Evidence of CEO Hubris, ***Administrative Science Quarterly***, 42: 103-127

Hill, K., Menk, D., Cooper, A., 2010, Contribution of the Automotive Industry to the Economies of all Fifty States and the United States**, *Car Center for Automotive Research***

Holderness, C., Sheehan, D., 1985, 'Raiders or saviors? The evidence on six controversial investors', ***Journal of Financial Economics*** 14: 555

Jensen, M., 1986, Agency costs of free cash flow, corporate finance and takeovers, ***American Economic Review*** **76**, 323–329.

Jensen, M., 1988, 'Takeovers: Their causes and consequences'**, *The Journal of Economic Perspectives***, 2: 21-48

Koller, T., Goedhart, M., Wessels, D., 2010, Valuation, McKinsey and Company

Mikkelson, W., Ruback, R., 1985.,' An empirical analysis of the interfirm equity investment process', ***Journal of Financial Economics*** 14: 523-553

Niden, C., 1993, An empirical examination of white knight corporate takeovers: Synergy and Overbidding, ***Wiley***, 4: 28-45

Roll, R., 1986, The Hubris Hypothesis of Corporate Takeovers, ***The Journal of Business***, 59: 197-216

Ruback, R., 1987, 'An overview of takeover defenses', ***University of Chicago Press***, 49-68

Weber, Y., Tarba, S., Bachar, Z., 2011, Mergers and Acquisitions performance paradox: ***European Journal of International Management***, Vol 4

GDP growth Data World Bank, January 2018

https://data.worldbank.org/indicator/ny.gdp.mktp.kd.zg

ABCnews 'Ford plans to sell Jaguar, Land Rover to Tata Motors, February 2018

https://abcnews.go.com/Business/story?id=4525035&page=1

Aswath Damodaran website April-August 2018

http://pages.stern.nyu.edu/~adamodar/

Bloomberg 'The Jaguar that ate Tata', March 2018

https://www.bloomberg.com/gadfly/articles/2016-05-31/the-jaguar-that-ate-tata

Bloomberg 'How China's 36th Best Car Company Saved Volvo', April 2018

https://www.bloomberg.com/businessweek

Bloomberg 'Jaguar and Volvo's Asian owners see their fortunes diverge', May 2018

https://www.bloomberg.com/news/articles/2017-08-13/volvo-owner-geely-jaguar-powered-tata-motors-shares-diverge

Bloomberg 'Volvo cars IPO said to draw lower valuations in initial feedback' August 2018

https://www.bloomberg.com/news/articles/2018-07-23/volvo-cars-ipo-said-to-draw-lower-valuations-in-initial-feedback

Business Insider '2016 was a record breaking year for global car sales and it was almost entirely driven by China' May 2018

https://www.businessinsider.com/2016-was-a-record-breaking-year-for-global-car-sales-and-it-was-almost-entirely-driven-by-china-2017-1

Car Logos February 2018

http://www.carlogos.org/

CNBC 'Volvo opens new South Carolina plant' August 2018

https://www.cnbc.com/video/2018/06/20/volvo-opens-new-south-carolina-plant.html

CNBC, 'Moodys upgrades auto industry outlook from negative to stable' August 2018

https://www.cnbc.com/2018/03/14/moodys-upgrades-auto-industry-outlook-to-stable-from-negative.html

Financial Times 'Geely builds $9bn stake in Mercedes owner Daimler', May 2018

https://www.ft.com/content/68c57048-18c1-11e8-9376-4a6390addb44

Forbes, 'Global Car Sales To Gather Momentum In 2018, While New Technology Disruption Lurks', February 2018

https://www.forbes.com/sites/neilwinton/2017/12/28/global-car-sales-to-gather-momentum-in-2018-while-new-technology-disruption-lurks/#69487095402b

Forbes 'If any Chinese car company will take on the world it's this one' June 2018

https://www.forbes.com/sites/bertelschmitt/2017/04/24/if-any-chinese-car-company-will-take-on-the-world-then-this-one/#2d4dd79d6c1a

Forbes 'Possible Auto Spinoffs This Year Could Include Aston Martin, Volvo, Porsche and Alfa Romeo', July 2018

https://www.forbes.com/sites/neilwinton/2018/04/02/possible-auto-spin-offs-this-year-could-include-aston-martin-volvo-porsche-alfa-maserati-report/#49f26c431580

KPMG 'Global Automotive Executive Survey 2017', August 2018

https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2017/01/global-automotive-executive-survey-2017.pdf

JATO, 'The global domination of SUV's continues', June 2018

http://www.jato.com/global-domination-suvs-continues-2017/

McKinsey&Company 'The road to 2020 and beyond: What is driving the global automotive industry' February 2020

https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/Automotive%20and%20Assembly/PDFs/McK_The_road_to_2020_and_beyond.ashx

PWC 'Five trends transforming the Automotive Industry' September 2018

https://www.pwc.at/de/publikationen/branchen-und-wirtschaftsstudien/eascy-five-trends-transforming-the-automotive-industry_2018.pdf

Reuters 'Volvo Cars drops IPO due trade tensions and auto stocks downturn' September 2018

https://www.reuters.com/article/us-volvo-cars-ipo/volvo-cars-drops-ipo-due-to-trade-tensions-and-auto-stocks-downturn-idUSKCN1LQ0IO

Telegraph 'Ford to sell Jaguar and Land Rover', March 2018

https://www.telegraph.co.uk/finance/markets/2810416/Ford-to-sell-Jaguar-and-Land-Rover.html

The Economist 'Devolving Volvo', March 2018

https://www.economist.com/business/2010/03/28/devolving-volvo

The Guardian 'Ford sells Volvo to Chinese group', March 2018

https://www.theguardian.com/business/2010/mar/28/chinese-group-buys-volvo

The Guardian 'All Volvo Cars to be Electric or Hybrid from 2019', May 2018

https://www.theguardian.com/business/2017/jul/05/volvo-cars-electric-hybrid-2019

The New York Times 'Chinese Carmaker Geely Completes Acquisition of Volvo from Ford', March 2018

https://www.nytimes.com/2010/08/03/business/global/03volvo.html

Yahoo Finance - Ford Motor Company Historical data, March 2018

https://finance.yahoo.com/quote/F/

11.1 Other references

Ford Annual Report 2010

Ford Annual Report 2009

Ford Annual Report 2008

Ford Annual Report 2007

Ford Annual Report 2006

Ford Annual Report 2005

Ford Annual Report 2004

Ford Annual Report 2003

Jaguar Land Rover Annual Report 2017/2018

Jaguar Land Rover Annual Report 2016/2017

Jaguar Land Rover Annual Report 2015/2016

Jaguar Land Rover Annual Report 2014/2015

Jaguar Land Rover Annual Report 2013/2014

Jaguar Land Rover Annual Report 2012/2013

Jaguar Land Rover Annual Report 2011/2012

Jaguar Land Rover Annual Report 2010/2011

Volvo Cars Annual Report 2017

Volvo Cars Annual Report 2016

Volvo Cars Annual Report 2015

Volvo Cars Annual Report 2014

Volvo Cars Annual Report 2013

Volvo Cars Annual Report 2012

Volvo Cars Annual Report 2011

Tata Motors Annual Report 2017/2018

Tata Motors Annual Report 2016/2017

Tata Motors Annual Report 2015/2016

Tata Motors Annual Report 2014/2015

Tata Motors Annual Report 2013/2014

Tata Motors Annual Report 2012/2013

Tata Motors Annual Report 2011/2012

Tata Motors Annual Report 2010/2011

Tata Motors Annual Report 2009/2010

Tata Motors Annual Report 2008/2009

Tata Motors Annual Report 2007/2008

Tata Motors Annual Report 2006/2007

Tata Motors Annual Report 2005/2006

Tata Motors Annual Report 2004/2005

Tata Motors Annual Report 2003/2004

Geely Annual Report 2017

Geely Annual Report 2016

Geely Annual Report 2015

Geely Annual Report 2014

Geely Annual Report 2013

Geely Annual Report 2012

Geely Annual Report 2011

12. Appendix

12.1 Jaguar Land Rover





Consolidated income statement Jaguar Land Rover

	17/18	16/17	15/16	14/15	13/14	12/13	11/12	10/11	09/10	08/09
Revenue	25,786	24,339	22,286	22,106	19,386	15,784	13,512	9,870.7	6,527.2	4,949.5
Material and other cost of sales	16,327	14,920	13,562	13,347	11,904	9,904	8,733	6,178	4,437	3,375
Gross profit	9,459	9,268	9,241	8,759	7,482	5,880	4,779	3,692.6	2,090.2	1,574.5
EBITDA	2,797	3,207	3,256	3,974	3,294	2,401	1,999	1,501.7	349.1	(83.9)
EBIT	0,974	1,551	1,838	2,923	2,419	1,779	1,534	1,105.4	32.7	(293)
EBT	1,563	1,610	1,557	2,614	2,501	1,674	1,479	1,114.9	51.4	(375.7)
NOPLAT	0,718	1,213	1,593	2,347	1,797	1,319	1,460	1,026.4	4.8	(319,7)
Net Income	1,133	1,272	1,312	2,038	1,879	1,215	1,481.1	1,035.9	23.5	(402.4)
Total comprehensive income (attributable to shareholders)		(883)	1,724	326	2,475	765	1,448	867.7	103	(1,240.4)
Tax rate	0.262	0.210	0.157	0.220	0.250	0.275	0.012	0.071	0.543	0.071

note 1: all values presented are in billion pounds

note 2: each financial year ended on the 31st March of the respective year

Consolidated Balance Sheet JLR

Year	2017/2018	2016/2017	2015/2016	2014/2015	2013/2014	2012/2013	2011/2012	2010/2011	2009/2010	2008/2009
Non-current assets										
Investments	0,516	0,475	0,339	0,28	0,145	0,06	0,001	0,0003	0,0003	0,0003
Restricted Cash	0,006	0,005	0,021	0,018	0,025	0,049	0,081	0,0646	0,0615	0,0328
Warranty reimbursement and other receivables	0,116	0	0	0	0	0	0	0	0	0
Derivative financial instruments	0,286	0,255	0,154	0,022	0,436	0,122	0,023	0	0	0
Other	0,006	0,01	0,01	0,009	0,012	0,024	0,003	0,0039	0,0118	0
Property, plant and equipment	7,417	5,885	5,175	4,474	3,184	2,335	1,586	1,2308	1,2362	1,2398
Intangible asstes	6,763	6,167	5,497	4,952	4,24	3,522	2,801	2,1446	1,676	1,2693
Pension asset	0	0	0	0	0	0	0,002	0,0009	0,0003	0,036
Prepaid expenses	0,087	0,077	0,042	0,023	0,031	0,005	0,009	0	0	0
Other	0	0,003	0,003	0,003	0,002	0,003	0,002	0	0	0
Deferred tax assets	0,413	0,511	0,354	0,372	0,284	0,508	0,474	0,1122	0,0454	0,0316
Total non-current assets	**15,61**	13,388	11,595	10,153	8,359	6,628	4,982	3,5573	3,0316	2,0698

Current assets	2017/2018	2016/2017	2015/2016	2014/2015	2013/2014	2012/2013	2011/2012	2010/2011	2009/2010	2008/2009
Cash and cash equivalents	2,626	2,878	3,399	3,208	2,26	2,072	2,43	1,0283	0,6799	0,1285
Short-term deposits	2,031	2,609	1,252	1,055	1,199	0,775	0	0	0	0
Trade receivables	1,612	1,273	1,078	1,112	0,831	0,927	0,662	0,5672	0,6694	0,4393
Advances and other receivables recovered in cash	0	0,002	0,008	0,019	0,022	0,024	0,001	0,0081	0,0114	0,0122
Restricted Cash	0,012	0,004	0	0	0,361	0,031	0,048	0	0	0
Warranty reimbursements and other receivables	0,098	0	0	0	0	0	0	0	0	0
Derivative financial instruments	0,264	0,169	0,073	0,176	0	0,11	0,131	0,0497	0	0
Accrued income	0,035	0,019	0,012	0,005	0	0	0	0	0	0
Other	0,085	0,024	0,014	0,014	0,009	0,011	0,003	0,0037	0,0087	0,0001
Inventories	3,767	3,464	2,685	2,416	2,174	1,795	1,497	1,1556	0,9954	0,928
Recoverable VAT	0,329	0,243	0,218	0,221	0,237	0,378	0,409	0,2582	0,189	0,0956
Prepaid expenses	0,177	0,167	0,111	0,106	0,07	0,056	0,048	0,035	0,0365	0,0695
Research and development credit	0,114	0,097	0,082	0,069	0	0	0	0	0	0
Other	0,01	0,01	0	0	0,048	0	0	0	0	0,0009
Current tax assets	0,01	0,003	0,01	0,009	0,019	0,03	0,006	0,0125	0,0024	0
Total current assets	**11,17**	10,962	8,972	8,41	7,23	6,209	5,235	3,1183	2,5927	1,6741
Total assets	**26,78**	24,35	20,567	18,563	15,589	12,837	10,217	6,6756	5,6243	4,2839

Current liabilities	2017/2018	2016/2017	2015/2016	2014/2015	2013/2014	2012/2013	2011/2012	2010/2011	2009/2010	2008/2009
Accounts payable	7,614	6,508	5,758	5,45	4,787	4,227	3,285	2,3848	1,9312	1,4827
Short-term borrowings	0,652	0,179	0,116	0,156	0,167	0,328	0,49	0,8634	0,9049	1,9531
Finance lease obligations	0,003	0,002	0,005	0,004	0,005	0,005	0,005	0,0052	0,0055	0,0056
Interest accrued	0,032	0,027	0,025	0,025	0,024	0,039	0,046	0,0011	0,0018	0,0037
Derivative financial instruments	0,668	1,76	0,666	0,697	0,065	0,206	0,108	0,0052	0,0005	0
Liability for vehicles sold under a repurchase agreement	0,479	0,35	0,266	0,197	0,183	0,183	0,154	0,1214	0,1345	0,107
Other	0,007	0	0	0	0	0	0	0	0	0
Provisions	0,758	0,644	0,555	0,485	0,395	0,335	0,279	0,2643	0,3032	0,4849
Liabilities for advances received	0,04	0,092	0,139	0,183	0,253	0,18	0,184	0,1628	0,1539	0,0349
Deferred Revenue	0,244	0,167	0,093	0,054	0,019	0,005	0,007	0	0	0
VAT	0,195	0,171	0,131	0,088	0,085	0,261	0,346	0,1786	0,1235	0,0524
Other taxes payable	0,043	0,038	0,035	0,027	0	0	0	0	0	0
Others	0,025	0,022	0,029	0,022	0,038	0,036	0,022	0,0188	0,0177	0,0025
Current tax liabilities	0,16	0,144	0,057	0,069	0,113	0,192	0,115	0,0798	0,0129	0,0179
Total current liabilities	**10,92**	10,104	7,875	7,457	6,134	5,997	5,041	4,0674	3,5896	4,1447

Non-current liabilities	2017/2018	2016/2017	2015/2016	2014/2015	2013/2014	2012/2013	2011/2012	2010/2011	2009/2010	2008/2009
Long-term borrowings	3,06	3,395	2,373	2,381	1,843	1,839	1,484	0,5181	2,1255	0,7695
Finance lease obligations	0,036	0,005	0,006	0,009	0,013	0,018	0,015	0,0187	0,0225	0,0264
Derivative financial instruments	0,257	1,391	0,809	0,832	0,055	0,208	0,033	0	0	0
Other payables	0,008	0,003	0,002	0,001	0,001	0,001	0,025	0,0017	0,0068	0,0076
Provisions	1,055	0,988	0,733	0,639	0,582	0,468	0,344	0,5927	0,3411	0,2625
Retirement benefit obligation	0,438	1,461	0,567	0,887	0,674	0,657	0,327	0	0	0
Deferred revenue	0,438	0,338	0,17	0,096	0,063	0,013	0,005	0	0	0
Others	0,016	0,024	0,034	0,022	0,014	0,011	0	0	0	0
Non-current tax liabilities	0,454	0	0	0	0	0	0,018	0	0	0
Deferred tax liabilities	0,584	0,06	0,384	0,199	0,346	0,086	0,001	0,0016	0,0016	0
Total non-current liabilities	**5,872**	7,665	5,078	5,066	3,591	3,301	2,252	1,1328	2,4975	1,066
Total liabilities	**16,792**	17,769	12,953	12,523	9,725	9,298	7,293	5,2002	6,0871	5,2107

Equity attributable to shareholders	2017/2018	2016/2017	2015/2016	2014/2015	2013/2014	2012/2013	2011/2012	2010/2011	2009/2010	2008/2009
Ordinary shares	1,501	1,501	1,501	1,501	1,501	1,501	1,501	1,5006	0,6446	0,2836
Capital redemption reserve	0,167	0,167	0,167	0,167	0,167	0,167	0,167	0,167	0	0
Reserves	8,312	4,913	5,946	4,372	4,196	1,871	1,256	-0,1919	-1,1074	-1,2104
Equity attributable to shareholders	**9,988**	6,581	7,614	6,04	5,864	3,539	2,924	1,4754	-0,4628	-0,9268
Total liabilities and equity	**26,78**	24,35	20,567	18,563	15,589	12,837	10,217	6,6756	5,6243	4,2839

note 1: all values presented are in billion pounds

note 2: each year ended on the 31st March of the respective year

Cash Flow Statement JLR

	17/18	16/17	15/16	14/15	13/14	12/13	11/12	10/11	09/10	08/09
Net Cash Operating activities	2,958	3160	3556	3575	3422	2429	2500	1645.2	662.1	(81.1)
Net Cash Investing Activities	(3322)	(4317)	(2966)	(2641)	(2736)	(2609)	(1542)	(769.4)	(763.1)	(1901.6)
Net Cash financing activities	53	541	(403)	(38)	(498)	(178)	444	(527.4)	652.4	1961.5
Cash and equivalents at the end of the year	2,626	2878	3399	3208	2260	2072	2430	1028.3	679.9	128.5

Financial Ratios JLR

	17/18	16/17	15/16	14/15	13/14	12/13	11/12	10/11	09/10	08/09
ROE	0.1134	0.1933	0.1723	0.3374	0.3204	0.343	0.4993	0.7021	(0.0510)	(0.4342)
ROA	0.0423	0.0522	0.0638	0.1098	0.1205	0.0946	0.1429	0.1553	0.0042	(0.094)
ROIC	0.0591	0.0461	0.0565	0.1017	0.1109	0.0826	0.1450	0.1552	0.0042	(0.094)
ROC	0.0524	0.1324	0.1402	0.2657	0.2308	0.3062	0.3092	0.3595	0.0058	-0.1516
WC	-3,447	-2,533	-2,644	-2,506	-2,026	-2,153	-1,969	-1,827	-1,508	-2,467
D/E	1.68	2.7	1.7012	2.0733	1.6584	2.6273	2.4942	3.5246	(13.1528)	(5.6222)
WC Var	-0,914	0,111	-0,138	-0,480	0,127	-0,184	-0,142	-0,319	0,959	
IC	12,163	10,855	8,951	7,647	6,333	4,475	3,013	1,730	1,532	-0,3972
IC Var	1,308	1,904	1,304	1,314	1,858	1,462	1,283	0,207	1,921	
D/A	0,1386	0,1468	0,1210	0,1367	0,1298	0,1688	0,1932	0,2069	0,5388	0,6355
Total Debt	3,712	3,574	2,489	2,537	2,010	2,167	1,974	1,382	3,030	2,722
Net Debt	1,086	0,696	-0,910	-0,671	-0,250	0,095	0,456	0,353	2,351	2,594

$$ROA = \frac{Net\ Income}{Total\ Assets}$$

$$ROC = \frac{NOPLAT}{Debt + Equity}$$

$$WC = Operating\ Current\ Assets - Operating\ Current\ Liabilities$$

$$IC = Non\ Current\ Assets + Operating\ Current\ Assets - Operating\ Current\ Assets$$

$$\begin{aligned} Operating\ Current\ Assets &= Trade\ Receivables + Advances\ and\ Other\ Receivables\ Received\ in\ Cash \\ &+ Restricted\ Cash + Accrued\ Income + Other + Inventories \\ &+ Recoverable\ VAT + Prepaid\ Expenses \\ &+ Research\ and\ Development\ Credit \end{aligned}$$

$$\begin{aligned} Operating\ Current\ Liabilities &= Accounts\ Payable + Short\ Term\ Borrowings + Interest\ Accrued \\ &+ Provisions + Liabilities\ for\ Advances\ Received + Deferred\ Revenue \\ &+ VAT + Other\ Taxes\ Payable \end{aligned}$$

$$Total\ Debt = Short\ Term\ Borrowings + Long\ Term\ Borrowings$$

$$Net\ Debt = Total\ Debt - Cash\ and\ Equivalents$$

Sales JLR

	17/18	16/17	15/16	14/15	13/14	12/13	11/12	10/11	09/10
North America	21.1%	20.0%	19.0%	17.0%	17.4%	16.8%	19.0%	20.9%	20.0%
United Kingdom	17.7%	21.0%	20.0%	19.0%	17.7%	19.3%	19.6%	24.1%	27.4%
Europe	21.7%	23.0%	24.0%	19.0%	19.1%	21.6%	22.0%	22.9%	24.3%
China	24.4%	21.0%	19.0%	25.0%	23.7%	20.6%	16.7%	12.0%	8.0%
Asia Pacific	---	---	---	---	5.2%	4.8%	4.2%	---	---
Russia	---	---	---	---	---	---	---	4.9%	4.0%
Overseas	15.1%	15.0%	18.0%	20.0%	16.9%	16.9%	19.0%	15.9%	15.9%
Total	614,309	604,009	512,571	462,209	434,311	374,636	305,859	240,905	208,197

12.2 Ford Motor company



Income before taxes

	2009	2008	2007	2006	2005	2004	2003	2002	2001
Income before Income Taxes	3,026	(14,404)	(3,746)	(15,074)	1,054	4,853	1,370	0,951	(7,419)
Total Net Income	(2,717)	(14,672)	(2,723)	(12,613)	1,440	3,487	0,495	(0,980)	(0,5453)
Jaguar Land Rover Aston Martin Income (Loss) before taxes	0,003	0,032	0,846	(2,066)					
Volvo Income (Loss) Before Taxes	(0,934)	(1,690)	(2,718)	(0,256)					

Note 1: All years ended at the 31st of December

Note 2: All values presented are in billion dollars

Ford Motor Company Balance Sheet

	2010	2009	2008	2007	2006	2005	2004	2003
Total Assets	164,687	197,890	222,977	279,264	278,554	275,940	305,341	315,920
Total liabilities	165,329	204,405	242,823	273,636	282,019	263,066	289,296	304,269
Total	(0,642)	(6,515)	(19,846)	5,628	(3,465)	12,874	16,045	11,651

Equity								
Total Liabilities + Equity	164,687	197,890	222,977	279,264	278,554	275,940	305,341	315,920

Ford Results of Operations - Income before taxes

	2007	2006	2005	2004	2003	2002	2001
Ford North America	(4,161)	(15,992)	(2,469)	684	196	2,534	(5,278)
Ford South America	1,172	661	399	140	129	(620)	(1,358)
Ford Europe	774	371	(437)	65	(1.620)	(711)	(306)
PAG	(1,872)	(2,322)	(1,634)	(850)	171	(858)	8
Ford Asia Pacific and Africa	2	(250)	42	(36)	(23)	(173)	(351)
Mazda	204	245	255	118	69	(15)	
Other automotive	(1,059)	247	(55)	(276)	(572)	(1,211)	(996)
Total	(4,970)	(17,040)	(3,899)	(155)	(1.908)	(1,054)	(8,857)

12.3 Volvo Cars



Volvo Cars - Consolidated Income Statement

	2017	2016	2015	2014	2013	2012	2011
Net Revenue	210,912	180,672	164,043	129,959	122,245	124,457	125,678
Cost of sales	164,254	143,282	128,238	107,955	101,934	104,600	104,911
Gross income	46,658	37,390	35,805	22,004	20,311	19,947	20,767
EBITDA	26,783	24,422	21,414	20,048	16,232	7,367	8,700
Operating Income/EBIT	14,061	11,014	6,620	2,252	1,919	0,018	2,017
Income before taxes/EBT	13,147	9,521	5,389	1,490	1,132	-0,915	1,210
NOPLAT	10,936	8,630	5,498	1,261	1,627	0,009	1,709
Net Income	10,225	7,460	4,476	0,834	0,960	-0,530	0,927
Tax rate	0,222	0,216	0,169	0,440	0,152	0,475	0,153

Note: All years ended on the 31st of December

Note: The data presented is in billion Swedish krona

Consolidated Balance Sheet Volvo

non current assets	2017	2016	2015	2014	2013	2012	2011
Intangible assets	29,157	25,368	22,834	20,098	17,271	15,666	14,84
Property, plant and equipment	55,245	45,468	37,428	29,275	25,653	25,564	25,546
Assets held under operating leases	2,577	2,483	2,172	1,942	1,89	3,542	3,032
Receivables on parent company	54	54	0	0	0	0	0
Investement on joint ventures and associates	5,48	2,498	701	1,541	1,159	550	340
Other long-term securities holdings	80	79	15	13	10	10	9
Deferred tax assets	4,558	4,112	3,841	2,535	2,165	1,701	1,636
Other non-current assets	3,704	2,013	1,326	11,647	1,077	0,734	815
Total non-current assets	100,855	82,075	68,317	74,101	52,498	47,857	46,218

current assets	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Inventories	30,665	21,198	20,306	17,724	14,969	11,812	13,219
Accounts receivables	10,832	8,717	8,805	7,674	5,618	4,735	3,808
Receivables on parent company	0	0	0,054	0	0	0	0
Current tax assets	0,463	0,293	0,307	0,355	0,97	0,87	0,42
Marketable securities	3,992	4,738	3,512	1,047	0,088	0	0
Cash and cash equivalents	35,402	38,635	25,623	17,002	17,533	9,607	14,634
VAT receivables	2,561	1,649	1,607	1,116	0,896	0,821	1,061
Prepaid expenses and accrued income	1,723	1,688	1,815	2,202	1,078	1,011	1,059
Other financial receivables	1,309	0,751	1,128	0,694	0,434	0,353	0,079
Restricted cash	0,41	0,428	0	0	0	0	0
Other receivables	1,952	1,241	0,843	1,32	0,373	0,402	0,341
Operating current assets	48,606	35,214	33,683	30,391	23,904	19,651	19,908
Total current assets	89,309	79,338	64	49,134	41,081	28,829	34,242
Total assets	190,164	161,413	132,317	123,235	93,529	76,686	80,46

Current liabilities	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Current provisions	19,084	15,371	12,456	10,484	8,274	7,182	8,208
Liabilities to credit institutions	7,426	2,813	6,246	1,56	1,976	0,31	0,564
Advance payments from costumers	0,657	0,652	0,534	0,379	0,33	0,187	0,266
Accounts payable	38,536	30,508	26,282	18,536	14,336	12,626	15,464
Current tax liabilities	1,38	0,626	0,446	0,627	0,658	0,365	0,63
Liabilities to parent company	0	0	0	1,651	0,746	0	0
Accrued expenses and prepaid income	10,971	9,055	7,309	8,377	5,624	5,306	4,367
Liabilities related to repurchase agreements	6,329	5,818	5,327	4,235	3,46	2,896	2,692
Personnal related liabilities	5,067	4,571	3,937	3,178	2,906	2,592	2,444
VAT liabilities	2,768	2,343	2,454	1,504	1,475	0,934	0,984
Derivative liabilities	0,571	2,063	0,379	1,176	0,308	0,249	0,326
Deferred leasing revenue	1,28	0,917	0,777	0,473	0,549	0,493	0,069
Other liabilities	2,316	1,387	1,152	1,291	0,933	0,69	0,729
Operating current liabilities	79,743	64,043	54,195	45,209	34,898	29,685	32,432
Total current liabilities	96,385	76,124	67,209	53,498	42,033	33,829	36,743

Non-current liabilities	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Provisions for post-emplyment benefits	6,525	6,348	4,701	6,186	3,641	2,948	2,846
Deferred tax liabilities	1,977	1,209	1,768	3,337	1,759	1,902	2,79
Other non-current provisions	7,6	6,995	5,909	5,857	5,465	5,911	5,748
Liabilities to credit institutions	6,622	13,91	15,168	17,345	12,593	7,057	4,95
Bonds	12,735	7,699	0	1,143	1,663	0	3,186
Other non-current liabilities	3,66	5,818	2,927	1,601	1,212	1,495	1,549
Total non-current liabilities	39,119	41,979	30,473	35,469	26,333	19,313	21,069
Total liabilities	135,504	118,103	97,682	88,967	67,366	53,142	57,812

Equity	**2017**	**2016**	**2015**	**2014**	**2013**	**2012**	**2011**
Equity attributable to owners of the parent company	48,729	39,536	32,55	32,804	24,601	23,544	22,36
Non-controlling interests	5,931	3,774	2,085	1,464	0,562	0	0,288
Total equity	54,66	43,31	34,635	34,268	26,163	23,544	22,648
Total liabilities and equity	190,164	161,413	132,317	123,235	93,529	76,686	80,46

note 1: all values presented are in billion Swedish Krona

note 2: each year ended on the 31st of December

Cash Flow Statement Volvo

	2017	2016	2015	2014	2013	2012	2011
Cash flow from movements in WC	2,816	7,656	9,494	1,959	315	(3607)	

Cash flow from operating activities	24,530	26,861	22,576	6,346	8,861	2,749	8,067
Cash flow from investing activities	(28,330)	(20,346)	(15,324)	(11,455)	(8,840)	(7,678)	(5,565)
Cash flow from financing activities	1,333	5,792	1,145	3,147	5,765	456	2,230
Cash flow for the period	(2,467)	12,307	25,623	14,165	15,372	9,607	14,634

Performance indicators

	2011	2012	2013	2014	2015	2016	2017
ROE	0.045214	-0.02039	0.03669304	0.024338	0.129233	0.172246	0.187065
ROIC	0.05071	0.00025	0.039211	0.021263	0.115018	0.162074	0.156858
ROC	0.05451	0.0003	0.0384	0.0232	0.0981	0.1274	0.1343
ROA	0.012727	-0.00626	0.010264	0.006768	0.033828	0.046216	0.053769
L/E	2.552632	2.257136	2.5748576	2.596212	2.820326	2.726922	2.479034
WC	-12,524	-10,034	-10,994	-14,818	-20,512	-28,829	-31,137
WC var		2,490	-0,960	-3,824	-5,694	-8,317	-2,308
IC	33,694	37,823	41,504	59,283	47,805	53,246	69,718
IC var		4,129	3,681	17,779	-11,478	5,441	16,472
D/A	0,1801	0,0961	0,1736	0,1623	0,1618	0,1513	0,1408
Total Debt	8,700	7,367	16,232	20,048	21,414	24,422	26,783
Net Debt	-5,934	-2,240	-1,301	3,046	-4,209	-14,213	-8,619

$$ROA = \frac{Net\ Income}{Total\ Assets}$$

$$ROC = \frac{NOPLAT}{Debt + Equity}$$

$$WC = Operating\ Current\ Assets - Operating\ Current\ Liabilities$$

$$IC = Non\ Current\ Assets + Operating\ Current\ Assets - Operating\ Current\ Liabilities$$

$$\begin{aligned} Operating\ Current\ Assets \\ &= Inventories + Accounts\ Receivables + Receivables\ on\ parent\ company \\ &+ VAT\ receivables + Prepaid\ expenses\ and\ accrued\ income \\ &+ Restricted\ Cash + Other\ Receivables \end{aligned}$$

$$Operating\ Current\ Liabilities = Current\ provisions + Advance\ payment\ from\ costumers\ Accounts\ payable + Current\ tax\ Liabilities + Current\ tax\ liabilities + Accured\ expenses\ and\ prepaid\ income + Personnal\ related\ liabilities + VAT\ liabilties + Defered\ leasing\ revenue$$

$$Total\ Debt = Short\ Term\ Borrowings + Long\ Term\ Borrowings$$

$$Net\ Debt = Total\ Debt - Cash\ and\ Equivalents$$

Sales

	2017	2016	2015	2014	2013	2012	2011	2010
Europe	50.0%	52.0%	54.0%	52.0%	52.9%	53.8%	56.2%	61.4%
United States	16.0%	15.0%	14.0%	12.0%	14.3%	16.2%	15.0%	14.3%
China	20.0%	17.0%	16.0%	17.0%	14.3%	10.0%	10.5%	8.2%
Other	14.0%	16.0%	16.0%	18.0%	18.5%	20.0%	18.3%	16.1%
Total	571,577	534,332	503,127	465,866	423,013	421,951	449,255	373,525

12.4 Other Appendixes

Good will	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Tata Motors	556.16	3,718.65	3,422.87	3,584.79	4,093.74	4,102.37	4,978.83	4,696.99	4,836.52	99,09	99,09
Geely	------	--------	6,222	6,222	6,222	6,222	6,222	2,584	6,916	16,079	-----

Note 1: Tata Motors data is in crores

Note 2: Each year for Tata Motors ended on the 31st of March

Note 3: Geely data is in thousand renminbi

Note 4: Each year for Geely ended on the 31st of December

	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009
EBITDA	1,940.70	2,337.18	2,864.76	3,558.91	3,414.77	2,678.41
EBIT	1,506.46	1,819.9	2,270.04	2,887.6	2,698.11	1,752.7
EBT	1,345.20	1,665.75	2,053.38	2,573.18	2,576.47	1,013.76
Net Income	1,292.34	1,651.90	1,528.88	1,913.46	2,028.92	1,001.26