

QUALITATIVE AND QUANTITATIVE ANALYSIS OF VOLKSWAGEN

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Volkswagen Group

Analyzing the company

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QUALITATIVE ANALYSIS

PART I: Volkswagen analyze

1. Introduction

“The Volkswagen Group is one of the leading automobile manufacturers worldwide and the largest automobile producer in Europe. Its twelve fascinating brands offer mobility in every vehicle class to meet the highest expectations, all around the world”.

Volkswagen History

Volkswagen was founded on 28 May 1937 as the *Gesellschaft zur Vorbereitung des Deutschen Volkswagens mbH* ("Society for the preparation of the German People's Car") by the *Nazi Deutsche Arbeitsfront* (German Labour Front).] The purpose of the company was to manufacture the Volkswagen car, originally referred to as the Porsche Type 60, then the Volkswagen Type 1, and commonly called the Volkswagen Beetle. This vehicle was designed by Ferdinand Porsche's consulting firm, and the company was backed by the support of Adolf Hitler.

During the Second World War the manufactory next to Fallersleben began to produce military cars and also flying bombs used by the Allied forces. Much of the workforce at the plant was slave labor, primarily from Eastern Europe.

After the war in Europe, in June 1945, the British Army Royal Electrical and Mechanical Engineers (REME) took control of factory, and restarted production. As part of the Industrial plans for Germany, large parts of German industry, including Volkswagen, were to be dismantled. Total German car production was set at a maximum of 10% of the 1936 car production numbers. The company survived by producing cars for the British Army, and in 1948, the British Government handed the company back over to the German state, where it was managed by former-Opel chief Heinrich Nordhoff.

As part of the Industrial plans for Germany, large parts of German industry, including Volkswagen, were to be dismantled. Total German car production was set at a maximum of 10% of the 1936 car production numbers. The company survived by producing cars for the British Army, and in 1948, the British Government handed the

company back over to the German state, where it was managed by former-Opel chief Heinrich Nordhoff.

Production of the Type 60 Volkswagen (re-designated Type 1) started slowly after the war due to the need to rebuild the plant and because of the lack of raw materials, but production grew rapidly in the 1950s and 1960s. The company began introducing new models based on the Type 1, all with the same basic air-cooled, rear-engine, rear-drive platform.

In 1960, upon the flotation of part of the German federal government's stake in the company on the German stock market, its name became Volkswagenwerk Aktiengesellschaft (usually abbreviated to Volkswagenwerk AG).

On 1 January 1965, Volkswagenwerk acquired Auto Union GmbH from its parent company Daimler-Benz. The new subsidiary went on to produce the first post-war Audi models, the Audi F103 series, shortly afterwards. Another German manufacturer, NSU Motorenwerke AG, was merged into Auto Union on 26 August 1969, creating a new company, Audi NSU Auto Union AG (later renamed AUDI AG in 1985).

Mission

The Group's goal is to offer attractive, safe and environmentally sound vehicles which can compete in an increasingly tough market and set world standards in their respective class. At the same time, the firm wants to meet the needs of its customers and the market, through excellence in care, quality, service and costs, with highly trained human resources.

Vision

Volkswagen vision is to continue being recognized as a defined company in the market, and become the leader in the sale and distribution spare parts, achieving the economic service excellence, development and growth that have always characterized the firm.

2. Volkswagen AG

The brand

During its history, Volkswagen has developed four logos:

First logo

The first logo was the result of an internal competition in Volkswagen offices which was won by Franz Reimspiess with his design of a "V" over a "W". Its angles were matched and complemented to form a very consistent sign with the Nazi symbolism of Germany. Because of that, the blades were simply a representation of the Nazi Swastika stylized to not break the balance of the circular design that simulates a gear.



German Labour Front

With the approach of the Second World War, the image had a minor change which consisted in removing the blades to give more emphasis to the gear corresponding to the image of the "Labour Front German" who was now in charge of the production of the car.



Post-war

After the Second World War and under the control of the British, Volkswagen renews its image according to the situation and the interests of its new manager. The change was smaller but very noticeable because it became the first instance of the Volkswagen's logo that we can associate with the brand as we know it today. The gears were removed and a container circle was set to raise the importance of the V and W by giving a solid concept of the firm. The W proportions were changed too.



Nowadays

Almost half a century later a new version of the logo was created by MetalDesign. It is composed by a 3D Design type: a blue background and a metallic volume edge that provides the base of the V and W merged with a circle around them.



Subgroups and last launches

Volkswagen activities may focus on the automobile, but the Volkswagen Group is far more than just a carmaker: a wide variety of mobility-related services round off its portfolio.

The Group comprises twelve brands from seven European countries: Volkswagen Passenger Cars, Audi, SEAT, ŠKODA, Bentley, Bugatti, Lamborghini, Porsche, Ducati, Volkswagen Commercial Vehicles, Scania and MAN.

Each brand has its own character and operates as an independent entity on the market. The product spectrum ranges from motorcycles to low-consumption small cars and luxury vehicles. In the commercial vehicle sector, the products include ranges from pick-ups, buses and heavy trucks.

In addition, the Volkswagen Group offers a wide range of financial services, including dealer and customer financing, leasing, banking and insurance activities, and fleet management.

1. Volkswagen Passenger Cars

Volkswagen Passenger Cars maintains facilities in 14 countries, where it produces vehicles for customers in 153 nations.

During the year 2011, the Group's core brand presented a range of innovative and enhanced vehicles. The most recognized was the up! Model because it offers the maximum space within the minimum dimension. This way Volkswagen enters



into the small car segment. On the other hand, they redesign the icon's car Beetle and improve the new Golf Cabriolet.

In 2012, Volkswagen Passenger Cars delivered 5.74 million vehicles, setting a new record.

2. Audi

Audi is one of the world's leading manufacturers of premium cars and has been part of the Volkswagen Group since 1965. Today, the company makes vehicles ranging from compact to top-of-the range models.

In 2011 introduced the Audi Q3, which combines the dynamics of a compact car with the spaciousness and versatility of an SUV. Furthermore, they created the next generation of the popular and premium segment series Audi A6. They also launched the Audi Q5 in a full hybrid version and the super sports cars R8 GT Coupé, R8 GT Spyder, the A8 L W12 Quattro luxury saloon and the sporty RS 3 Sportback.



In 2012, Audi delivered more than 1.455 million cars, setting a new record.

4. SEAT

SEAT looks back on a history spanning over 60 years. A member of the Volkswagen Group since 1986, the Spanish carmaker today designs, develops and manufactures cars and components at its production sites in Barcelona, Martorell and Prat.



During 2011 Seat brand expanded its model range to include a small car: the SEAT Mii. In 2012, SEAT delivered more than 321,000 vehicles to its customers.

3. ŠKODA



Škoda has been a brand member of the Volkswagen family for 20 years.

During 2011 Škoda presented the Citigo and the Rapid, two vehicles that extend the brand's model range. With the launch of the Citigo, Škoda entered into the small car segment offering a fresh exterior design and a smart interior solution.

5. Bentley

Bentley Motors was founded by W.O. Bentley in 1919 and has been part of the Volkswagen Group since 1998. At its headquarters in Crewe, the English carmaker manufactures luxury cars that combine cutting-edge automotive technology with the ultimate in craftsmanship.



The British luxury brand Bentley presented in 2011 the new generation of the Continental GT Cabriolet. Their main objective was to convert it into a more elegance and luxury car of the model range.

6. Bugatti

For more than 100 years, Bugatti has been synonymous with aesthetic and technologically exceptional cars. In 1998, the legendary brand became part of the Volkswagen Group. Since production started in 2005, the Bugatti Veyron 16.4 and its siblings Grand Sport, Super Sport and Vitesse are manufactured in the company's facility in Molsheim, Alsace.

Bugatti's key values "Art, Form, Technique" come to life in its products. Currently, the Bugatti Veyron 16.4 Grand Sport Vitesse with a total of 882 kW (1,200 hp) is the fastest open top car ever built in series production.



7. Lamborghini

The Italian sports car manufacturer Lamborghini has been part of the Volkswagen Group since 1998. Today, some 950 employees work at its headquarters in Sant'Agata Bolognese making super sports cars that are coveted the world over. In 2012, Lamborghini delivered more than 2,000 vehicles.



8. Porsche



Porsche is one of the best known and strongest brands in the automotive world and became a member of the Volkswagen Group in 2012. Porsche maintains own production sites in Stuttgart and Leipzig. In 2012, the company

delivered 141,000 cars, setting a new record. Current models are the Porsche 911, Cayenne, Panamera, Boxster and Cayman. In addition to Western Europe, the company's key sales markets are the USA and China.

9. Ducati

The Italian motorcycle brand Ducati was founded in 1926 and has been part of the Volkswagen Group since 2012. The company's reputation is based on its legendary success on the racetrack. It produces top-of-the-range motorcycles in Bologna. In 2012, Ducati produced more than 41,000 motorcycles.



10. Volkswagen Commercial

Over 50 years ago, the foundation was laid for the Volkswagen plant in Hanover. The first transporter rolled off the production line here on 8 March 1956.

During 2011 Volkswagen Commercial launched the new Multivan BlueMotion, making it really attractive because of its low consumption of fuel (6.4 liters of diesel/100 km) in this class of vehicle. It also produced the new Amarok SingleCab, in which the loading space is larger.



11. Scania

Scania was one of the first companies in the world to make commercial vehicles and has been a member of the Volkswagen Group since 2008. This long-standing Swedish brand manufactures heavy trucks, buses and engines at nine production sites in six countries.



In 2011 Scania presented an innovation in the field of truck engines: with the new Euro 6 model, they achieved to cut the emissions with the same fuel efficiency as the previous generation of engines. In 2012, Scania delivered and took care of over 64,000 commercial vehicles to customers in more than 100 markets.

12. MAN

The MAN Group is one of Europe's leading industrial players in transport-related engineering. As a supplier of trucks, buses, diesel engines, turbo machinery, and special gear units, MAN employs approximately 52,500 people worldwide. Its divisions hold leading positions in their respective markets.

MAN has been in business for over 250 years. In 2011, Volkswagen increased its equity interest in MAN SE the 55.09% of the voting rights and 53.71% of the share capital and therefore consolidated another successful brand in the Group. MAN SE is a company and a brand that offers trucks and buses power engineering And financial services business.



***Relationship Volkswagen-Porsche**



Volkswagen and Porsche have been always stretch related. Porsche was founded in 1931 by Ferdinand Porsche who was the designer of the first car of Volkswagen, the V1 model or commonly known as “Beetle”. Since the beginning and until the present Volkswagen and Porsche cars have been shearing lots of components of their principal cars. For example the first Porsche model (the Porsche 64 launched in 1938) had parts of the Volkswagen Beetle. Nowadays the Porsche Cayenne, introduced in the market in 2002, shares its whole chassis with Tuareg (produced by Volkswagen) and with Audi Q7.

The actual relationship between Volkswagen and Porsche was caused by a power struggle within the Porsche family. Wolfgang Porsche, one of the grandchildren of the founder Ferdinand Porsche, began a battle against his cousin Ferdinand Piëch in order to get the control of both companies. That’s the reason why in 2008 Wendelin Wiedeking, who at that moment was the president of Porsche, wanted to get the 75% of Volkswagen (a conglomerate of several brands fifteen times bigger than Porsche). On July 23, 2009, Wendelin Wiedeking was forced to resign. He had achieved the purpose of Porsche as reaching a 51% of Volkswagen. However, it had to indebt Porsche coast at 10,000 million euros thus jeopardize their accounting and economic viability.

On the other hand, Ferdinand Piëch was a member of the board of Volkswagen and opposed the plans of his cousin. Piëch used its powerful allies the State of Lower Saxony, which owns 20% of the shares of Volkswagen, and the chairman of the Works Council of Volkswagen, defender of the 370,000 jobs of Volkswagen.

After his resignation both families signed a truce. In 2009 Volkswagen bought the 49% of shares of Porsche for less than 4000 million dollars. This rate of shares increased in the last years in order to reach a partial integration of Porsche into the Volkswagen Group.

3. CEO

Management Board

The Board of Management of Volkswagen AG comprises nine members. Each Board Member is responsible for one or more functions within the Volkswagen Group. Prof. Dr. Martin Winterkorn is the Chairman.

The work of the Board of Management of Volkswagen AG is supported by the boards of the brands and regions as well as by the other group business units and holdings.

Chairman of the Board of Management of Volkswagen AG



Prof. Dr. Dr. h.c. mult. Martin Winterkorn
Member of the Board of Management of Volkswagen AG,
with responsibility for 'Group Research and Development',
Chairman of the Supervisory Board of AUDI AG,
Chairman of the Board of Management of Porsche Automobil Holding SE

Members of the Board of Management of Volkswagen AG



Dr. rer. pol. h. c. Francisco Javier Garcia Sanz
Functional Responsibility
'Procurement'



Prof. Dr. rer. pol. Dr.-Ing. E. h. Jochem Heizmann
Functional Responsibility
'China'



Christian Klingler
Functional Responsibility
'Sales and Marketing'
Member of the Board of Management of the Volkswagen brand
Functional Responsibility
'Sales, Marketing and After Sales'



Dr.-Ing. E. h. Michael Macht
Functional Responsibility
'Group Production'



Prof. Dr. rer. pol. Horst Neumann
Functional Responsibility
'Human Resources and Organization'



Dr. h. c. Leif Östling
Functional Responsibility
'Group Commercial Vehicles'



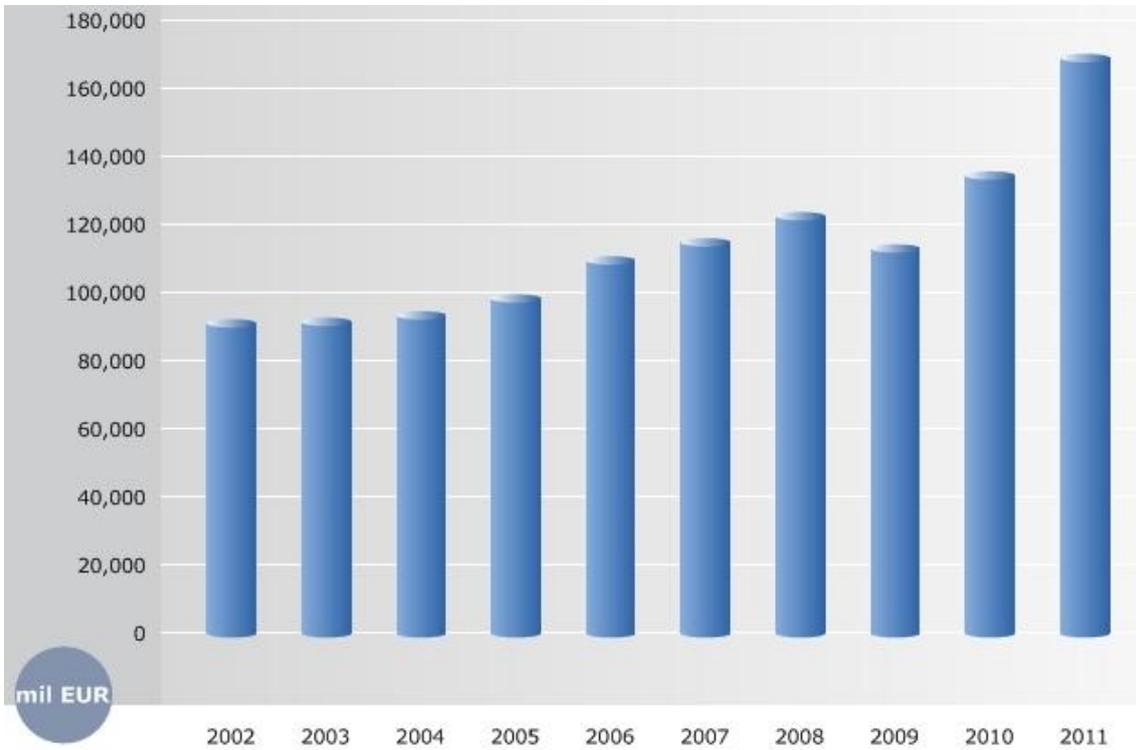
Hans Dieter Pötsch
Functional Responsibility
'Finance and Controlling',
Chief Financial Officer of Porsche Automobil Holding SE



Rupert Stadler
Chairman of the Board of Management of Audi AG

4. Volkswagen evolution

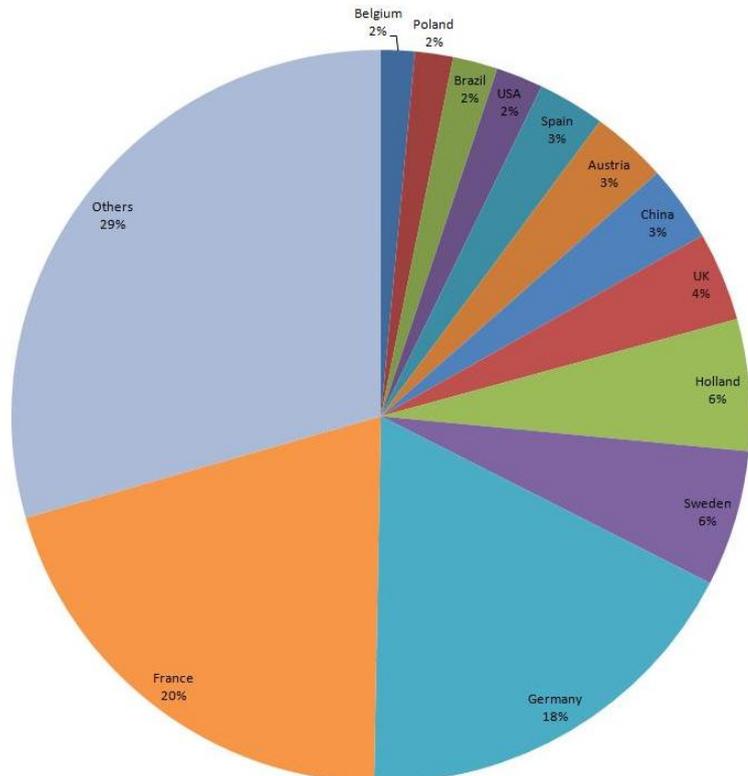
Sales and revenues evolution:



As it is shown in the previous graph, there is a positive tendency in general terms in sales and revenues.

Subsidiaries

As we can figure out, we find more than a half of the subsidiaries in Europe, and is interesting that only the 2% is located in the USA.



5. Shareholders

Shareholder name	Country	Type	Direct (%)	Total (%)	Source ident.
<u>PORSCHE AUTOMOBIL HOLDING SE</u>	DE	C	50.73	n.d.	SE
<u>LAND NIEDERSACHSEN</u>	DE	C	20.00	n.d.	SE
<u>QATAR HOLDING LLC</u>	QA	E	17.00	n.d.	RS
<u>QATAR INVESTMENT AUTHORITY</u>	QA	S	-	17.00	SE
<u>QATAR INVESTMENT AUTHORITY via its funds</u>	QA	S	-	10.54	FS
PUBLIC	-	Z	9.90	n.d.	SE
<u>PORSCHE GESELLSCHAFT M.B.H.</u>	AT	C	2.37	n.d.	SE
<u>GOVERNMENT OF NORWAY via its funds</u>	NO	S	-	1.03	FS
<u>AFA SJUKFÖRSÄKRINGSAKTIEBOLAG via its funds</u>	SE	A	-	0.92	FS
<u>STICHTING PENSIOENFONDS ABP via its funds</u>	NL	A	-	0.24	FS
<u>SUZUKI MOTOR CORPORATION</u>	JP	C	-	n.d.	OF

The three most important shareholders are:

Porsche, as it has been explained previously in the relationship, owns the 50.73%.

The Government of *Land Niedersachsen* has the 20%.

Qatar holding LLC has the 17%.

6. Stakeholders

Strategic dialogue with stakeholders

At Volkswagen, working together to form national and international business networks is a fundamental part of the on-going dialogue held with key corporate groups and stakeholders. Their role is to contribute its technical and social expertise to this dialogue, and support countless projects.

Community dialogue

The "community dialogue" is a stakeholder forum set up to ensure that interaction and information sharing between the local community and Volkswagen is characterised by a sense of trust.

Their objective is to create transparency and develop mutual understanding and trust. This is often a good way of defusing any potential conflicts of interest in a level-headed manner from the outset.

Main stakeholders of Volkswagen

The main stakeholders that we have analysed are the followings:

Clients

The range of models that Volkswagen Group produces is very wide. This way, the clients that the company has are really numerous and different. We can find private clients with a varied purchasing power and companies dedicated to distinct sectors; some of them use their cars in the production process (transport of raw materials and passenger) and others use them as a mean of transport.

Suppliers

Ficosa:

Ficosa is the official supplier and technique shareholder of the majority of the worldwide car manufactories. Its products are Rear-view Systems, Vehicle Communication Systems, Advanced Driver Assistance Systems, Electromobility Systems, Gearshift Systems, Parking Brake Systems, Drive Cables, Systems for Fluids, Air Intake Systems, Industrial Vehicle Components and Systems for Doors and Seats.

Bosch:

For nearly 125 years, Bosch has ensured the continued viability of individual mobility: clean and economical, safe and comfortable. We are a reliable and innovative supplier and a trusted partner to the global automotive industry.

Bosch automotive technology is divided in: Gasoline and Diesel Systems, Chassis Systems Control, Electrical Drivers, Starter Motors and Generators, Car Multimedia and Automotive Electronics.

Siemens:

As Partners of the Automotive Sector, Siemens has developed a set of concepts and integrated solutions perfectly aligned for the entire production chain, adding value from presses to final assembly.

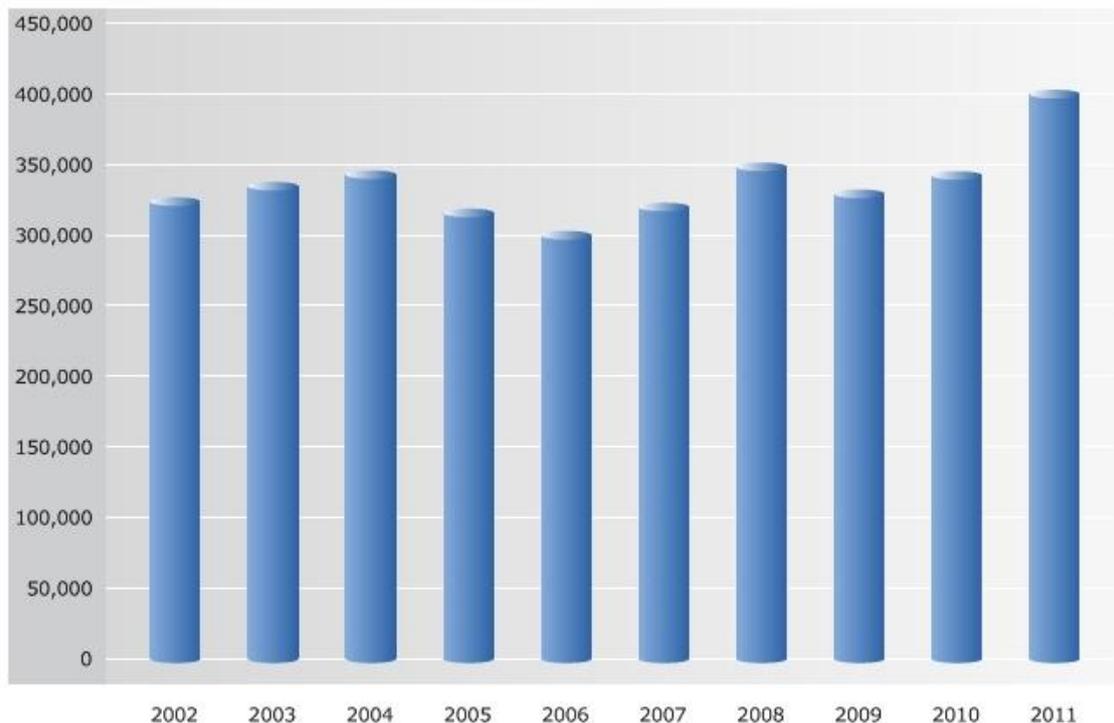
Michelin:

One of the main producers of pneumatics around the world is Michelin. Michelin holds forefront positions in every tyre market as well as in travel-related services. It achieves that by leveraging its technological leadership, capacity for innovation, high-quality products and services.

Nokia:

As an important company in the mobile sector, Nokia provides to Volkswagen products such as GPS Navigation and Speakers for the car.

Employees



Evolution of Volkswagen employees:

Nowadays, Volkswagen owns 550,000 employees. Their success is based on the qualification and personal commitment.

A company will only be able to survive in the face of international competition if it has a top team, characterised by a high level of competence, dedication, inventiveness and fitness.

Competence is created from good basic training and a life-long willingness to learn. Dedication ideally means entrepreneurial thinking and actions, not only by management staff. Active contribution of ideas and participation are expected of all members of staff.

Competitors

Volkswagen leads the Continent as Europe's carmaker, but has some competitors such as:

BMW

The BMW Group is a German automobile, motorcycle and engine manufacturing company founded in 1917. It also owns and produces the Mini marque, and is the parent company of Rolls-Royce Motor Cars. BMW produces motorcycles under BMW Motorrad. In 2010, the BMW group produced 1,481,253 automobiles and 112,271 motorcycles across all its brands. BMW is part of the "German Big 3" luxury automakers, along with Audi and Mercedes-Benz, which are the three best-selling luxury automakers in the world.

PSA: Peugeot and Citroën

With its two globally renowned brands, Peugeot and Citroën, PSA Peugeot Citroën sold more than 2.9 million vehicles worldwide in 2012, of which 38% were outside Europe. As Europe's second largest carmaker, it generated sales and revenue of 55.4 billion €.

PSA Peugeot Citroën has sales operations in 160 countries, and 202,100 employees worldwide. In 2011, the Group devoted more than 2.3 billion € to R&D through its research centres in France, Latin America and China, with a special focus on new energies.

General Motors

General Motors (GM), the world's largest auto manufacturer, makes cars and trucks, with brands such as Buick, Cadillac, Chevrolet, and GMC. GM also builds cars through its GM Daewoo, Opel, Vauxhall, and Holden units. General Motors Financial Company primarily conducts financing activities. Throughout its financial woes, GM has received

billions of dollars in loans from the Canadian and US governments, negotiated concessions with labour unions, and jettisoned brands. The auto giant went through a six-week period of bankruptcy protection in 2009; it issued an initial public offering and returned to the stock market in 2010.

Daimler AG: Mercedes-Benz

Daimler's passenger car business, Mercedes-Benz, includes compact, hybrid, and electric models, including its smart and B-Class F-Cell brands. Its Daimler Trucks North America unit manufactures heavy-trucks in the US, and with its Fuso, Mercedes-Benz, and Sprinter brands, Daimler is the world's leading maker of commercial vehicles. The Atego BlueTecHybrid truck was launched in 2011. The company holds a 22% stake in aerospace and defence consortium EADS, and 60% in Formula One team Mercedes-Benz Grand Prix. Daimler sells its vehicles in 40 countries, but Europe represents 40% of its sales.

Toyota

Toyota Motor Corporation is a Japanese multinational automaker. In 2010, Toyota employed 300,734 people worldwide, and was the third-largest automobile manufacturer in 2011 by production behind General Motors and Volkswagen Group. Toyota is the eleventh-largest company in the world by revenue. In July 2012, the company reported it had manufactured its 200 millionth vehicle.

Toyota Motor Corporation group companies are Toyota (including the Scion brand), Lexus, Daihatsu, and Hino Motors, along with several "nonautomotive" companies.

7. Volkswagen CSR

Volkswagen group has always taken into account its social responsibility into its culture.

For example, in the 1970s a corporate foundation in Brazil which promoted education and health of the regions was located in one of Volkswagen industries. A few years later, the Community Trust was founded in South Africa with similar goals. These two exemplars of Volkswagen Group projects typify the philosophy and fundamental beliefs of its social commitment. There are two core elements at work here:

1) Continuity, not superficial following of fashion.

2) Working to create sustainable structural developments at their sites as sources of economic and social stimulus and opportunities for stakeholders.

Long before CSR evolved into a strategic aspect of corporate policy, Volkswagen was associated with the goal of marrying entrepreneurial self-interest with philanthropic motives.

It is this corporate culture, which allows the Volkswagen Group to integrate traditional entrepreneurial business values with a modern understanding of responsibility and sustainability.

This framework reflects the challenges of the 21st century, in particular those of resource conservation and climate protection as well as intra- and inter-generational fair play.

In conclusion the diverse CSR projects initiated by the Volkswagen Group on a global scale must all satisfy these keys:

- Are in accordance with the Group's principles while addressing specific local or regional issues.
- Express the diversity within the Group as well as the social environment within which the projects take place.
- Originate from an intense stakeholder dialogue with local players, those actively involved in project realisation.
- Project management takes place locally and is the responsibility of the units active at that location.

8. Location

The Group operates 100 production plants in 19 European countries and a further eight countries in the Americas, Asia and Africa. Every weekday, the company produce about 37,700 vehicles, and work in vehicle-related services or other fields of business. The Volkswagen Group sells its vehicles in 153 countries.

9. Emerging markets

Volkswagen AG, Europe's largest carmaker, is investing 550 million euros in cars manufactured in Russia and China to prepare for further growth in the countries' vehicle markets.

Volkswagen is spending 250 million euros at its auto plant in Kaluga, Russia, for an assembly line that will build 600 engines a day by 2015. Moreover, Volkswagen plans 300 million euros in the transmission plant of Tianjin, China.

Volkswagen, which has a strategy to overtake General Motors and Toyota Motor to become the world's largest carmaker by 2018, is shifting focus away from Western Europe, where industry wide auto sales are forecast to shrink this year.

"Russia is the primary strategic growth market in Europe for the Volkswagen group" and by 2018, "we intend to sell a half a million vehicles here annually," Chief Executive Officer Martin Winterkorn said at the press conference in advance of the Moscow International Motor Show opening tomorrow.

FINANCIAL ANALYSIS

EUROSTOXX50 – Volkswagen evolution

Comparing the evolution during the last four years of the Eurostoxx50 market and the Volkswagen Group's stocks we observe that Volkswagen has increased its value on the stockmarket 31 over a mean of 119,1. Whereas the Eurostoxx50 has increased 263,42 over its own mean (2.602,90). So in conclusion the growth of has affected in a positive way the evolution of the Eurostoxx50.

1. Risk analysis
2. Profitability analysis

PART II: Risk analysis

Risk is the uncertainty associated with any investment. This means that risk is the chance that an investment's actual return will be different than expected. In other words, risk is the possibility that shareholders will lose money when they invest in a company that has debt, if the company's cash flow proves inadequate to meet its financial obligations. So a fundamental idea in finance is the relationship between risk and return. The greater the amount of risk that an investor is willing to take on, the greater the potential return. The reason for this is that investors need to be compensated for taking on additional risk

1. Short term risk

Solvency Ratios

	2012	2011	2010	2009
C. Assets	177804	167983	132787	118395
C. Liabilities	86864	81498	63310	59068
Working Capital	90940	86485	69477	59327
Solvency Ratio	2,05	2,06	2,10	2,00

The Working Capital of any company measures the capability of covering the short term debts with the current assets. As we can see on the data, Volkswagen Group has financial capacity to meet its short-term debt ($WC > 0$).

Another way to calculate this relationship is obtaining the Solvency Ratio. In that case, all results are higher than 1. Therefore as we have predicted with the Working Capital, our company is solvent in the short term.

Moreover, this capacity has increased over the years.

	2012	2011	2010	2009
C. Assets	177804	167983	132787	118395
Stocks	28674	27551	17631	14124
C. Liabilities	86864	81498	63310	59068
	1,72	1,72	1,82	1,77

In this second ratio we analyze the capacity of the company to cover the short term debt with the current assets without taking into account the inventories (stocks). As we can see, the results are higher than 1, so Volkswagen Group is able to cover its immediately debts.

	2012	2011	2010	2009
Cash	18488	18291	18670	20539
C. Liabilities	86864	81498	63310	59068
Acid test	0,21	0,22	0,29	0,35

With the acid test we analyze the capability that the company has to cover its current liabilities with its cash. As we can see Volkswagen can cover only a 20% of its current liabilities. That means this company has not much cash.

Liquidity Ratios

	2012	2011	2010	2009
Receivables	10099	10477	6883	5692
Sales	192676	159337	126875	105187
Avg period of cash	19,13	24,00	19,80	19,75

The average period of cash is the number of days that the company takes to convert its sales in cash. Volkswagen shows that it has an average of 20,67 days in get its sales in cash.

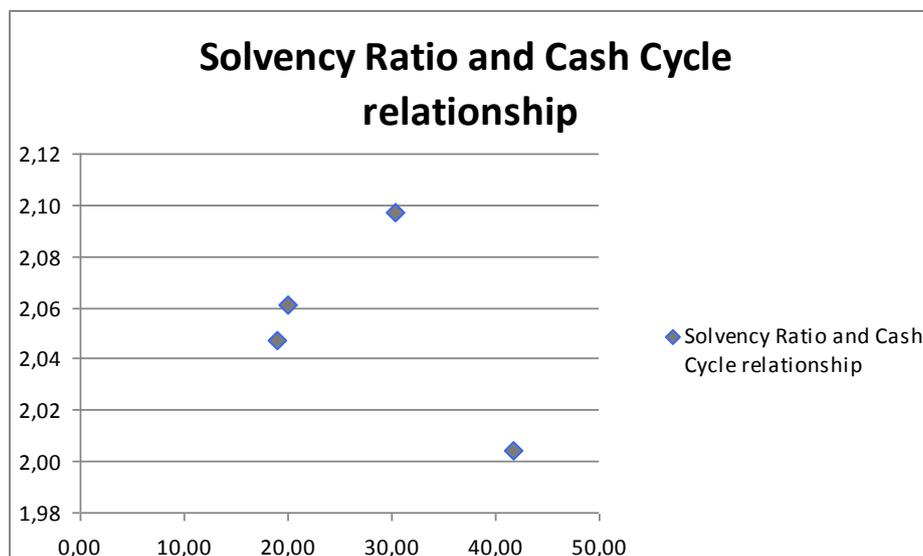
	2012	2011	2010	2009
Payables	6044351	6208228	5464871	5404599
Cost of goods sold	157518	131371	105431	91608
Initial stock	27551	17631	14124	17816
Final stock	28674	27551	17631	14124
Purchases	158641	141291	108938	87916
Avg period of payments	38,10	43,94	50,16	61,47

* Purchases = Cost of goods sold-Initial stock + Final stock

The average period of payment is the number of days that the company takes to pay its bills to the suppliers. Volkswagen has been reducing these days from 61,47 to 38,10, which means that the company is committed and takes care of its suppliers.

	2012	2011	2010	2009
Cash Cycle	18,97	19,94	30,36	41,72

The Cash Cycle is the difference between the average period of payment and the average period of cash. In other words, is the time that the company needs external financial resources. As we can see, since 2009 Volkswagen has reduced this period in a half.

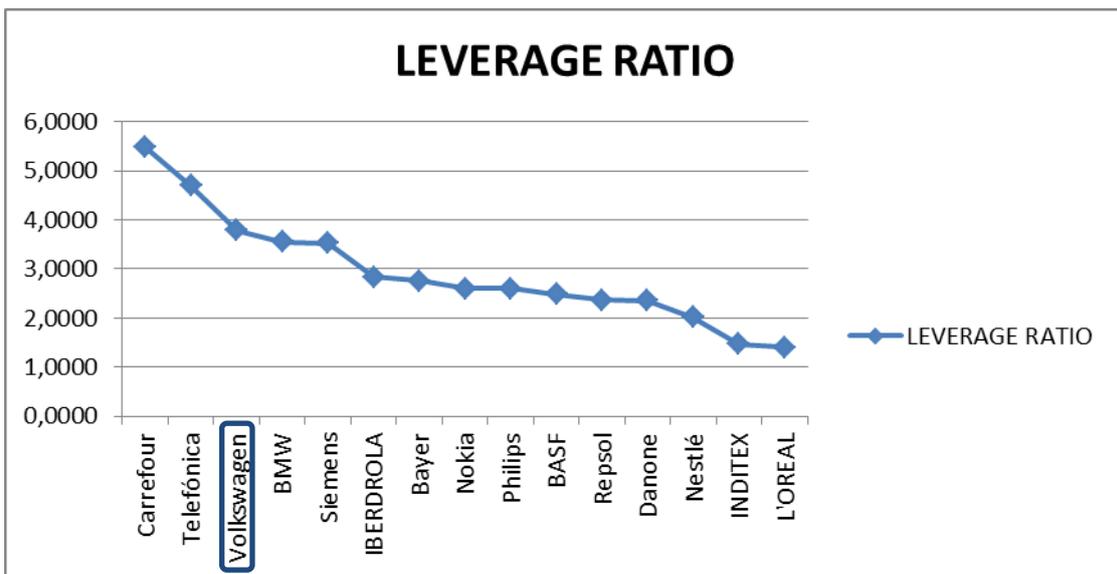


Volkswagen is situated in a positive relationship between the Solvency Ratio and the Cash Cycle. That means that is a non-risk company because is solvent and has liquidity.

2. Long term risk

	2012	2011	2010	2009
Total assets	309644	253769	199393	177178
Equity	81825	63354	48712	37430
Leverage Ratio	3,78	4,01	4,09	4,73

The Leverage Ratio measures the capability that the company has to cover its equity with the total assets. In the case of Volkswagen is lower than a 70% (around a 4%), which means that the company doesn't have any risk in the long term.



Observing these companies from the Eurostoxx 50, Volkswagen is the third one with the highest leverage ratio. That is because the company is very solvent in the long term.

3. Volkswagen Risk Report

Volkswagen's sustainable success depends on how promptly they identify the risks arising from their operating activities and how forward-looking they are in managing them. The Volkswagen Group's internal control system and a comprehensive risk management system help the company deal with these risks in a responsible manner.

Specific risks

Macroeconomic risk

Volkswagen Group believes that the biggest risks to continued global economic expansion consist primarily of unanswered questions surrounding the resolution of the European and US debt crises and the future institutional structures in the Eurozone. Imbalances in foreign trade and volatile financial markets are also contributing to a high level of uncertainty. Added to this are geopolitical risks resulting from tensions in the Middle East and North Africa, which could impact negatively on the trend in energy and commodity prices.

Due to the persistent structural challenges in the industrialized nations, a climate of uncertainty remains in evidence in the international markets. This is indicated by a lack of investment by businesses and hesitant lending on the part of commercial banks. This has a considerable impact on the Volkswagen Group's risk position.

Sector-specific risk

The growth markets of Asia, South America, and Central and Eastern Europe are particularly important in terms of the global trend in demand for passenger cars. Although these markets harbour the greatest potential, the overall environment in some of the countries in these regions makes it difficult to increase unit sales figures there. Some have high customs barriers or minimum local content requirements for domestic production, for example. Furthermore, the global economic slowdown could impact negatively on consumer confidence in some of these countries

Price pressure in established automotive markets is a particular challenge for the Volkswagen Group as a supplier of volume and premium models due to its high level of market coverage. If global economic conditions deteriorate, competitive pressures are

likely to increase further. Manufacturers will respond by offering price discounts in order to meet their sales targets, thereby putting the entire sector under pressure, particularly in Western Europe, the USA and China.

Research and development risk

They counter the risk that it may not be possible to develop products or modules within the specified timeframe, to the required quality standards, or in line with cost specifications. Because of that, they regularly compare this progress with the original targets; in the event of deviations, they introduce appropriate counter-measures in good time. Volkswagen end-to-end project organization supports effective cooperation among all areas involved in the process, ensuring that specific requirements are incorporated into the development process as early as possible and that their implementation is planned in good time.

Procurement risk

The global rise in automotive industry unit sales is also reflected in an increased need among suppliers for investment financing and working capital. In the Eurozone, however, the euro crisis is impeding provision of the necessary financing. This may lead to declines in individual market segments and an adverse effect on suppliers' financial position. In the second half of 2012, investors became more reluctant to invest in the automotive supply sector due to the drop in demand in Europe and the difficult situation facing competitors.

Volkswagen procurement risk management system is well prepared for this situation. They continuously monitor changes at the suppliers' end and, if there are any negative developments, use a suite of different measures intended to help reduce risks and ensure supplies. This enables both to largely avoid supply risks due to supplier defaults and minimize the financial effects of crises up to and including insolvencies in the supply chain.

Production risk

In the second half of the reporting period, most European markets experienced a sharp fall in unit sales that had a noticeable impact on the entire European automotive industry. At Volkswagen largest competitors, the drop in unit sales in core segments

led to a decline in plant and workforce capacity utilization, which in extreme cases even resulted in factory closures. For several reasons, the Volkswagen Group was able to address this risk successfully and thus keep capacity utilization at its European locations largely unchanged:

- Firstly, the Volkswagen Group benefits from its broad product range, so that declines in individual vehicle segments can be offset elsewhere.
- Secondly, their presence in almost all the world's markets also helps them to absorb fluctuations in demand in one region with their global and flexible production network.

Nevertheless Volkswagen is being affected by the deviation of the demand with respect to the original plan between different vehicle equipment features in the short term, which can cause bottlenecks. That's why they have various tools that enable such changes in demand as early as possible, introduce appropriate measures to adjust capacity and thus minimize the supply risk during peaks in demand for individual vehicle features.

Special risks may arise during large projects. These result in particular from contracting deficiencies, miscosting, post-contracting changes in economic and technical conditions, and poor performance on the part of subcontractors. We counter these risks by performing appropriate project controls throughout all projects.

Risks arising from changes in demand

Consumer demand not only depends on real factors such as disposable income; it is also shaped by psychological factors that are impossible to plan for.

Increased fuel and energy prices could lead to unexpected buyer reluctance, which could be further exacerbated by media reports. This is particularly the case in saturated automotive markets such as Western Europe, where demand could drop as a result of owners holding on to their vehicles for longer.

In 2012, the effect of unplannable psychological demand factors was exacerbated by the euro crisis and its impact on the global economy and the entire automotive industry. Volkswagen Group is countering this buyer reluctance with our attractive range of models and in-depth customer orientation.

In addition to buyer reluctance as a result of the crisis, a combination of vehicle taxes based on CO2 emissions – like those already structured in some European countries – and high oil and energy prices is causing a shift in demand towards smaller segments and engines in individual markets. Volkswagen Ag counter the risk that such a shift will negatively impact the company earnings by constantly developing new, fuel-efficient vehicles and alternative drive technologies on the basis of our drivetrain and fuel strategy. In the rapidly expanding markets of Asia and Eastern Europe, risks arise due to government intervention in the form of tax increases, for example, which could reduce private consumption.

Quality risk

Sustained high demand in the Volkswagen Group's key markets poses particular challenges for quality assurance. Quality assurance is of fundamental importance especially in the growing automotive markets of Brazil, Russia, India and China, for which dedicated vehicles are developed and where local manufacturing operations and suppliers have been established. Volkswagen Group analyse the conditions specific to each market and thus ensure growth in these regions.

Volkswagen Group's need for high-grade supplier components of impeccable quality is rising due to growing production volumes, increasing complexity and the use of the Group's toolkit system. To ensure production and hence meet customer expectations, it is extremely important that their own plants and their suppliers deliver on time. The introduction of an internally-tested risk management system at suppliers is an important step towards ensuring long-term quality and supply capability early on in the supply chain. Quality assurance thus helps to fulfil customer expectations and consequently boost our Company's reputation, sales figures and earnings.

Personnel risk

The individual skills and technical expertise of their employees are a major factor contributing to the Volkswagen Group's success. Their aim of becoming the top employer in the automotive industry improves Volkswagen's chances of recruiting and retaining the most talented employees.

By continuously expanding their recruitment tools and boosting training programs, particularly at their international locations, they are able to adequately address the challenges posed by growth on the human resources side.

Their program is based on the tandem principle, i.e. knowledge and expertise are transferred from person to person. They counter the risk that knowledge will be lost as a result of employee fluctuation and retirement with intensive training. They have also expanded their base of senior experts in the Group to ensure that the valuable knowledge of specialists retiring from Volkswagen is transferred to other employees.

IT risk

At Volkswagen, a global company geared towards further growth, the information technology (IT) used in all divisions Group-wide is assuming an increasingly important role. IT risks include unauthorized access to sensitive electronic corporate data as well as limited systems availability as a consequence of downtime or natural disasters. Volkswagen Group addresses the risk of unauthorized access to corporate data by using firewall and intrusion prevention systems and a dual authentication procedure. They achieve additional protection by restricting the allocation of access rights to systems and information and by keeping backup copies of critical data resources. For this, they use technical resources that have been tried and tested in the market, adhering to standards applicable throughout the Company. By implementing redundant IT infrastructures, they protect themselves against risks that occur in the event of a systems failure or natural disaster.

4. Strategies for hedging financial risks

In the course of their business activities, financial risks may arise from changes in interest rates, exchange rates, raw materials prices, or share and fund prices. Management of financial and liquidity risks, is the responsibility of the central Group Treasury department, which minimizes these risks using nonderivative and derivative financial instruments. The Board of Management is informed of the current risk situation at regular intervals.

They hedge interest rate risk, where appropriate in combination with currency risk, and risks arising from fluctuations in the value of financial instruments by means of interest rate swaps, cross-currency swaps and other interest rate contracts with matching

amounts and maturity dates. This also applies to financing arrangements within the Volkswagen Group.

Foreign currency risk is reduced in particular through natural hedging, i.e. by flexibly adapting their production capacity at their locations around the world, establishing new production facilities in the most important currency regions and also procuring a large percentage of components locally, currently for instance in India, Russia, the USA, China and Mexico. They hedge the residual foreign currency risk using hedging instruments. These include currency forwards, currency options and cross-currency swaps. They use these transactions to limit the currency risk associated with forecasted cash flows from operating activities and intragroup financing in currencies other than the respective functional currency. The currency forwards and currency options can have a term of up to six years. They use them to hedge their principal foreign currency risks associated with forecasted cash flows, mostly against the euro and primarily in US dollars, sterling, Chinese renminbi, Russian rubles, Swedish kronor, Mexican pesos, Australian dollars and Korean won.

In purchasing raw materials, risks arise relating to the availability of raw materials and price trends. They limit these risks mainly by entering into forward transactions and swaps. They have used appropriate contracts to hedge some of their requirements for commodities such as aluminum, copper, lead, platinum, rhodium, palladium and coal over a period of up to seven years. Similar transactions have been entered into for the purpose of supplementing and improving allocations of CO2 emission certificates.

They ensure that the Company remains solvent at all times by holding sufficient liquidity reserves, through confirmed credit lines and through their tried-and-tested money market and capital market programs.

Credit lines from banks are generally only ever used within the Group to cover short-term working capital requirements. Projects are financed by, among other things, loans provided at favorable interest rates by development banks such as the European Investment Bank (EIB), the International Finance Corporation (IFC) and the European Bank for Reconstruction and Development (EBRD), or by national development banks such as Kreditanstalt für Wiederaufbau (KfW). This extensive range of options means that the liquidity risk to the Volkswagen Group is extremely low.

Risks arising from financial instruments

By diversifying when they invest excess liquidity and by entering into financial instruments for hedging purposes, they ensure that the Volkswagen Group remains solvent at all times, even in the event of a default by individual counterparties.

Liquidity risks

A downgrade of the Company's rating could adversely affect the terms attached to the Volkswagen Group's borrowings. In the reporting period, the contribution in full of Porsche AG to the Volkswagen Group as of August 1, 2012, the increase in the equity interest in MAN SE and the acquisition of sports motorcycle manufacturer Ducati Motor Holding resulted in a large outflow of liquidity. However, the strong performance by the Company's operating business minimized the impact of these transactions on its liquidity position, thus maintaining Volkswagen's financial stability and flexibility overall: Standard & Poor's (S&P) affirmed the Group's existing rating and raised its outlook to "positive". Moody's Investor Service assigned the rating a positive outlook in the previous year. Information on the ratings of Volkswagen AG, Volkswagen Financial Services AG and Volkswagen Bank GmbH can be found on in chapter Ratings.

Residual value risk in the financial services business

In the financial services business, they agree to buy back selected vehicles at a residual value that is fixed at inception of the contract. Residual values are set realistically so that they are able to leverage market opportunities.

They use residual value forecasts to regularly assess the appropriateness of the provisions for risks and the potential for residual value risk. In so doing, they compare the contractually agreed residual values with the fair values obtainable. These are determined utilizing data from external service providers and their own marketing data. They do not take account of the upside in residual market values when making provisions for risks.

PART III: Profitability analysis

The profitability analysis of a company is a class of financial metrics that are used to assess a business's ability to generate earnings as compared to its expenses and other relevant costs incurred during a specific period of time. In order to obtain this information, companies study different types of ratios: margin ratio, turn over ratio, ROE, ROA etc. For most of these ratios, having a higher value relative to a competitor's ratio or the same ratio from a previous period is indicative that the company is doing well.

1. Sales

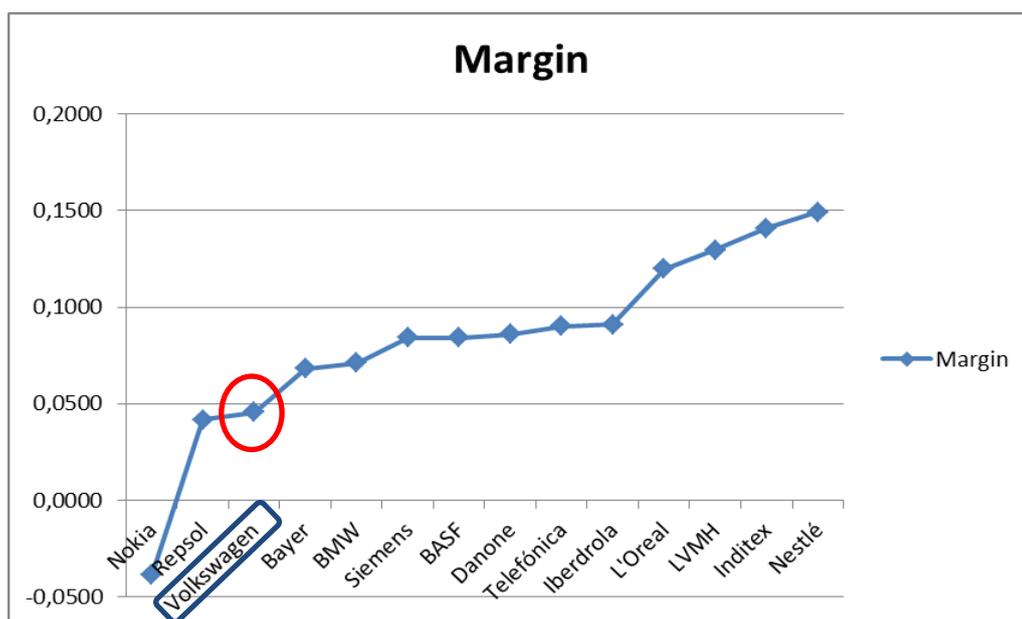
The mean of Volkswagen sales from 2003 to 2012 is **118176,70€**. Its standard deviation is **31892,72€**. It means, the sales of the Group have increased in a **54'77%**.

2. Cost of goods sold

The costs of Volkswagen have a mean of **85031,50€**. Its standard deviation is **44563,95€** with an increase in a **51,44%**.

Comparing the percentages of sales and cost of goods sold, we can see that the first one has a higher increase than the second one. So if they don't have a proportional relationship.

3. Margin Ratio

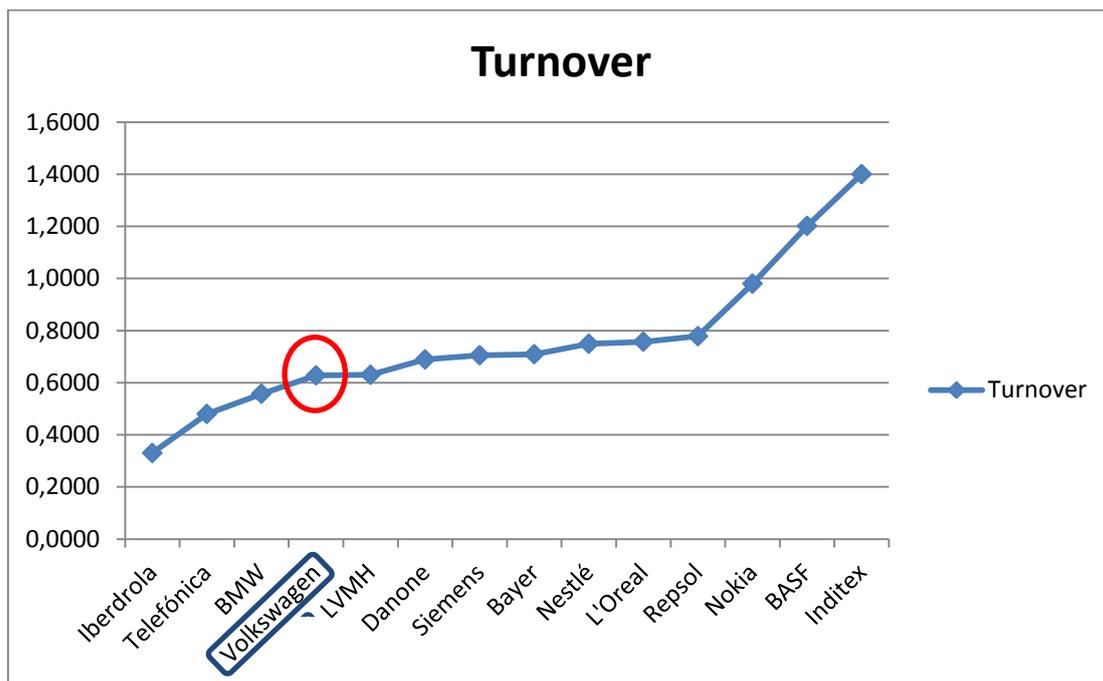


The Margin is a ratio of profitability calculated as net income divided by sales. It measures how much of every dollar of sales a company actually keeps in earnings.

In the previous graph it has been represented the Margin ratios of a few companies of the Eurostoxx 50 during the year 2011. Nokia is the only one who obtained a negative margin -0,038 and the company with the highest margin ratio is Nestlé with 0,149. Volkswagen is the third company with the lowest margin ratio, which means that Volkswagen doesn't keep in earnings all what they have obtained through sales. In other words Volkswagen invests the most part of its earnings in new Assets and pay dividends to its shareholders.

4. Turnover Ratio

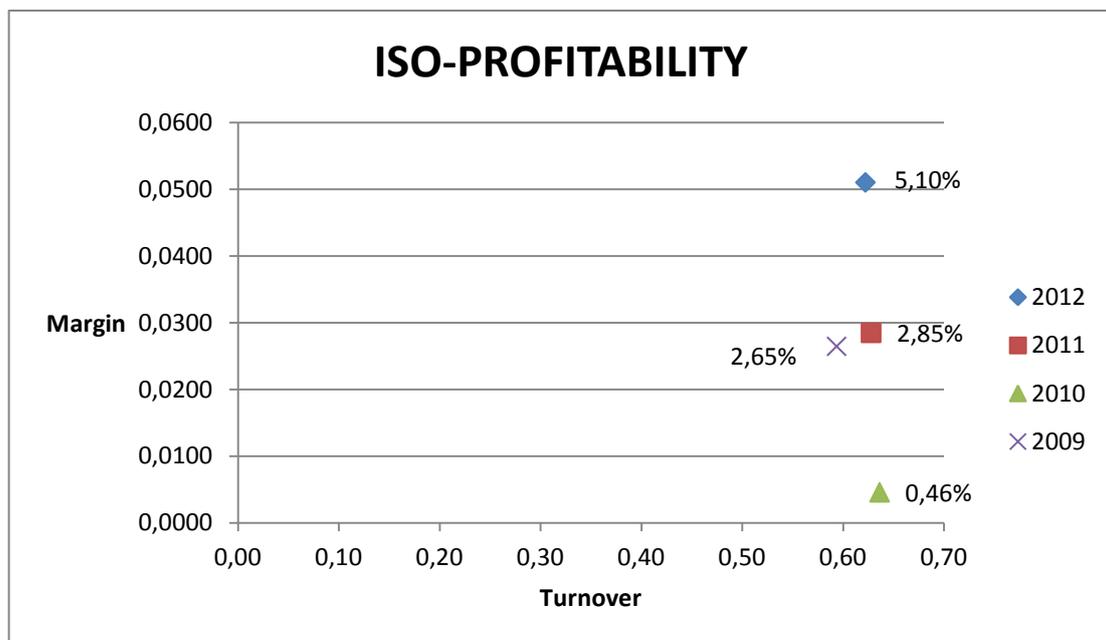
The turnover ratio is the result of dividing sales between total assets. It measures how much has invested in assets for each euro earned through sales.



In 2011 Volkswagen has obtained the fourth position in terms of turnover ratio. The highest turnover during this period is for Inditex with 1,4 and the lowest is for Iberdrola with 0,33 points. So as Volkswagen only invest 0,628 points in Assets the rest of the earnings obtained with sales are destined to dividends payments.

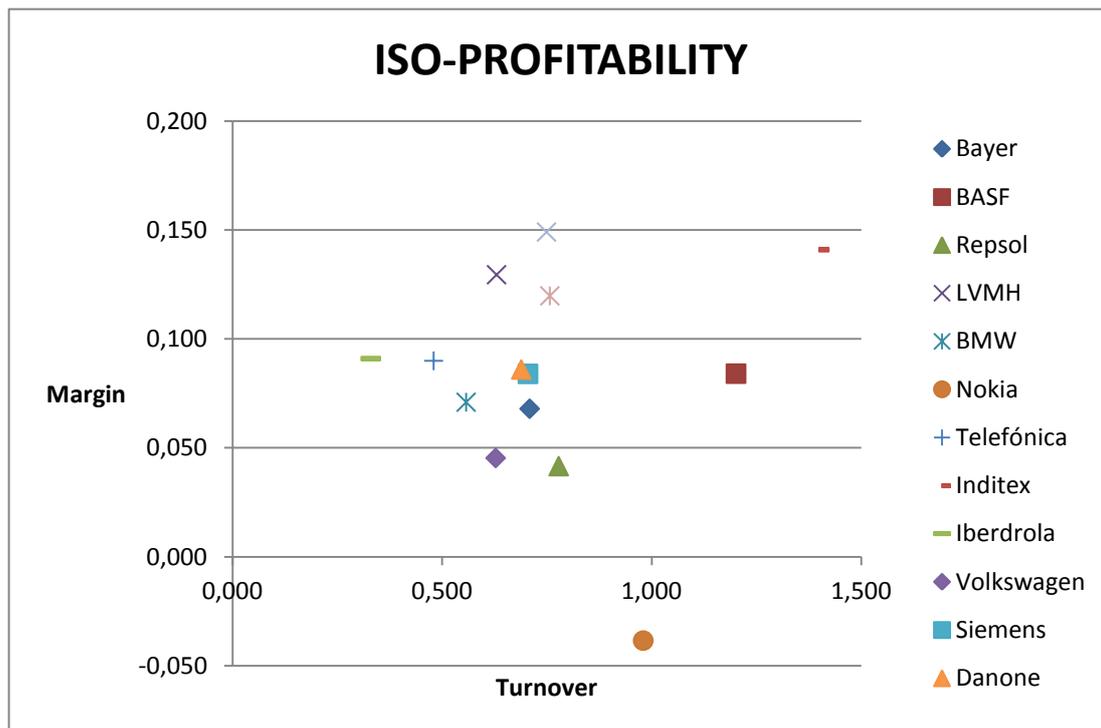
Finally, comparing Volkswagen with its main competitor which is BMW, it can be observed that BMW has a higher margin and a lower turnover. So for each euro that BMW obtains through sales keeps a higher proportion in reserves than Volkswagen. And therefore BMW invest a lower percentage of its earning in sales than Volkswagen.

5. Iso-Profitability



Iso-Profitability shows how is composed the profitability of a company: how much of this profit is due to the turnover and how much is due to the margin.

The previous graph shows Volkswagen's evolution in terms of profitability since 2009 until 2012. As it can be observed in the graph Volkswagen has achieved each year a higher and therefore a better profitability with the exception of 2010. Moreover these changes are a consequence of an increasing turnover. As it is shown in this next graph, Volkswagen has the third lowest position compared with some companies of the Eurostoxx50. This is due to its low margin and turnover explained before.



6. Return on Equity

The Return on Equity (ROE) is the amount of net income returned as a percentage of shareholders equity. It measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested.

ROE is expressed as a percentage and calculated as:

Return on Equity = Net Income/Shareholder's Equity

Return on Equity = Net Income/Sales * Sales/Total Assets * Total Assets/Equities

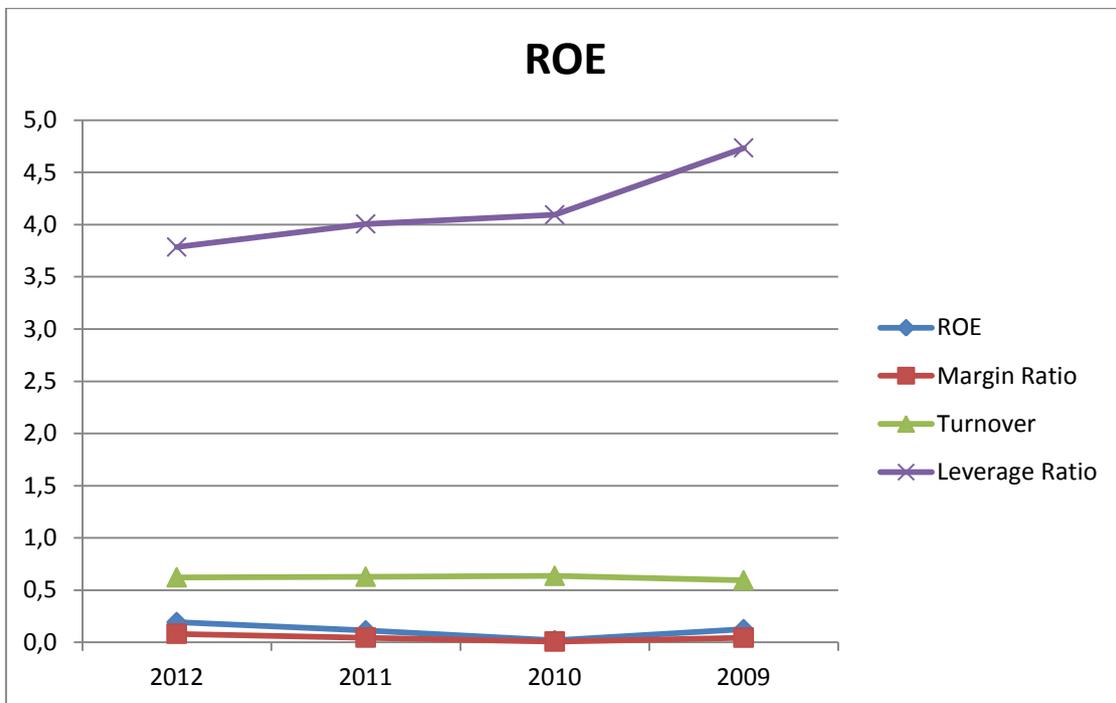
Return on Equity = Margin Ratio * Turnover Ratio * Leverage Ratio

	2012	2011	2010	2009
Net income (31.12)	15800	7227	911	4688
Equity	81825	63354	48712	37430
ROE	19,31%	11,41%	1,87%	12,52%

Volkswagen ROE has a positive tendency since 2009 until the moment, with the exception of 2010 in which the ROE was of 1,87%.

Comparing Volkswagen with the rest of Eurostoxx 50 companies, in 2011 INDITEX had the highest ROE with 30,29% and NOKIA had the lowest ROE with -9,17%. The average in that year was about 15%. This means that Volkswagen had a lower ROE than the average with **11,41%**. In other words, shareholders would probably invest in other companies rather than in Volkswagen.

In 2012 INDITEX has kept the head of the ranking with a ROE of 31,75%. The average was about 16%, and in that case Volkswagen had a highest ROE than the average with **19,31%**.



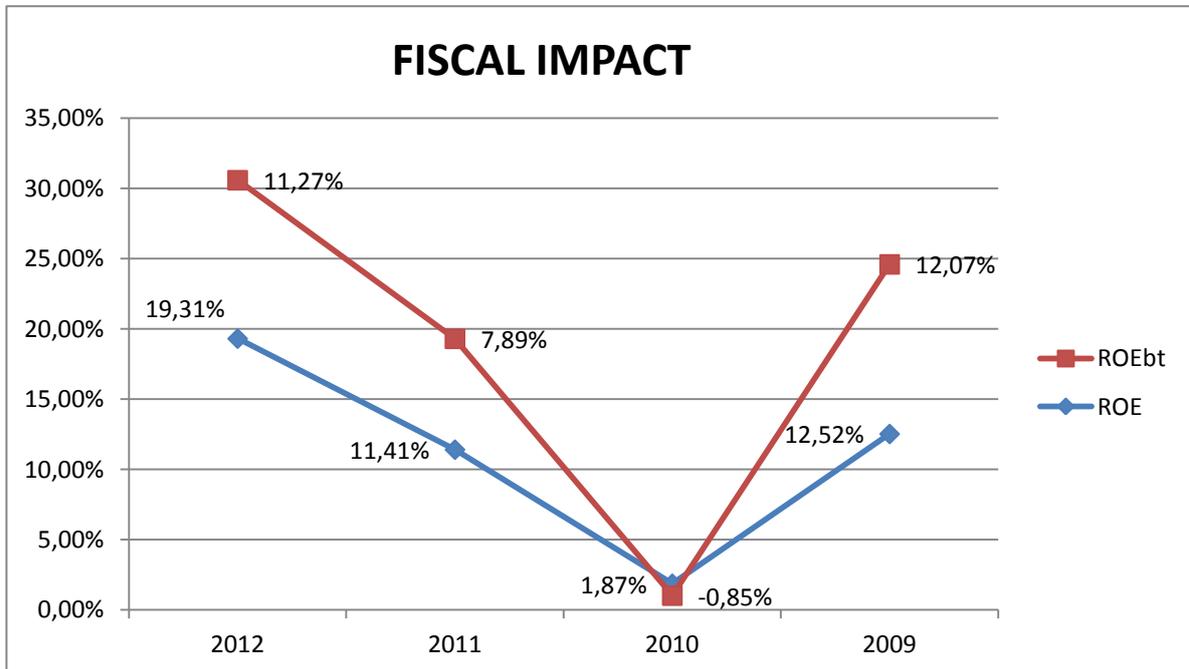
ROE is composed by the Margin, Turnover and Leverage ratios. In the previous graph is shown the impact of each of these ratios in the ROE. Since 2009 Margin has been pretty low, causing a very low ROE too.

7. Return on Equity BEFORE TAXES

The Return on Equities before taxes (ROEbt) discounts the fiscal impact on the financial profitability. ROEbt is what the company generates before taxes for each euro invested.

	2012	2011	2010	2009
Interest (31.12)	2047	2144	2268	1815
C. Liabilities	86864	81498	63310	59068
Non-C. Liabilities	140955	108917	87371	80680
Total liabilities	227819	190415	150681	139748
K	0,90%	1,13%	1,51%	1,30%
E	0,49%	0,49%	0,49%	0,49%
Equities	81825	63354	48712	37430
Liabilities/equities	2,78	3,01	3,09	3,73
$J=(K-E)/(LIAB/EQ)$	0,00147	0,00212	0,00328	0,00217
$J*liab/Eq$	0,0041	0,0064	0,0102	0,0081
ROEbt	11,273%	7,889%	-0,848%	12,071%

Since 2009 Volkswagen has reduced its Return on Equities before taxes although from 2010 until the moment has been increasing. This growth of the ROEbt is due to the fact that the Cost of Capital (K) has been reducing among the years. So when K decreases liabilities/equities have a lower impact reducing the ROA.



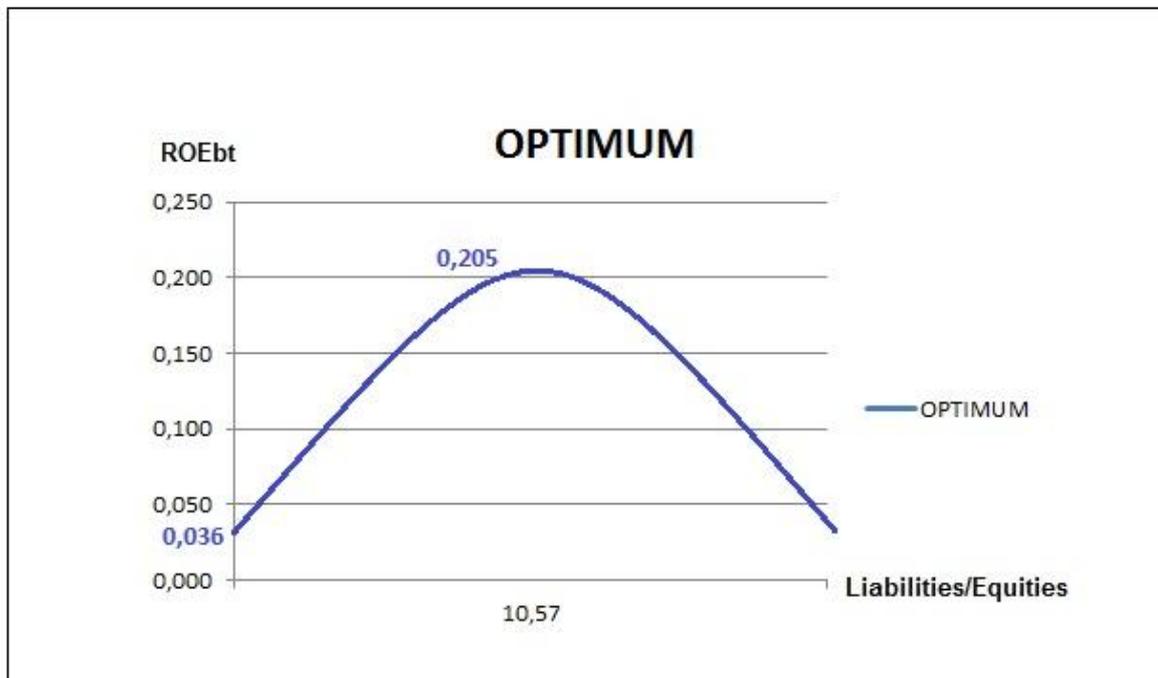
Fiscal impact is the difference between ROEbt and ROE. In other words, it is the taxes that the company pays for each euro that has been invested. This graph shows the normal behaviour of the difference of these two values, ROE before taxes is always

higher than ROE after taxes. However, in 2010 both values are pretty close due to the steep reduction in the sales and the consequent drop of the net income. It's important to remember that 2009 was the first year after the burst of the housing bubble. That's the reason why especially in the following year were more reluctant to spend money in elastic goods.

	2012	2011	2010	2009
K	0,0090	0,0113	0,0151	0,0130
$J=(K-E)/(LIAB/EQ)$	0,1470	0,0021	0,0033	0,0022

The cost of capital and the lending sensibility of creditors have an inverse relation. When the bank sensibility increases, it means that the company is doing a good job and investors trust it; and as a consequence the cost of capital decreases. So as observed in the table, the sensitivity of investors has increased significantly since 2009 until 2012 (from 0,002 to 0,147). This fact is due to the increase of sales during these years. Therefore, the cost of capital for Volkswagen is today much lower than four years before.

8. Optimum 2012



Volkswagen optimum point of leverage (liabilities/equities) is 10,57 during 2012 to obtain the maximum Return on Equities before taxes.

9. Return on Assets

The Return on Assets (ROA) is an indicator of how profitable a company is relative to its total assets and tells you what earnings are generated from invested capital.

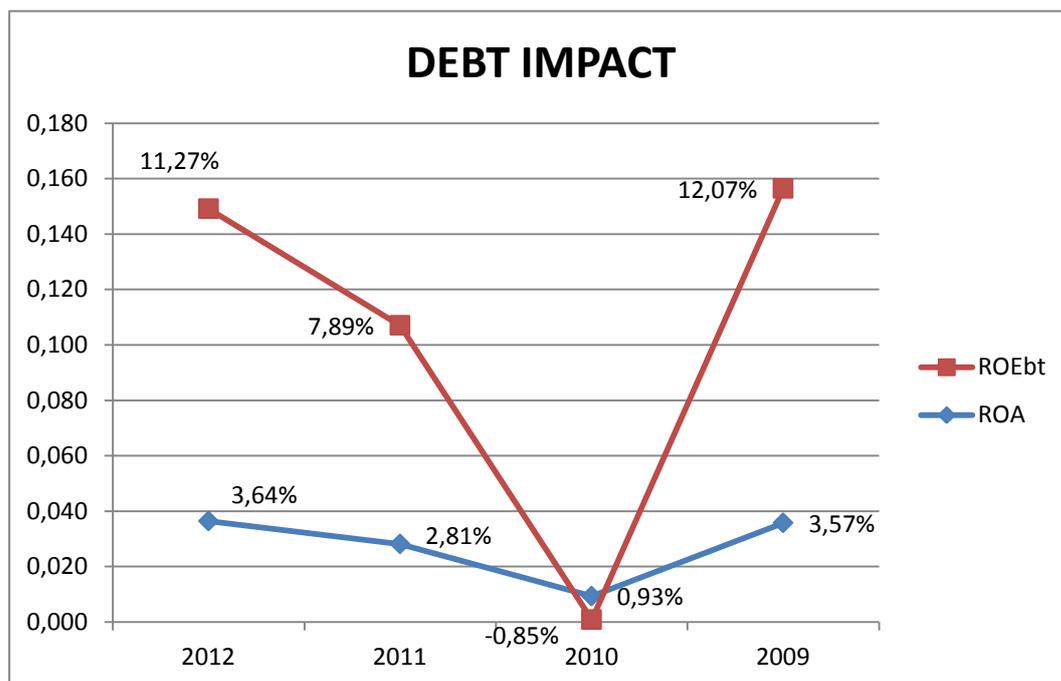
ROA is expressed as a percentage and calculated as:

$$\text{Return on Assets} = \text{EBIT} / \text{Total Assets}$$

Taking into account that EBIT has to be from 31/12 of the previous year and Total Assets from 01/01 of the year we are calculating.

	2012	2011	2010	2009
EBIT (31/12)	11271	7142	1855	6333
Total Assets (01/01)	309644	253769	199393	177178
ROA	0,036	0,028	0,009	0,036

In the same way that ROE has been affected by the global financial crisis especially in the year 2010, the ROA has also experimented an important decrease. In that year Volkswagen's ROA was 0,9% which is 1,8 points above the average (2,7%).



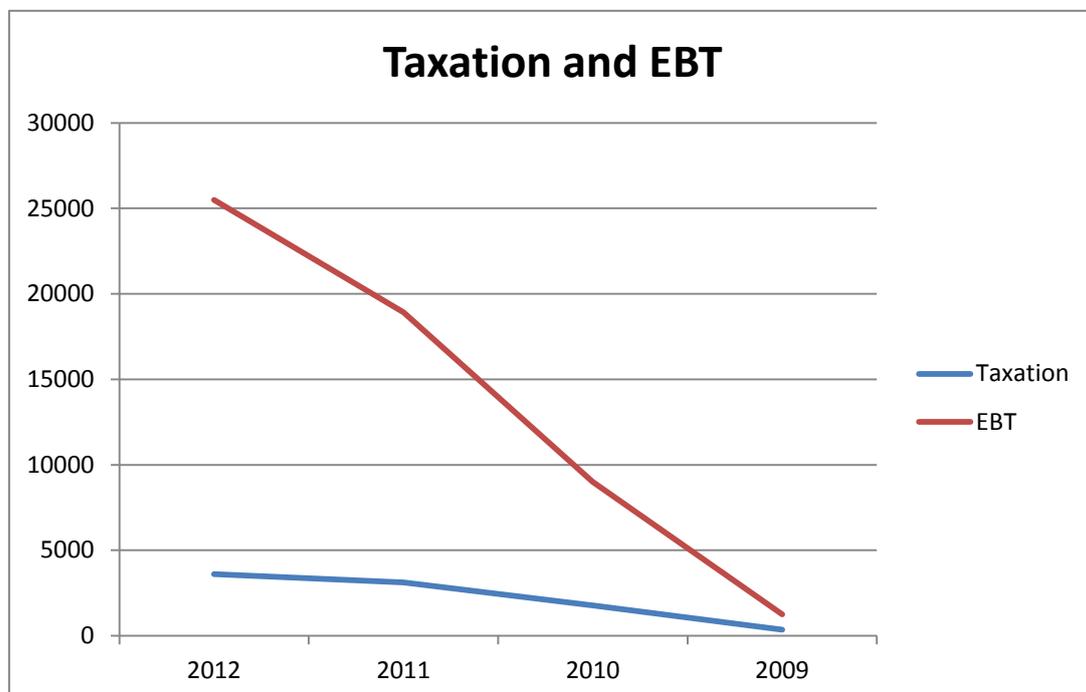
Debt impact is the difference between ROEbt and ROA. With these graph we can see how our liabilities affect our profits. Without liabilities the ROE would be as the ROA. So, thanks to the liabilities, with less equity than assets we can obtain more profits. It is called leverage, and it gives companies a way to have more profits.

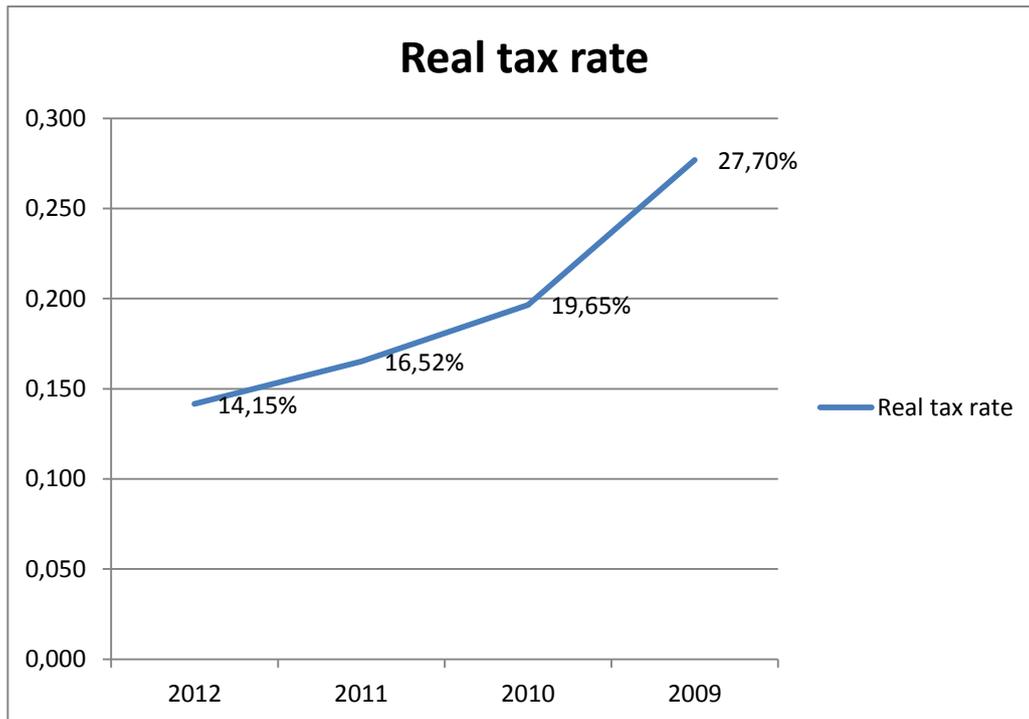
To conclude this section, we have seen that the debt impact in the company is much than the financial impact.

10. Real Tax Rate

The real tax rate is the average rate at which a company has its pre-tax profits taxed. It is calculated by dividing total tax expense (taxation) by taxable income (EBT).

	2012	2011	2010	2009
Taxation	3608	3126	1767	349
EBT	25493	18926	8994	1260
Real tax rate	0,142	0,165	0,196	0,277





As it can be observed in the first graph, the EBT has increased considerably since 2009. Specifically, it has multiplied by itself several times, from 1260 million to 25885 million. However, the tax has increased less than proportionally, perhaps due to some investment of profits in something free of taxes, such as the firm dedication to R & D in ecological cars or investments that the state is trying to promote.

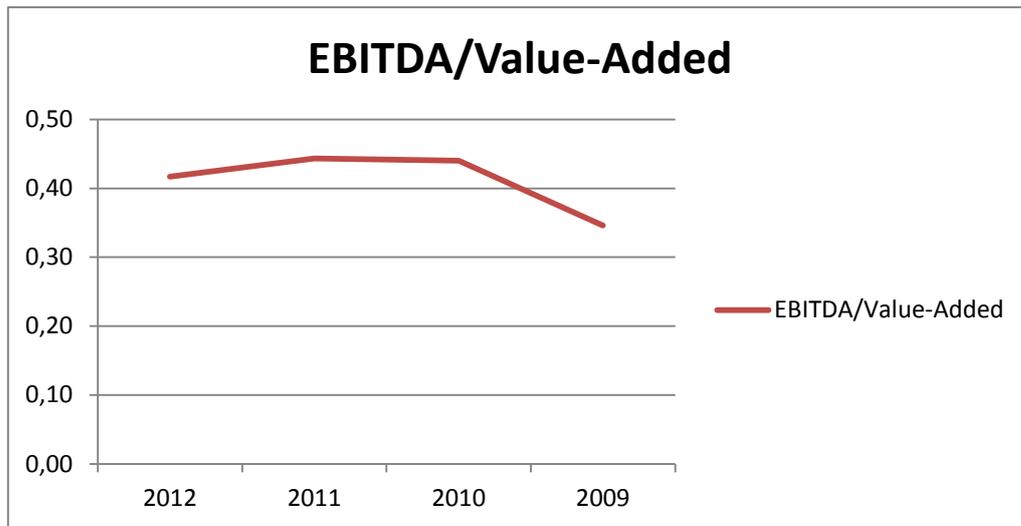
So as the second graph shows (Real Tax Rate), the tax rate has declined since 2009. Every year, Volkswagen is paying fewer taxes than proportionally to its EBT. We have to consider that they are paying few taxes due to the dimension and the power of the company. To get an idea of how few they pay is important to mention that physical people pay a 30% of IRPF (without taking into account the expenses and depreciation costs of each individual) besides paying a 21% of VAT for each good bought with the remaining income.

11. Value-Added

Value-Added is what employees contribute in the company. It is the result of adding EBITDA and cost of employees.

	2012	2011	2010	2009
EBITDA	21089	18994	14951	8478
COST OF EMPLOYEES	29503	23854	19027	16027
Value-Added	50592	42848	33978	24505
EBITDA/Value-Added	0,42	0,44	0,44	0,35

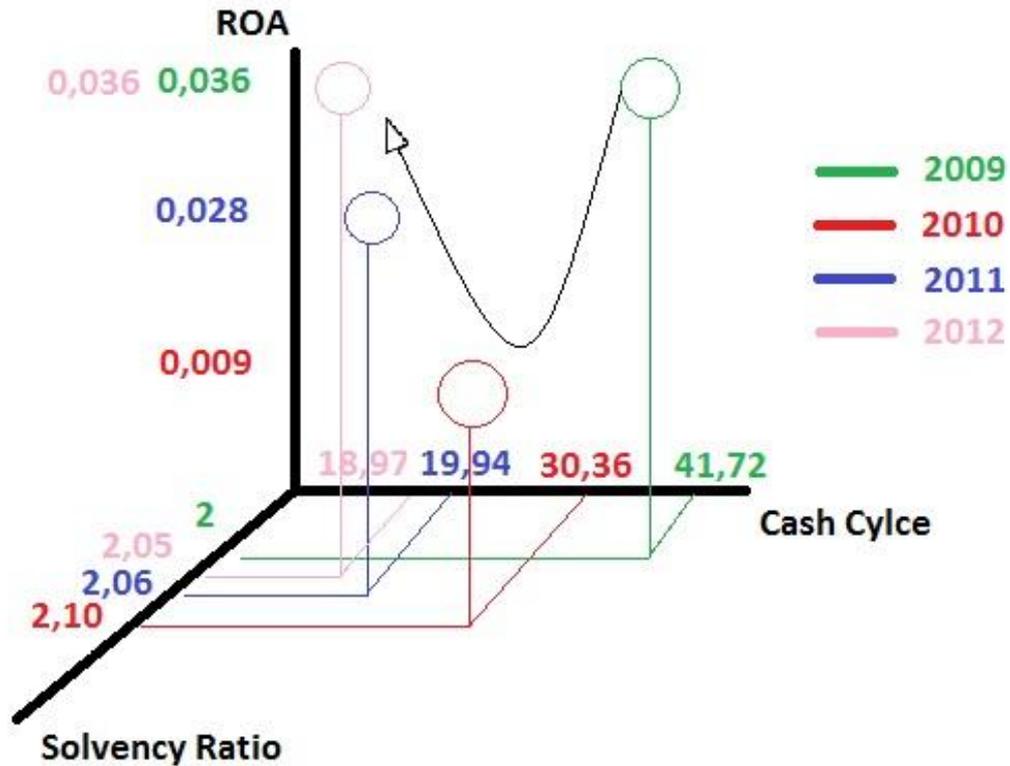
Since 2009, the company has increased its Value-Added. That's due to the growth of the company all over the world in the last years in economical (EBITDA) and human terms (cost of employees).



In order to analyse the evolution of the profitability that each worker adds to the company, it has been used the relation between EBITDA and Value-Added. As it is shown in the table and in the graph, year by year workers are more profitable for the company.

12. ROA, Solvency Ratio and Cash Cycle

The following graph helps to understand the analysis and situation of group. In the graph we clearly see that the first year the cash cycle decrease but also the ROA and in the other side the solvency ratio increased. The best for a company is to have a high ROA and solvency ratio, and the lowest cash cycle possible. So that what they are trying, when finally, in 2012, they achieved the goal, reducing the cash cycle as much as they could. Next step will probably be to increase the solvency, but taking care the ROA Does not decrease at the same time.



Conclusions

In conclusion, Volkswagen has been affected by the financial crisis, but at the same time has been able to adapt its resources and capabilities to the global situation, succeeding from this economical drop. So after doing this analysis it can be said that is a good company to invest and we recommend it for several reasons:

- It has a good ROA and is profitable with its assets.
- It has a low cash cycle producing faster than most of its competitors.
- It has a high solvency ratios to face long term debts.
- Its liabilities allow the group to grow but without taken too much risk

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