

QUALITATIVE AND QUANTITATIVE ANALYSIS OF BMW GROUP

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*Investing in the
BMW group*

*What do we
have to know?*



Sheer driving
pleasure



The world's most exciting
premium small car brand



The pinnacle of
automobile luxury

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1. First Part

A little bit about the BMW Group

0. A little bit about the BMW group

It's not easy thinking about one interesting firm that allows us to work out with all the necessary information needed to develop some interesting lines, as we will do in this work.

The BMW Group – one of Germany's largest industrial companies – is one of the most successful car and motorcycle manufacturers in the world. With BMW, MINI and Rolls-Royce, the BMW Group owns three of the strongest premium brands in the automobile industry. The vehicles manufactured by BMW set the highest standards in terms of aesthetics, dynamics, technology and quality, borne out by the company's leading position in engineering and innovation. In addition to its strong position in the motorcycles market with the BMW and Husqvarna brands, the BMW Group also offers a successful range of financial services.



<http://links.es/14725>

We are talking about one of the most comfortable brand in the premium vehicles market, where is an example to follow for lots of another brands. Its research and development work during the last years has allowed the company to

be one of the innovation leaders in terms of technology, always adapting their new products to the new technology achievements. They work by the rule that is you don't adapt yourself to the technological change it will be impossible to achieve your firm goals.

Another interesting aspect about BMW is related to their consumer's target. For this reason, one of their company goals makes references to be the leading provider of premium products and premium services for individual mobility. Another of their

major rules is related to the idea that the client has to be always satisfied; they are always giving the best in their personalized treatment with their consumers.

But the BMW group is not only formed for the main BMW cars brand, the group is working out with three different brands, as they are **Mini**, **Rolls-Royce** and finally **BMW**. Each one of these brands was created with the idea to attack one different cars market segment, increasing by this way the total BMW's market car share, being a clear example of market segmentation.

The brand growth ambition and the constant research of new targets and markets to invest, have allowed BMW to be nowadays one of the most international and global companies in the world.

1. Its history

BMW is a **German manufacturer of automobiles and motorcycles**. It is headquartered in Munich, in the federal state of Bavaria in Germany. The company was **founded in 1913** as a manufacturer of aircraft engines. Hence the BMW logo is the abstraction of a spinning propeller against blue sky.

After the First World War Germany was forbidden to manufacture aircraft engines, so BMW began producing brakes for railroads. In **1923** the company entered the vehicle sector, initiating the manufacture of motorcycles, which even then had the classic BMW engine.

In **1933** the company produced vehicles and designed entirely by its own technicians, introducing on various model.

The Second World War destroyed almost all the BMW factory. After the war, BMW took a few years to rebuild its factory in Munich. For three years he could not make, by order of the Allied occupation forces, so that until **1952** did not return to produce a car.

From this time the growth of Germany has been comparable to the rise of BMW, which has been introduced gradually redesigned models, focusing on calls 3 Series, 5 Series and 7 Series. Also introduced with the name Z1 some sports model, in its coupé

and roadster, it means convertible, which now has evolved into two different models, the Z4 and Z8, the latter of luxury.

In the field of cars BMW has also developed an SUV, combined road vehicle and SUV, carrying the initials X3, X5 and, the newest X6. The BMW motorcycles market has also developed several models over time with constant developments and improvements; BMW is one of the global automakers **pioneers** in the application of modern technology to their vehicles and electronics.

Nowadays, BMW commercializes its products highlighting its **sports driving**. The company slogan is "**enjoy driving**", focusing on the customer satisfaction.

2. Corporate responsibility

First of all we have to highlight the importance that the group gives to their **values and basic principles**. BMW strategies are conceived on a long-term basis and are constantly target-oriented. From these two basic ideas we can start defining which are this basic values and principles.

We can be conscious about the importance given by the group to their values and principles reading the next paragraph published in its own website:

"Business success is made by people, for people. In order to develop it requires a functioning society and a pleasant environment to live in. That is why we take on responsibility. Out of conviction and in our own interests, now and in the future."

In the following lines we are going to explain which principles will form the basis of his long-term and target-oriented action.

- a) **Customer orientation**. Our customers are the base of all of our actions, for the group, customers satisfaction is probably the main important goal to achieve. We are focusing all of our business movements from a perspective of their benefit.

- b) **Peak performance.** The group is always searching the best of us, for this reason we aim to be the best in our sector. It is not difficult to understand that in this way, all of our employees must be prepared to achieve a high degree of efficiency.

- c) **Responsibility.** We trust only in one way to work: working hard and with individual responsibility. Every employee is responsible of his work, even is working individual or in group. We believe that this personal responsibility will allows us to work better together achieving corporate goals.

- d) **Effectiveness.** Only the best results (more sustainable and effective) of the group will produce benefits to the company.

- e) **Adaptability.** In order to achieve continuous success we must adapt quickly and flexibly to new demands. Therefore, we regard change as a change and the ability to adapt as the prerequisite for making use of this chance.

- f) **Dissent.** In the search for the best solution everyone has the duty to bring the light any disagreement. The solutions found are then resolutely implemented by all involved.

- g) **Respect, trust and fairness.** We trust on respect as the key for any human or business relationship. Management is based on mutual trust, and trust is based on calculability and fairness.

- h) **Employees.** Our employees are the basis of our work. They are our strongest factor of success, and consequently, personnel decisions belong to the most crucial decisions.

- i) **Leading by example.** All of our seniors has an exemplary function to all the other employees that are under they responsibility.

- j) **Sustainability.** The basis of our ecological and social responsibility.
- k) **Society.** We consider awareness of social responsibility an inseparable part of our corporate self-conception.
- l) **Independence.** The group trusts in its entrepreneurial independence through sustainable and profitable growth.



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As we can see in the graphic, above the group basic values and principles we can find the main points that will allow the BMW group to achieve its goals:

- a) **Growth.** The group is always looking for the increase of its market share, we trust in an international and global company as the key to be a successful company. Even this global work, we may not forget to adapt all our global products to the individual needs from every country or groups of consumers (target).

- b) Shaping the future.** We always work out for our future. The most of the company goals are determinate on a middle-large period of time. Our constant research of new and better products adapted to our consumers is the key of our futures forecasts. The company may be in a constant state of awareness, trying to forecast the future environment chances. A correct environment chance forecast could be the basis of a new competitive advantage, allowing us to adapt ourselves to the changing environment before than our competitors.
- c) Profitability.** It is not a secret if we say that the most of the companies on the sector are constantly searching an increase of their profitability. The BMW group is not an exemption. Every year, when the managers plan the next exercise point to achieve an increase of the profitability in comparison with the previous year.
- d) Access to technologies and consumers.** One of the group secrets is directly related with the managing of the technological change to remain future proof. Evolution (innovative technologies) and revolution (alternative drive trains and mobility services) are the main part of their research and development idea.

Another important factor on this point is related with the importance given to the consumers. As we have said so many times during this work, the group is continuously searching to maximize the consumer's satisfaction. They work by one rule that we all know if the consumers is completely satisfied he will repurchase in the future.

When we have clear all this concepts, we can start talking about BMW's group **competitive advantages**. Our competitive advantages are basically resumed in two pillars. In one hand we have our particular consciousness of the importance of the **consumer's satisfaction**. In consequence, the group is constantly studying its consumer's needs, with the objective to give the best products and personal treatment services.

In the other hand, we have the company awareness of **innovation**. The group does not overlook the idea to be the most entrepreneur company in the sector. As more competitively is the sector environment, more difficult is to take a competitive advantage. For this reason the group takes especially care of its research and development department, its conscience of the importance to take advantage of the environment and technological changes.

Finally, we may talk about its **vision**: to become the world's leading provider of premium products and premium services for individual mobility. To this end, the BMW Group concentrates on profitability and sustained value creation. The company's four strategic pillars also include growth, shaping the future and access to technologies and customers.

3. Brands, main matrix and subsidiaries

As we have mentioned in previous sections the BMW group is not only composed by the BMW brand. It is formed by some other subsidiaries brands, which all together form the own group.

THREE AUTHENTIC PREMIUM BRANDS.



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As we can see in the picture (and as we have mentioned during all the work), BMW group is principally formed by three premium brands as are BMW, MINI and Rolls-

Royce. BMW response to the main parent and the other two are part of the main subsidiaries ones.

Now, we are going to explain the main important aspects about the more important subsidiaries brands or segments.

- **MINI**

In the early 90's BMW believed that the only way to stay in the market was like mass producer. For this reason, BMW made an expansion strategy, with the goal to increase its market share and capacity **by acquiring in 1994 the British manufacturer Rover Group (Rover, MG, Mini and Land Rover).**



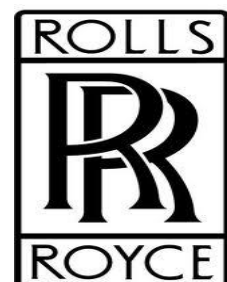
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This decision generated negative consequences for the BMW's equity, force to the company to March 17, 2000, the Land Rover brand was sold for a hefty price to Ford. Only Mini remained in the hands of BMW.

The Mini was a small car produced by the British Motor Company and its successors from 1959 until 2000. This car, the most popular of those manufactured in Britain, **was then replaced by the new MINI, launched in 2001.** The original is considered an icon of the 1960s, and its distribution space-saving front-wheel drive influenced a generation of car manufacturers. In the international survey to determine the most influential car of the century worldwide, **the Mini was second, only behind the Ford T.**

- **Rolls-Royce**

In 1998 Rolls-Royce was property of Vickers, but it's bad economic situation force to Vickers to sell the bran Rolls Royce, Volkswagen



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and BMW disputed it, but finally Vickers decided to sell the brand to BMW.

Following the expansive strategy, the new luxury car, **Rolls-Royce Motor Cars**, property of BMW, started deliveries of its first model, **el Phantom**, on January the **2003**.

Nowadays the only model of the brand in manufacturing, it is priced around **400.000 €**.

But the BMW group is not only limited to the premium cars market, so we can explain too some lines about another market segments attacked by the company, as it is the motorbikes one:

- **Husqvarna**

It is a subsidiary of the BMW Bavarian house that manufactures motocross, endure and super-moto.

In **July 2007**, **Husqvarna** was purchased by **BMW Group** for a reported **93 million euros**. The motorcycle division of BMW, BMW Motorrad has since retained the independence of the company.



- **Other markets, the BMW bank**

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BMW Bank GmbH is a German bank that belongs to the BMW Group. The subsidiary was established under the name BMW Group Financial Services in 1971 in Munich. The bank is responsible, among other services, **financing of BMW, MINI and Rolls-Royce Motor Cars**. The bank is present in 53 countries through 26 subsidiaries and 27 partnerships.

The offer of BMW Group Financial Services understands from funding and financing purchases for storage of vehicles and spares parts for BMW and MINI dealers to acquire financing for customer's cars and motorcycles from BMW and Mini brands. The company also offers financing for vehicles up to a year of use and cash credits. They also have a portfolio of savings.

- Joint venture

BMW Peugeot Citroën Electrification is a joint venture 50% among automakers BMW and PSA Peugeot Citroën, constituted as a holding company based in Amsterdam (Netherlands) in 2011 and intended to electrify the product ranges of both manufacturers and the third.

The company develops and manufactures hybrid technology with two companies: one near Munich (Germany), the development center, and one in Mulhouse (France), where the components will occur. The components that the company will provide, among others are: batteries, electrical machines, power generators, chargers and electronic control.

Cooperation between BMW Group and PSA Peugeot Citroën began in 2002 with the development and production of 4-cylinder engines, of which, between 2006 and 2010, were produced almost 2 million units for the brands MINI, Peugeot and Citroën.

4. Targets

The world is changing, therefore is mandatory if you want to remain in the market, have adaption capacity to dynamic environment for facing the new unexpected challenges

To meet these challenges BMW formulated its Strategy Number ONE, which aligns the BMW Group with two targets: **to be profitable and to enhance long-term value in times of change**. And this applies to technological, structural as well as cultural aspects of its company. Since 2007, It has been implementing various initiatives in keeping with the strategy's four pillars: Growth, Shaping the Future, Profitability and Access to Technologies and Customers.

Its activities will remain firmly focused on the premium segments of the international automobile markets. Its mission statement up to the year 2016 is clearly defined: the BMW Group is the world's leading provider of premium products and premium services for individual mobility.

- **Customers target:**

In this part, we are going to explain a little bit in what segment of population is focused our company.

First of all we have to say that the BMW's price is not reachable for all the population segments. The main target is people with high purchasing power, specially:

- Directors/ Executive management of (multi-) national companies
- Traditional company owners
- Directors/ managers in SOE
- Young, self-made owners/ co-owners
- Young professionals, executives

This is the customer base that BMW proposes, but moreover the company has developed several sportive models and advertising campaigns for promoting the consumption in other segments of the population.

Te gusta conducir?

- **Future expectative: 2016 targets**

BMW group is not a company that only concerns about the present situation in the market, also thinks in the future.

For that reason, we can say that BMW group follow a growing strategy, and for show it we are going to introduce a table where we can observe the increasing expectative that the company regarding its turnover want to achieve in the near future, specifically 2016.

TARGETS 2016.

BMW Group	2011	2016
R&D ratio (cash R&D, %)	4.9	5.0 – 5.5
Capex ratio (%)	5.4	<7.0
Payout ratio (%)	30.7	30.0 – 40.0
Automotive Segment		
Retail unit sales ('000 units)	1,669	> 2,000
Return on Capital Employed (%)	77.3	> 26.0
Return on Sales (EBIT, %)	11.8	8.0 – 10.0
Free cash flow (euro million)	2,133*	> 3,000
Segment Financial Services		
Return on Equity (%)	29.4	> 18.0

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In the last table we can appreciate that the expectative of BMW group are improve its statement situation. First of all we have to say that in 2016 BMW want to increase the investment in R&D respect to investment's whole, and also want to increase the Capex ratio (A ratio that measures a company's ability to acquire long term assets using free cash flow) and Payout ratio (The amount of earnings paid out in dividends to shareholders).

In automotive segment we can observe different expectative that show an efficient improvement of BMW and a higher profitability.

5. BMW: Huge and profitable business (shareholders)

Now, in the following lines and using the graphic that we can find below this paragraph, we are going to detail the huge figures of turnover of the entire group.

As we can see in the graphic below, in the **overview** part, over the 34 % of the BMW shares belongs to the rich family **Quandt**, which if we add the 12,6% corresponding to **Susanne Klatten**, we can look for (approximately) a half of the company's shareholders

power. This fact indicates us that the BMW Group is a very concentrated company, where few shareholders own a big influence in the group decisions.

Overview

Stefan Quandt ¹⁾	17.4%
Johanna Quandt ¹⁾	16.7%
Susanne Klatten ¹⁾	12.6%
Free Float	53.3%

¹⁾Directly and indirectly December 2012



Investor Types

Strategic Investors	46.7%
Institutional Investors	38.0%
Other Investors	15.3%

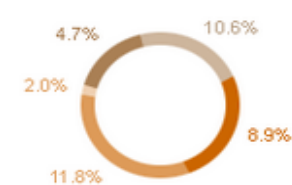
Dezember 2012



Institutional Investors by region

Germany	4.7%
Continental Europe (ex-Germany)	10.6%
UK & Ireland	8.9%
North America	11.8%
Rest of World	2.0%
Institutional Investors	38.0%

Dezember 2012

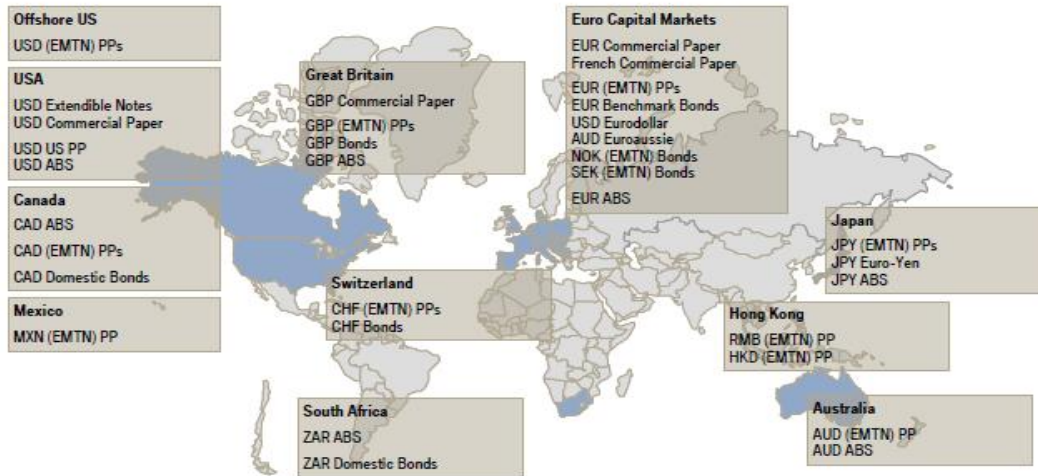


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In another hand, if we talk about the investor types we can say that **strategic** and **institutional investors** are so spread, although the strategic ones have a little advantage of the institutional ones. We may remember that the strategic investors are those investors which are working or are so implicated in the company market, and the other ones, the institutional ones are for example, governments or legal institutions that are also interested on invest in some companies.

Finally, we can observe in the table how the group shareholders are distributed over the world, more specifically in Europe. This section will allow us to link this section with the next one, the broad investor base of BMW over the world.

- Broad investor base

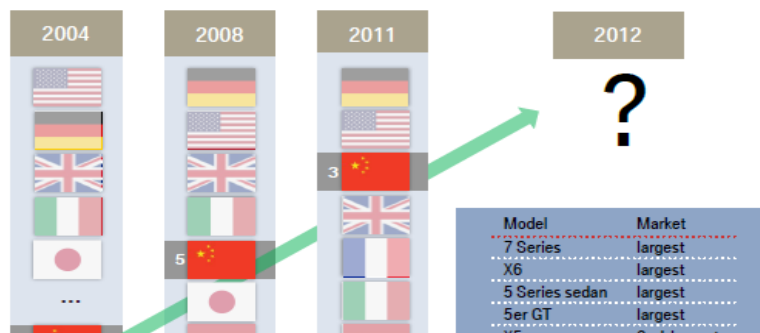


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Funding is done worldwide to optimize refinancing costs and to establish a broad investor base. The broad investor base shows us the great expansion process of BMW group, so it's present in all the continents with a high level of implementation in their cultures and societies.

The clearest example of the BMW group expansion interest is China, which holds a prominent position within BMW's global ranking.

The BMW group is always interested in investing in the emerging and new markets, as we have said during all the work, the group is always looking for the brand expansion and to achieve new goals as acquires a higher market share or attack new emerging markets as the Asiatic ones.



www.bmwgroup.com/expansion_china

- Profitable business

In the following attached tables we can see how the world global crisis has affected the group, and how its sales and incomes have been modified or not by this fact.

Financial figures						
in € million						
	2007	2008	2009	2010	2011	Change in %
Revenues	56,018	53,197	50,681	60,477	68,821	13.8
Capital expenditure	4,267	4,204	3,471	3,263	3,692	13.1
Depreciation and amortisation	3,683	3,670	3,600	3,682	3,646	-1.0
Operating cash flow	6,246	4,471	4,921	8,149*	7,077	-13.2
Profit before financial result	4,212	921	289	5,111*	8,018	56.9
Profit before tax	3,873	351	413	4,853*	7,383	52.1
Net profit	3,134	330	210	3,243*	4,907	51.3

* Adjusted for effect of change in accounting policy for leased products as described in note 8 of the Annual Report 2011

BMW Group Annual Report

a) Revenues evolution

As we can see the revenues evolution of the company has a growing trend over the time, although in the years 2008 and 2009 the industry was affected by the global economical crisis, in the last two years the company has increased again its turnover (specially revenues and operating cash flows, generating a higher net profit).

b) Sales evolution

	2007	2008	2009	2010	2011	Change in %
Sales volume - Automobiles						
BMW	1,276,793	1,202,239	1,068,770	1,224,280	1,380,384	12.8
MINI	222,875	232,425	216,538	234,175	285,060	21.7
Rolls-Royce	1,010	1,212	1,002	2,711	3,538	30.5
Total	1,500,678	1,435,876	1,286,310	1,461,166	1,668,982	14.2
Sales volume - Motorcycles						
BMW	102,467	101,685	87,306	98,047	104,288	6.4
Husqvarna	-	13,511	13,052	12,066	9,286	-23.0
Total	102,467	115,196	100,358	110,113	113,572	3.1

BMW Group Annual Report

The economical growing of the company is related to its increase of sales volume. The luxury sector is not affected by the crisis, in fact the volume sales has increased in the last years. As we can see The BMW cars are the leadership brand in sales although in the last years, both Mini and Rolls-Royce are having a higher relative growing. In The motorcycles sector we can appreciate the huge profitability generated by the acquisition of Husqvarna in the last years.

6. Financial services

Financial services are a key factor for success in today's motor world. The ideal partner for private and corporate customers, BMW Financial Services offer an extensive product portfolio which supplies expert information regarding financing and leasing, insurance, asset management, dealer financing and company car pools.

Before starting to select the best financial service for our economic features we have to differentiate between two different financing targets.

On one hand we have particular financial services, related to individual people whose are searching a way to finance they particular car or motorbike. On the other hand, we have company's financial services, dedicated exclusively to special firm's cars. In general, this type of financial services are related to companies whose are contracting or buying BMW products with the objective to complain their highest managers with some remuneration in kind.

We may always remember that the financial services condition will be different depending on the purchase volume and its type of consumer, for a particular or for a company usage. On the next lines we are going to keep some examples about these particular and sometimes exclusive BMW financial services:

- **BMW select:** offers all the freedom of a flexible financing contract that combines the advantages of buying and leasing in one product. As we do with leasing, depreciation expense will be paid only in the beginning. You will decide the amount of the final payment and, in this role, determining the length and terms of the contract.

At maturity, you can choose between replacing your car for a new one, continue financing your purchase with an extension of your maturity or if you are satisfied with the product, you can do a final payment to and the car will be completely yours.

- **BMW eligence:** this exclusive BMW financial service is single financial product in the market. You can enjoy your BMW without all the unforeseen expenses. You will have advantages on full control of costs, revisions and breakdowns. You will have advantages on stability, warranty, confidence, protection and tranquility.
- **Renting:** by the payment of a monthly fee you can fully enjoy your vehicle, without having to afford with services like maintenance, repairs or insurance contracting. It makes your life easy.

7. Innovation

First of all we have summarized the innovation structure of the BMW group, explaining a little bit how it works and how do they do to achieve their research and development goals:

“The BMW Group Research and Innovation Center, also known by its German abbreviation, FIZ, has been the technological heart of the company since it was inaugurated in 1986. Some 9,200 people work here developing vehicles and technologies of the future for BMW Group.

Another important innovation center is called BMW group Research and Technology, which is a wholly-owned subsidiary of BMW AG and has been responsible for some important BMW group research activities since 2003. All the 250 specialists working for the company there have the clear mission to develop new technologies for use in the automobile.

The legal independence between the different BMW Group centers of research and development is a key factor for the short decision making routes given by the specialists, creative freedom and maximum flexibility, essential factors for a climate suited ideally for innovation. Integrated labs and workshops, in turn, ensure rapid practical implementation of the technologies developed in the car.

This centers has directly access to new trends and technologies, the group is always searching the way to make easier the road to innovate. This includes the BMW Group's worldwide innovation network with centers in the USA, Japan and Germany as well as joint ventures with companies, universities, colleges and research institutes such as the German Research Centre for Artificial Intelligence (GRAI) in Germany.

Finally, we have to say that the BMW Group research and development centers are cooperating closely with the Eurécom Institute in the area of information and telecommunication technology.

Together with nine international partners in industry and four universities, this Inter European Institute based in the Sophia Antipolis Science Part near Nice. The main areas of cooperation are Network Technologies, Broadband Wireless Networks as well as Mobility and Security."

After this short introduction we can start saying that the BMW group is one of the **world leaders companies in innovation terms.**

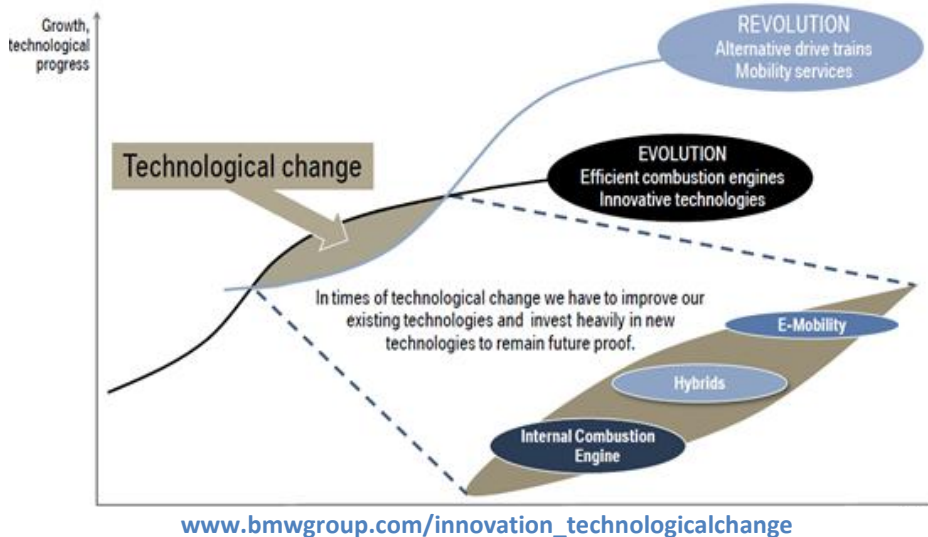
They trust in their research and development department as the way to take some competitive advantage to their premium competence.

They try to do it by the discover of some new technologies, alternative power train and energy management concepts, some new active safety and driver assistance systems as information and communication technologies in the car under the roof.

The group research and development departments are working by the following main rule:

➔ **Technological change – Turning a challenge into an opportunity**

How do they do it? ➔ **REVOLUTION + EVOLUTION**



8. Internationalization

With the three brands, BMW, MINI and Rolls-Royce Motor Cars, the BMW Group has its sights set firmly on the premium sector of the international automobile market. To achieve its aims, the company knows how to deploy its strengths with an efficiency that is unmatched in the automotive industry. From research and development to sales and marketing, BMW Group is committed to the very highest in quality for all its products and services. The company’s success to date is proof of this strategy’s correctness.



www.bmwgroup.com/internationalization

South Africa

BMW cars are being assembled in South Africa since 1968, when Praetor Monteerders' factory was opened in Rosslyn, near Pretoria. To begin with BMW bought shares in the company, before fully buying it out in 1975. As a result the company was named BMW South Africa; this was the first fully owned subsidiary of BMW AG which was established outside Germany. Despite U.S. manufacturers, such as Ford and GM divesting from the country in the 1980s, BMW continued to maintain full ownership of its operations in South Africa.

Subsequent to the fall of a part heidin 1994 and the import duties being reduced, BMW South Africa halted manufacturing of the 5-Series and 7-Series. This was done in order to focus on manufacturing of the 3-Series which was to be exported. BMW South Africa's cars were now being exported to right hand drive countries which included Japan, Australia, New Zealand, the United Kingdom, etc.; this also included the African Sahara. Since 1997 BMW South Africa had started producing vehicles in left hand drive which were to be exported to Taiwan, the United States, etc.

Austria

In 1978, BMW took a decision to begin a joint venture with the Austrian company Steyr-Daimler-Puch to design, produce and sell diesel engines. When this joint venture ended in 1982, BMW took over the plant in the Austrian city of Steyr under its own group. Over time the Austrian factory had become the back bone for engine production and R+D.

United States of America (USA)

BMW's Spartanburg plant in South Carolina, USA commenced operation and began producing BMW automobiles for the world market in 1994. A huge success of these automobiles soon led to extensive structural enlargements at the Spartanburg plant. Its capacity was enlarged by adding additional shifts, introducing flexible working-hour

models and hiring new employees. Today, the Spartanburg plant is open six days a week, with circa 110 hours a week of production.

United Kingdom

The BMW Group brought its flagship brand MINI into the European market in 2000. The first models to be introduced were the MINI One and MINI Cooper. In 2002, the sporty MINI Cooper S was launched, as did the MINI One D with diesel engine in 2003. In 2004, the MINI convertible was launched. The origin of the MINI is the Oxford plant in the United Kingdom. It is totally incorporated into the BMW Group production network. The plant and Mini brand were acquired in 1994 with purchase of the Rover Group.

On May 9, 2000, the Swindon Pressings Ltd. in South England was founded as a 100% subsidiary of the BMW Group. Swindon Pressings Ltd. not only offers production of pressed parts. Its broad range of services also includes innovation, development, construction and logistics. The Swindon plant was taken over with purchase of the Rover Group in 1994.

The decision to build a new engine plant in Hams Hall (UK) was taken by the BMW Group in late 1996. The plant started its operations in February 2001. This production facility is the competence centre and solitary supplier of the new 4-cylinder engine generation with Valvetronic technology.

In the Goodwood House park in West Sussex, located on the southern coast of England, the BMW Group set up a new manufacturing site for the production of Rolls-Royce automobiles in 2003. The first model of the production halls was the new Rolls-Royce Phantom

China

The BMW Group widened its international operations in 2003 with the addition of a plant in northeast China. BMW automobiles have been operating in the Shenyang plant, located in Liaoning Province, since September 2003.

The Shenyang plant adheres to the same high process, quality and safety standards as all other BMW Group locations. Start-up of manufacturing here represented a significant milestone in for the BMW Groups. Production in China for the Chinese market is an important step in opening up of this market.

India

BMW began developing the Indian market in 2007 with the start of a sales business in Gurgaon and later came up with assembly plant in that country. Chennai, in southwest India was selected as the site for the plant. The areas good infrastructure, the functioning of local automotive companies and qualified workforce in the region were credible grounds for the choice of this city.

How can BMW internationalization strategies be explained in the light of the theories of Foreign Direct Investment and/or Outsourcing?

Foreign Direct Investment means investing money in another country physically. Foreign Direct Investment is three forms. They are direction, target and motive. Foreign Direct Investment through direction means foreign money is investing in local country or local money is investing the foreign countries. Foreign Direct Investment through target means investing money for creating new opportunity or elaboration of a company, basically this is causes through multi-national companies like investing with competition or obtains the company. Foreign Direct Investment through motive means knowing the local competition or local conditions such as labor, raw material, etc. So, obviously they can gain more profits.

Example: BMW is investing their money in other countries like United Kingdom, United States of America, Austria, India, China and South Africa.

Now, take In South Africa: In 1996 it BMW invested almost R20 million for the plant development. In 2002 it invested 1 billion Euros for engine to Rosslyn, like that it continues.

United States of America: BMW invests \$500 million in 1992 and it completed the construction in 1994. BMW announced \$300 million in 2000 for expansion the plant in South Carolina. Moreover, in 2007 it invests \$5 billion for the construction and up gradation for South Carolina and in 2008 it declares alone \$298 million for company also invested \$170 million to distribution centers for car parts in Pennsylvania and Illinois like this they are investing in US.

In United Kingdom: In 1998 BMW invests 1.56 million pounds on Rover; like that they are investing 3.3 billion pounds in Dec 1998, 3.5 billion pounds in March 1999, 16 billion pounds on new Rover medium range to London bridge, in 2000 it invested 600 million pounds and in Jan 2001 it announced 1 billion for US plants and in 2009 it invested 3.2 million pounds for plants up gradation.

In Austria: In 1980 BMW forms new plant with Arvato mobile; in 1992 it invested 3.96 million Euros for expansion and modernization. In Sept 1998 BMW invested 45.86 million Euros for plant development; in 2000 it invested 6 million Euros for production of the engine from Ham shall, in 2001 it invest 4.26 million Euros for operations in Steyr. In 2004 BMW invested 32.22 million Euros for expanding plant engine; in 2008 it announced 5.6 million Euros for development of the engine plant in Steyr.

In India: In 1998 Rover group already owned by BMW starts at Bangalore with Toyota and almost invested Rs.2800 crores like that is goes on till 2004, after it opens directly at Chennai by US \$ 70 million of investment. In 2006 BMW invested US \$ 1 billion plus for auto assembly plant. Currently BMW is deciding to invest US \$ 50 million for next forth coming years.

In China: In 2001 it invested 9.5 billion Yuan, in 2004 it invested 13.9 billion Yuan, and under joint venture it announced \$737 by end of 2010. The initial investment is \$300 million.

So, the internationalization strategy is explained by the Foreign Direct Investment.

Does this company's strategy conform to the view that we live in a globalised world in which the differences across countries no longer matter?

BMW manufacturing build different types of parts in different countries. In India it assembled the body parts, engine, etc. In Germany it does all things like manufacturing, assembling, painting, and trading. In United States of America in 2 places have the same like Germany, but there is not like for another 2 places of manufacturing units. In United Kingdom it have specific models, in South Africa it have manufacturing unit for 2 models only, in Austria it have engine unit only. Here, one country will make parts for another country. So, according to this the internationalization strategy confirm to view that we live in a globalized world in which the differences across countries no matter.

2. Second Part

BMW Group and its financial risks

0. Introducing the topic

When we start talking about any topic we may firstly introduce to our colleagues the topic about what are we will keep talking about during the next minutes.

When we talk about **risk** in business economics we are referring to the possibility that a company will have lower than anticipated profits, or that it will experience a loss rather than a profit. Business risk is influenced by numerous factors, including sales volume, per-unit price, input costs, competition, overall economic climate and government regulations. A company with a higher business risk should choose a capital structure that has a lower debt ratio to ensure that it can meet its financial obligations at all times.

In our personal case, the **BMW group** is involved in a continued environment change process, were its global and international way of working takes and important role when we analyze which are the main risks for the company. So it's globally operating organization plus their internationally increasing businesses are our starting point to analyze the company threats. We may add to them the risks involved by trying to take advantages from the environment changes, the use of opportunities and the constant increase of the competition.

In conclusion, if we want to analyze the causes of the possible new company economics risk we have to work with the following equation:

Globally operating organization + internationally increasing business + environment changes + use of opportunities + increasing of the competition = threats + **RISKS**

In the following pages we will start with the analysis of the main risks of our chosen company, checking its growth and success guarantees.

1. Market analysis

In this section we are going to analyze the volatility of the BMW group using the table that we can find some lines below. To work in the correct way we must remember the definition in finance of **volatility**.

Volatility is a measure for variation of price of a financial instrument over time. Historic volatility is derived from time series of past market prices. An implied volatility is derived from the market price of a market traded derivative (in particular an option). The symbol σ is used for volatility, and corresponds to standard deviation, which should not be confused with the similarly named variance, which is instead the square, σ^2 .

	2012	2011	2010	2009
Mean	63,4396063	58,59168627	42,20266667	27,92059289
St.deviation	5,303903537	5,449667683	9,59524599	4,994133388
Max	73,76	73,52	64,8	35,94
Min	53,16	45,04	28,65	17,61
Rank	20,6	28,48	36,15	18,33
Coef var	0,992785189	1,007788162	1,002213896	0,992199688

As we can observe, the table below is comparing this statistical measures (**mean, standard deviation, rank and variance coefficient**) in the four last years. By this way we can see how the company evolves in terms of **volatility** related to its financial risk.

As we know, as bigger is the standard deviation higher is the variation of the variable in our case, higher is the variation of the market share prices. We have to say also that as bigger is the volatility (with a high standard deviation) bigger is the financial risk for the company. The table shows us that the **BMW group** has a more or less constant

flow of variations during the last 4 years, with the exception of 2010, where we see an outstanding increase of the volatility, as it shows the exponential increase of the deviation and the higher rank (remind that we calculate the rank by subtracting the minimum market share price from the maximum one).

We also see that variance coefficient is always close to 1, think that allows us to say that the group is working in financial term in the correct road.

The constantly increase of the value of the market shares show us that the group has growth expectations, because if not, we will not be able to find many investors willing to shell out their capital by investing in the group.

Concluding this section, we remind that the BMW group is working with a high volatility, think that means that it works with a high risk. This features entails that the group has to specially control its debts ratios, they have to control its success guarantees by this way.

2. Market comparison

Now we will compare the market share values tendencies between the Eurostoxx and the BMW group, we will use the following graphs to be able to talk about it.

- Eurostoxx shares market value graph



<http://www.eleconomista.es/indice/EUROSTOXX-50>

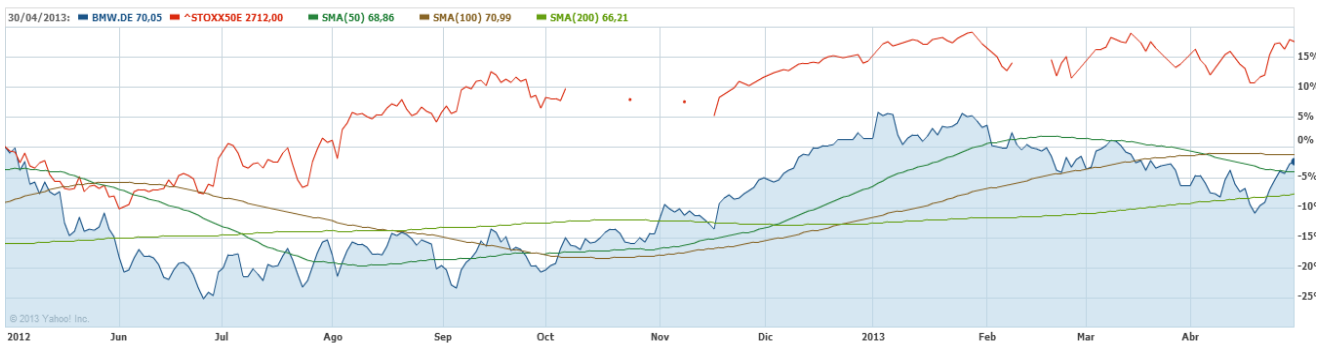
- BMW group shares market value graph



We think if we compare our company with Eurostoxx (Benchmark of stock's market Euro zone), we can achieve a good indicator about the BMW's evolution and the possible risks that can affect it.

We can observe that the weighted growth of 50 big companies that form Eurostoxx is more sustainable than the growth of BMW' quotes in the last years. As we can see in the period 11 and 12 there is a hard fell down in both cases, it means that BMW's quotes was dragged by the global economical crisis equal than the other 49 companies, after in both cases there is a growth, as a symptom of the recovery of confidence in the company by the investors.

We can also see this better growing evolution tendency of the BMW group working out with the **Simple Moving Average** graph:



<http://es.finance.yahoo.com/>

3. Short term risks

In this section we will analyze the company’s ability to face its debts in a short-term period. With this goal we will use the **solvency ratio** and the **liquidity ratio** to be able to analyze in the better way possible the financial short term risks that can affect the BMW group in a short term period.

a) Solvency

Short-term Solvency Ratios attempt to measure the ability of a firm to meet its short-term financial obligations. In other words, these ratios seek to determine the ability of a firm to avoid financial distress in the short-run.

We can calculate the short-term solvency ratio using the following formula:

Solvency ratio = current assets/current liabilities

When we speak about the solvency ratio we have to know that the suitable values have to be over 1 because it means that the asset’s level is higher than the liabilities’ level to face in an optimal way. As we can see the values are in average a little bit over 1. It means that the short-term risk is not an important problem to BMW, although would be advisable increase the value of this ratio around the years to being in a more comfortable risk’s situation.

	2012	2011	2010	2009
Solvency Ratio	1,0379	1,0751	1,0819	0,9842

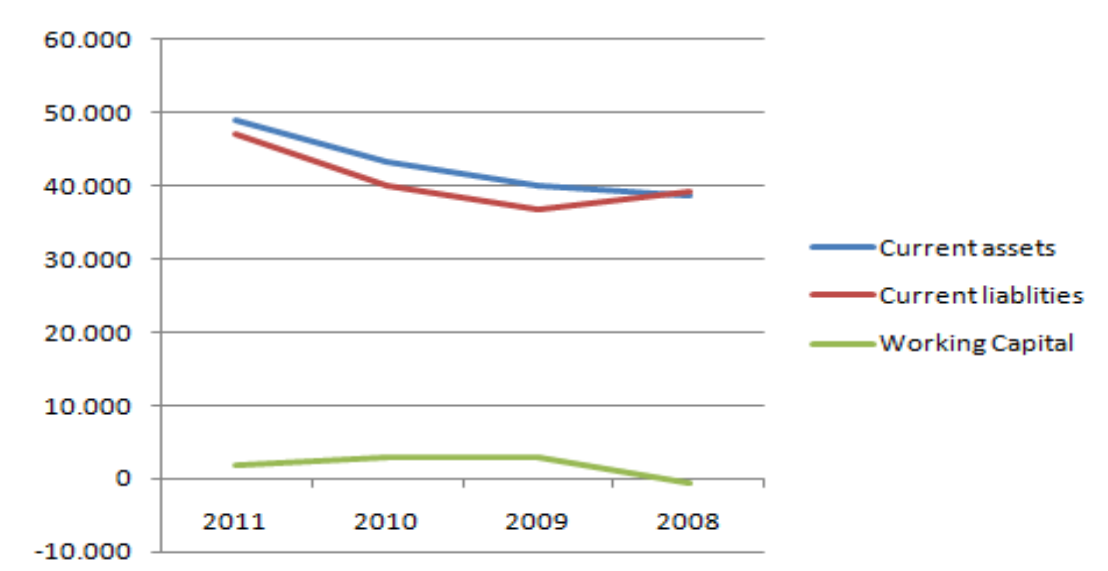
Another way to observe the company’s solvency but from other perspective is the working capital’s analysis:

	2011	2010	2009	2008
Current assets	49.004	43.151	39.944	38.670
Current liabilities	47.213	40.134	36.919	39.287
Working Capital	1.791	3.017	3.025	-617

In the table above we have calculated the working capital by subtracting the current liabilities to the current assets. The working capital is related to the **liquidity** that company disposes at the moment. So a higher working capital indicates that the company is more prepared to face its short term debts and financial obligations.

After analyzing both aspects and observing its relationship we have to say that it is advisable for the company's situation is that the solvency ratio is higher than 1 and as a consequence the working capital value is higher than 0.

In the following graph we can see it in a more visual way:



b) Liquidity

We are going to speak about the BMW's liquidity, when we speak about we speak about the company's capacity to convert an asset to cash quickly.

The optimal way to analyze the liquidity's degree of the company is calculating The **Cash Cycle Conversion (CCC)**.

$$CCC = \text{Average period Payment (APP)} - \text{Average Period Collection (APC)}$$

$$APP = (\text{Payables} / \text{Purchases}) * 365 \quad APC = (\text{Receivables} / \text{Sales}) * 365$$

** Purchases doesn't appear in the Annual Report for that reason we have calculated it by this way:

$$\text{Purchases} = \text{COGS} + \text{Final Inventory} - \text{Initial inventory}$$

For instance we are going to calculate the CCC of 2011:

$$APP = (5340 / 56148) * 365 = 35 \text{ Days} \quad APC = (3286 / 68821) * 365 = 18 \text{ Days}$$

$$CCC = 35 - 18 = 17 \text{ Days}$$

The CCC in BMW group is all the years positive, it means that the company collect the money of the client before than pays to the suppliers, it means that the company doesn't require a high quantity to fund the GAP. Invest the Collection period in Payment period.

Moreover we have other ratios than show us the company's situation in a short term. For instance Acid Ratio:

$$\text{Acid Test} = ((\text{Current Assets} - \text{inventories}) / (\text{Current Liabilities})) * 365$$

	2011	2010	2009	2008
Acid test	0,83379578	0,85994419	0,87505079	0,80260646

In That case like the values are lower than 1, it means that the currents liabilities are too high respect to current assets and this case would be advisable to sell stock to face better the short-term debts.

4. Long term analysis

Now, we are going to analyze the BMW' risks in a long-term period. It's important to determine the situation of the company in the near future, in other words the BMW's capacity to face its debts in a period higher than 1 year.

For studying the Long-term risks of the company, we have calculated:

Leverage Ratio = 1 + (Total Liabilities / Equity)

Leverage ratio analyzes the relationship between external financing and equity.

In the case of Leverage ratio, low values are the optimal situation for the company because it means that has less external financing's dependence

	2011	2010	2009	2008
Leverage ratio	4,5540715	4,60359382	5,11940748	4,98623785

Leverage is the relationship between credit and equity capital invested in a financial transaction. When the company reduces the initial capital that is necessary to provide, there is an increase in profitability. The increase in leverage also increases the risks of the operation, since it causes less flexibility or increased exposure to insolvency or inability to meet payments

As we can see BMW has a high proportion of credit respect equity capital, in other words its profitability is based on a high degree of risk's situation in a long-term. It means that in a financial operation the most invested is external financing.

5. The Balance Sheet's Evolution

As we say in the first presentation about BMW, our company is an expansive company, it means that each year increase its working's scope, it involves a balance sheet growth that we can observe in the next values:

	2011	2010	2009	2008
balance sheet	123429	110164	101953	101086

As a consequence, all the elements that form the balance sheet have increased proportionally:

	2011	2010	2009	2008
Non-current assets	74425	67013	62009	62416
Non-current liabilities	49113	46100	45119	41526
Current assets	49004	43151	39944	38670
Current liabilities	47213	40134	36919	39287

In front of this clear company's growth in the last 4 years, we want to highlight the equity and dividend's evolution, because it allow us that the good results obtained by the company in the last years have increased the reserves and the capital contributed by the owners, and as a consequence there is a constant growth of equity and dividends, in the case of dividends a huge growth in the last 2 years:

	2011	2010	2009	2008
Equity (€ million)	27103	23930	19915	20273
Dividend total	1.508	852	197	197

Once we have analyzed both aspects we want to show the relationship that exists between net profits achieved by the company at the end of the year and the dividends distributed by the company, called **pay-out**.

- **Pay-Out:** The percentage of earnings paid to shareholders in dividends

$$\text{Pay-Out} = (\text{Dividends} / \text{Net Income})$$

	2011	2010	2009	2008
Dividend total	1.508	852	197	197
Net profit for the year	4.907	3.243	210	330
pay-out	0,31	0,26	0,94	0,60

As we can see in the table, the percentage of dividends distributed respect the Net profit achieved by the company at the end of each year have increased considerably. It means that BMW in the last 2 years have preferred to save its net profit within reserves or use in another investment instead to distribute dividends.

6. Debt situation

In these times where there is a high economical crisis, and the indebtedness' option is very often chosen by the companies as a solution to face its debts, we want to analyze the BMW's debt situation and doing a comparison between short-term and long-term debt.

Debt Ratio L/ T= (Non- current Liabilities/equity)

Debt Ratio S/T = (Current Liabilities/equity)

	2011	2010	2009	2008
Debt ratio l/t	1,81208722	1,92645215	2,26557871	2,04834016
Debt ratio s/t	1,74198428	1,67714166	1,85382877	1,9378977

After Analyzing the results obtained, we have to say that the degree of indebtedness is quite high, because in both cases and the liabilities are almost the double than equity.

It means that the level of debt that BMW bears in this moment is almost the double of its equity, thus the most BMW financing is composed by debt.

As we say before the BMW'S profitability is related to risk situation respect external financing, although BMW is decreasing this ratio around the years in average.

It's a risky situation although we have to say that the risk is more concentrated in a long-term that in a short-term and this condition is advisable to manage the risk in a less risky way.

7. *Markets risks*

We thought that we have take into account the risk's whole that can affect our company in the market. We have classified the risks in:

- Risks relating to general economic environment
- Sector risks
- Operating risks
- Personnel risks
- Legal risks
- Risks relating to financial services business
- Information and IR risks

- The sale of vehicles outside the euro zone gives rise to **exchange risks**. Three currencies (the Chinese Renminbi, the US dollar and the British pound) accounted for approximately two-thirds of the BMW Group's foreign currency exposures in 2011. BMW employs cash flow-at-risk models and scenario analyses to measure exchange rate risks. These tools provide information which serves as the basis for decision-making in the area of currency management.

Currency Risks, for instance, affect to international companies (BMW) that it's quoting in foreign markets

We manage **currency risks** in the medium and long term, foreign exchange risks are managed by "**natural hedging**", in other words by increasing the volume of purchases denominated in foreign currency or increasing the volume of local production.

An example of natural hedging for currency risks used by BMW is the **forward contract** which allows the exporter / importer hedge the exchange rate:

The forward contract is the purchase / sale of a currency at a specified date and at a fixed exchange rate.

The purchase / sale of the coin will be made when the agreed period (e.g. 180 days) but then apply the exchange rate agreed at the time the forward contract

- In the **Sector risks** the automotive industry is increasingly under pressure worldwide to reduce both fuel consumption and emission levels. BMW is meeting these challenges with its Efficient Dynamics technology, a strategy with which BMW has had tangible success since it was introduced.

A hedge used in the sector risks is for instance in the medium term BMW **will achieve greater fuel economy by electrifying the drive train and developing comprehensive hybrid systems**

- In the **operating risks** the flexible nature of our worldwide production network and working time models generally helps to reduce operating risks. In addition, risks arising from business interruptions and loss of production are also insured up to economically reasonable levels with insurance companies of good credit standing.

The main categories of risk for the Financial Services segment are: **credit and counterparty default risk, residual value risk, interest rate risk, liquidity risk and operational risks**. In order to evaluate and manage these risks, a variety of internal methods have been developed based on regulatory environment requirements And which comply with national and international standards.

We have analyzed the BMW's Annual report and we have observed that the Main 3 risks that affect our company are the followings:

- **Credit risk** refers to the risk that a borrower will default on any type of debt by failing to make payments which it is obligated to do.
- **Interest rate risk** is the risk that arises for bond owners from fluctuating interest rates. How much interest rate risk a bond has depends on how sensitive its price is to interest rate changes in the market
- **Liquidity risk** is the risk that a given security or asset cannot be traded quickly enough in the market to prevent a loss (or make the required profit)

Now we are going to analyze the different hedges used in each case:

- **Credit risk hedge** → A recent mechanism to protect against defaults is to credit derivatives such as **credit default swaps** which consists in a financial transaction hedging, included within the category of credit derivatives, which is implemented through a swap agreement (swap) on a particular credit instrument in which the buyer of the swap makes a series of periodic payments (called spread) to the seller and, in exchange, is paid a sum of money in case the title that serves asset underlying the contract is not paid at maturity or the issuer incurred into receivership.
- **Interest rate risk hedge** → there are different hedges, the main are **CAP, FLOOR AND SWAP**; Applied to hedges interest rate, these contracts will determine a series of flows of money between the two parties, setting limits to the evolution the interest rate.
- **Liquidity risk hedge** → A **matched funding approach** is used strategically to avoid liquidity risks as far as possible. Using this approach, the segment endeavors – by regular measurement and monitoring – to ensure that cash inflows and outflows from transactions in varying maturity cycles will offset each other.
- The **Personnel risks and legal** are risks based in the new government's regulations about new laws and employees' laws.

When we speak about **personnel risks hedge** used by BMW, the annual report and the different BMW's source don't specify a determinate hedge; the annual report says a **high level of employee satisfaction** is the best way to minimize the risk of know-how drift. The further development of programmes for new recruits from specific target Groups play an important part in both recruiting and furthering the careers of highly qualified staff.

When we speak about the **legal risks** Current law provides the binding framework for our wide range of activities around the world. The growing international scale of business and the huge number of complex legal regulations increase the risk of laws being broken, simply because they are not known or fully understood.

As a **hedge** BMW Group set up a **Compliance Organization** a few years ago to ensure that its representative bodies, its managers and its staff act in a lawful manner.

- **Risks related to financial services** are based on a set of strategic principles and rules derived from regulatory requirements serves as the basis for risk management within the Financial Services segment. At the heart of the risk management process is a clear division into front- and back-office activities and a comprehensive internal control system (ICS).

In order to **hedge** and ensure that the segment is capable of bearing the risks to which it is exposed), we **monitor the segment's total exposure to major risks**. This involves measuring unexpected losses using a variety of value-at-risk techniques, aggregating those losses (after factoring in correlation effects) and comparing the aggregated result with resources available to cover risks (i. e. equity). The segment's risk-bearing capacity is monitored continuously with the aid of an integrated limit system. **The segment's total risk exposure was covered at all times during the past year by the available risk-coverage volumes.**

- The **information and IT risks** are risks related to great importance to the protection of data, business secrets and innovative developments to safeguard against unauthorized access, damage and misuse.

The protection of information and data is an integral component of its business processes and based on International Security Standard ISO/IEC 27001. Staff, process design and information technology each play a role in our comprehensive risk and security concept.

As a **hedge** BMW uses **Regular communication** and **training measures** create a high degree of security and risk awareness among the employees involved.

Employees also receive training from the Group's Compliance Organisation to ensure compliance with legal and regulatory requirements.

Regular analyses and **rigorous security management** ensure a quality standard of protection and also cover the activities of our centralized IT Security Operation Centre, which is responsible for the security of internal network communications.

3. Third Part

BMW Group: Profitability

1. Return on equity (ROE)

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

In other words, the return on equity measures the **financial profitability** of any company in order to compare it with another data's.

This data will be usefully in terms to compare the profitability evolution of the BMW group during the last four years, and we can use it also with the goal to compare our company profitability with other ones from the same sector.

Once defined the concept; we can start calculating the BMW group returns on equity in the period from 2008 to 2011.

We will work out with the following formula to calculate this ROE evolution:

$$\text{ROE} = (\text{profits/sales}) \times (\text{sales/assets}) \times (\text{assets /equity});$$

$$\text{ROE} = \text{margin} \times \text{turnover} \times \text{leverage}$$

$$\text{ROE} = \text{profits (31.12)} / \text{equity (01.01)}$$

After we have taken a look to the general formula, we will analyze the global usage and interpretation of this ratio (ROE), and later, we will continue doing the same with the ratios that compose it (margin, turnover and leverage).

As we can see in the above formula, we can calculate the data dividing the last year profits (31.12) among our actually equity (01.01). We have to highlight that the recommended ROE rate is situated between 15% and 20%. In this range, ROE is generally considered good.

Before pasting a table with the results, we will write out an example of how we have calculated ROE from 2011:

$$ROE_{2011} = 4.907.000.000 / 68.821.000.000 \times 68.821.000.000 / 123.429.000.000 \times 123.429.000.000 / 27.103.000.000;$$

$$ROE = 4.907.000.000 / 27.103.000.000 = 0,1810$$

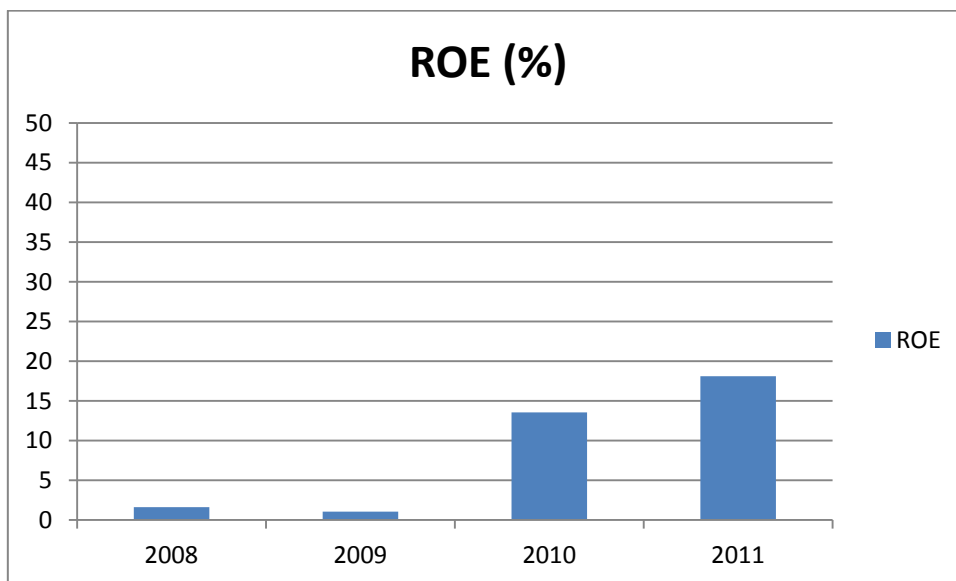
With the idea to facilitate the comparison, this data is giving on percentage. As we have seen in the example calculated in the above formula, the **return on equity** for the year **2011** is related to **18,10%**.

As we can see in the following table (next page), the BMW's group profits related to the stakeholders investments has increased in an exponential way between 2009 and 2010.

Year	ROE
2008	1,63%
2009	1,05%
2010	13,55%
2011	18,10%

The global economic crisis has been probably the main cause from the low percentage obtained on 2008 and 2009, where the customers decreased in a very important way his waste in BMW

group products. In consequence, the stakeholders have seen how their shares profits during 2008 and 2009 have been reduced in a very important way, expecting an economic boom that should revisit their profitability in its expected value.



Once the group advanced to 2010, their return on equity has returned on its main value, situated in a ideal range between the 15-20% we have said some lines before. On 2010, the percentage has been multiplied approximately for thirteen, increasing in a several way the profits earned from the stakeholders related with their capital investment. In the next year, 2011, ROE continues rising to place it in a more optimal value, around the 18%.

This data allows us concluding that the BMW group starts breaking the profits fall caused by the global economic and financial crisis on 2010, continuing on its profits increasing on 2011 to our times.

1.1 Profit Margin Ratio

A ratio of profitability calculated as **net profits divided by sales**. It measures how much out of every currency (dollar, Euro...) of sales a company actually keeps in earnings.

Profit margin is very useful when comparing companies in similar industries. A higher profit margin indicates a more profitable company that has better control over its costs compared to its competitors.

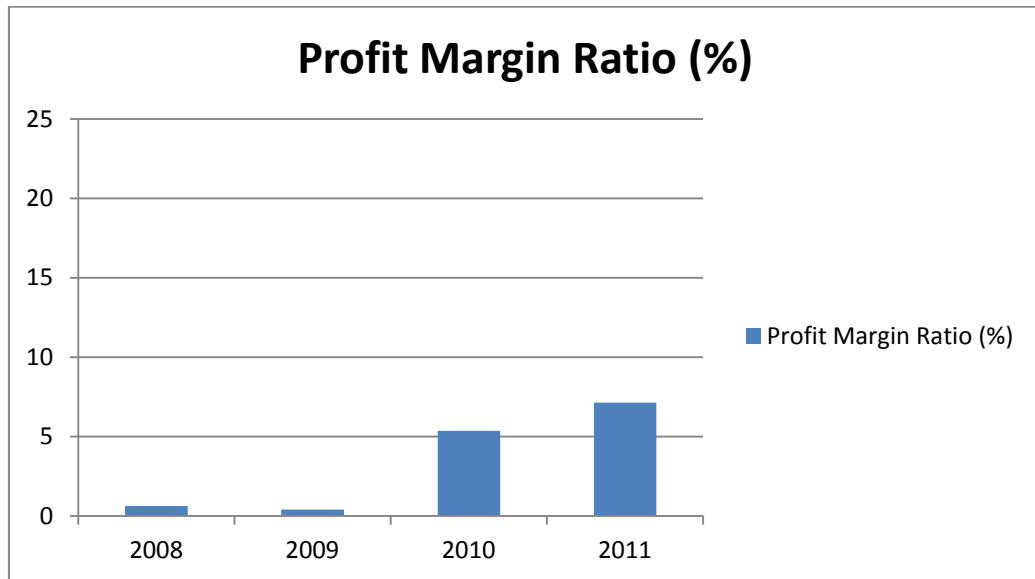
To interpret this ratio we must adhere to the following guidelines;

- Profit margin is displayed as a percentage. As we can see in the following table, the profit margin obtained in 2011 is equal to 7,1%, data that it means that the company has a net income of 0,071 € for each € of sales.

2011	2010	2009	2008
0,07130	0,05362	0,0041	0,0062

As we can see in the last table, the profit margin ratio trend is similar to the ROE's one (obviously, ROE's results directly depend on this ratio ones). Taking in account the low results from the first period caused maybe for the global crisis and later, the net income earnings for each sale increase. This clearly positive increase of the profit

margin ratio for the company means that it earns a bigger amount of capital for each sale.



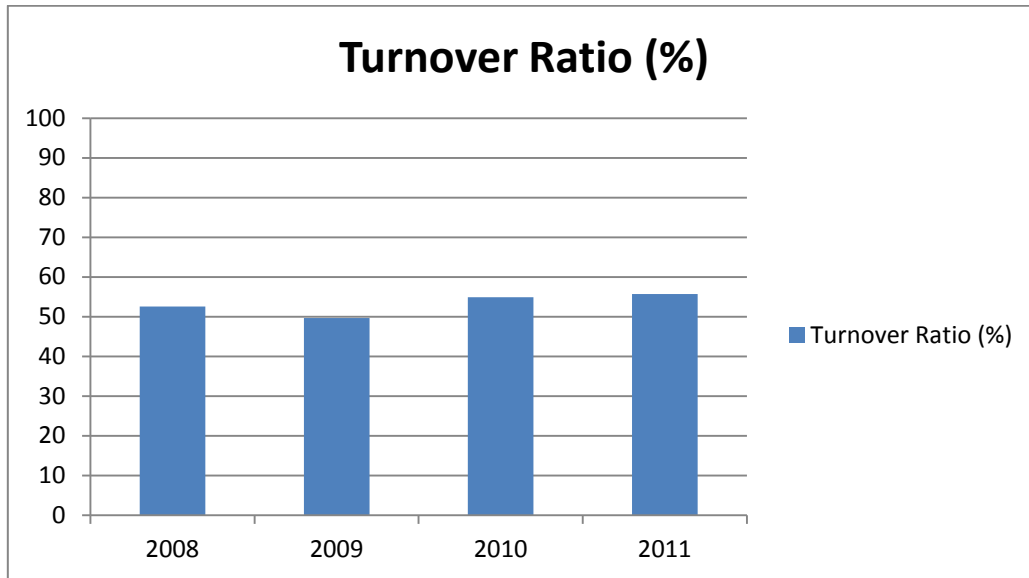
1.2 Turnover ratio

When we talk about the turnover ratio, we are relating to the amount of sales generated for every Euro's worth of assets. It is calculated by dividing sales in Euros by assets in Euros. We work out with it using the following formula:

Asset Turnover Ratio = sales/total assets

Asset turnover measures a firm's efficiency at using its assets in generating sales or revenue. **It also indicates pricing strategy:** companies with low profit margins tend to have high asset turnover, while those with high profit margins have low asset turnover.

2011	2010	2009	2008
0,5575	0,5489	0,4971	4,9862



1.3 Leverage ratio

Financial leverage can be aptly described as the extent to which a business or investor is using the borrowed money. Business companies with high leverage are considered to be at risk of bankruptcy if, in case, they are not able to repay the debts, it might lead to difficulties in getting new lenders in future. It is not that financial leverage is always bad.

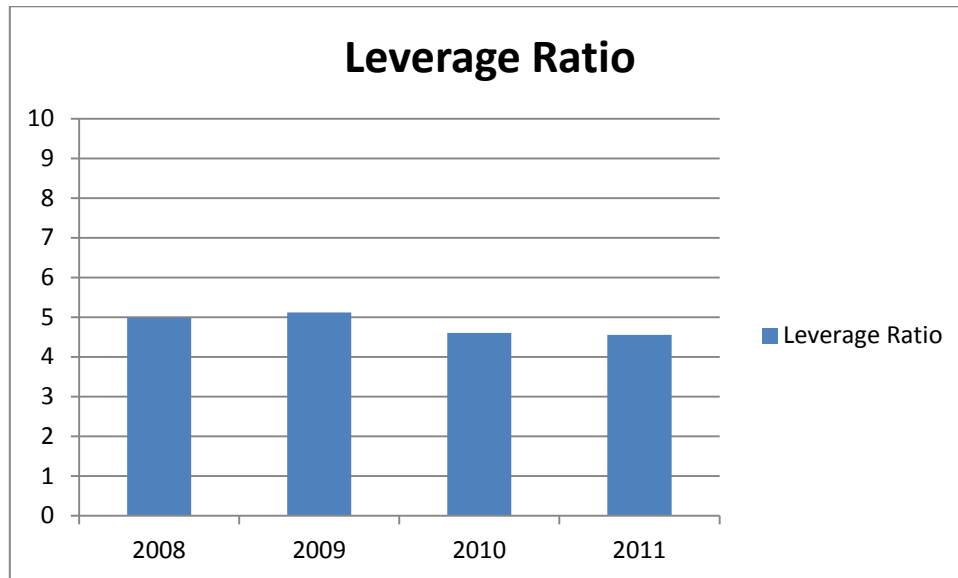
Financial leverage indicates the reliability of a business on its debts in order to operate. Knowing about the method and technique of calculating financial leverage can help you determine a business' financial solvency and its dependency upon its borrowings.

To calculate this ratio, we will work with following formula, which relates total asset with equity:

$$\text{Leverage ratio} = \text{total assets (01.01)} / \text{equity (01.01)}$$

In order to interpret the results, the theory told us that if the financial leverage ratio of a company is higher than 2-to-1, it indicates financial weakness. If the company is leveraged highly, it is considered to be near bankruptcy. Also, it might not be able to secure new capital if it is incapable of meeting its current obligations.

2011	2010	2009	2008
4,55	4,60	5,12	4,99



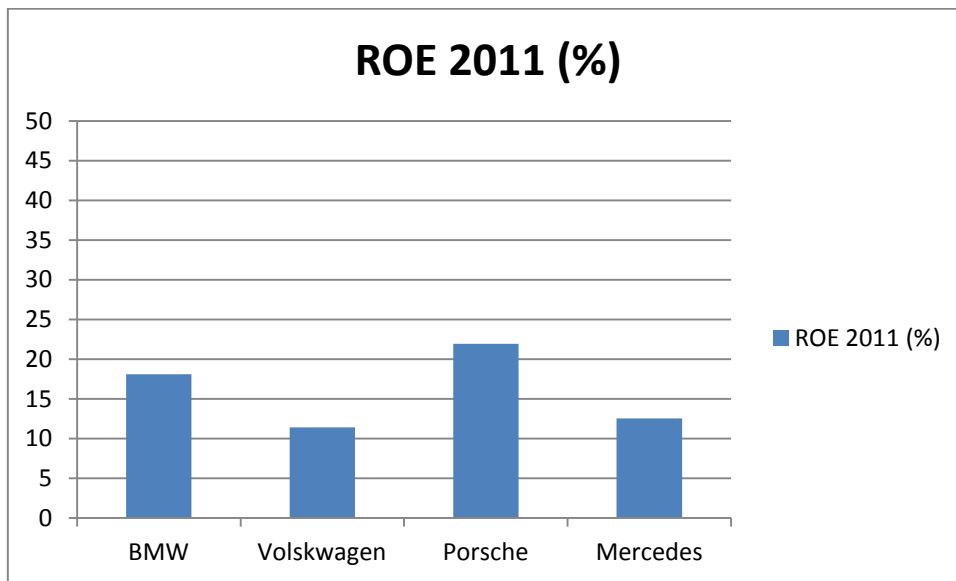
As we can see in the previous table, BMW group has worked out with a high degree of leverage. This means that the group is working with a high risk, because it finances its business with a high degree of debt, taking many debts. But contrary that it said the theory, big international firms as BMW are normally working out its business with so high leverage ratios, that's because its big number of business and investment career a very important amount of cash and liquidity to finance it.

1.4 ROE's increase reasons

Now, we will continue the ROE analyzes comparing the ratio between companies of the same sector, the automobiles one. We will target this part of the study on premium automobile brands, concretely on BMW (of course), Volkswagen, Porsche and Mercedes.

As we can appreciate in the following graph, the BMW group one of the most profitable companies in the sector. As we have explained in the last pages, the Group is increasing on profitability despite the global crisis. If we look up to the graphic, we can see that is not only our brand which is rising, so thanks to the previous graph we

can conclude that the premium automobile brands are increasing its profits by an increasing of its sales



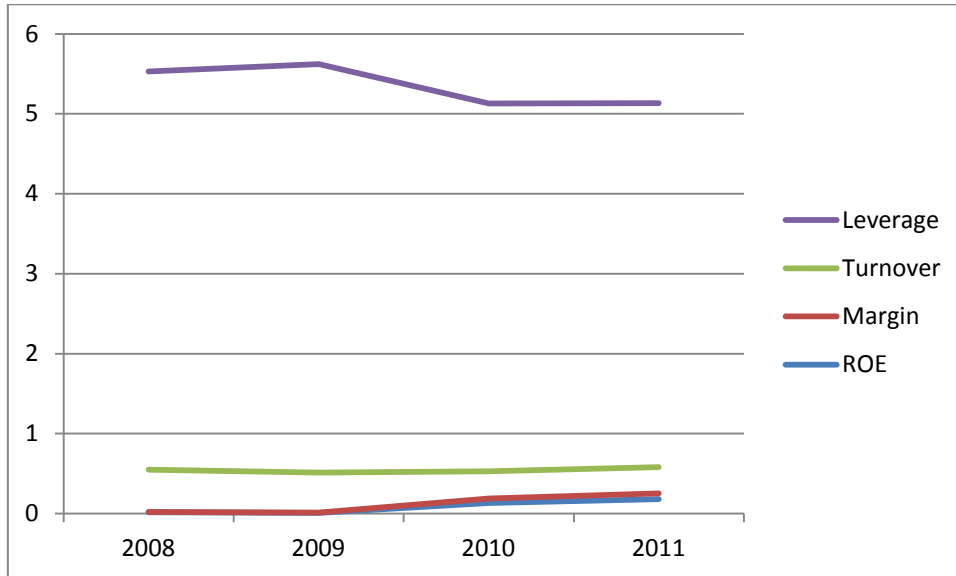
In the following table, we can appreciate how the increases of the revenues (caused by the sales increase) in the last years has contributed in a very important grade to the rise of the profits of the year, contributing in the same way on the exponential increase of the ROE.

In the following table, we can appreciate the relationship between revenues, profits and equity:

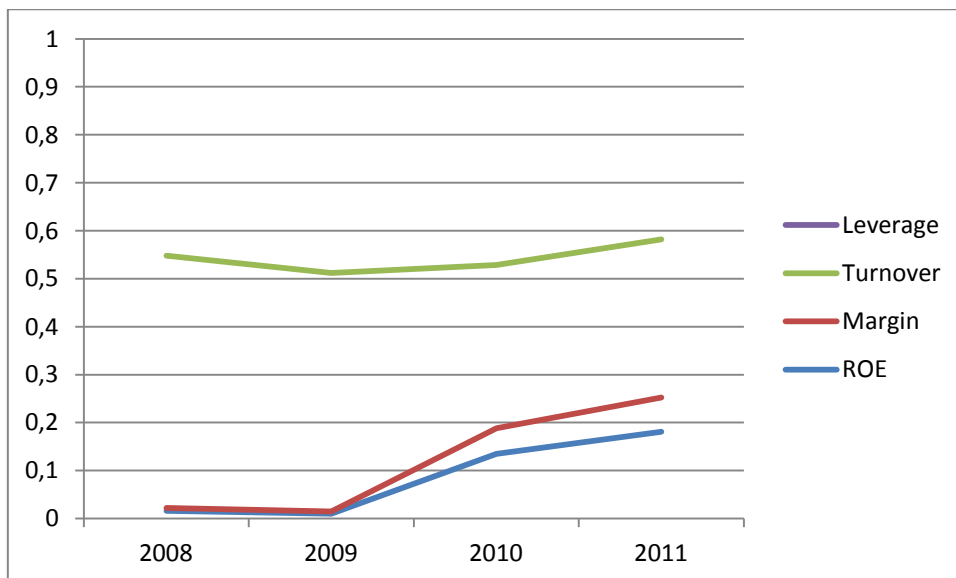
	2008	2009	2010	2011	Growth rate % (2008 to 2011)
Revenues	53.197.000.000	50.681.000.000	60.477.000.000	68.821.000.000	29,37007726
Net profit for the year	330.000.000	210.000.000	3.243.000.000	4.907.000.000	1386,969697
Equity	20.273.000.000	19.915.000.000	23.390.000.000	27.103.000.000	33,69012973

As we can see in the table, the significant growth increase its not to be caused in a important way by the equities decrease (it has increased, in a lower way than revenues or net profit), but yes by the net profit for the year increase. But we have a problem now: why the net profit for the year has this exponential growth rate in front of a big lower growth rate as we can see in the revenues one?

We will start the analysis looking for if the three ratios we use to calculate ROE (Margin, Turnover and Leverage) follows the same trend in order to understand its relationship. We will start studying the following graph:



In this graph we cannot appreciate any clearly indicator of which ratio is directly affecting this ROE increase, but if we work out in a more accurate way and we approach the graph we will find the answer of our question:



Finally we have found the key of the ROE's increase: the profit margin ratio increase. As we see in the graphs above, turnover and leverage ratios stand approximately constant meanwhile the profit margin ratio ones rises on an exponential way.

We can say that this margin by increasing could be caused by the sales price and/or reducing costs, that means, try to gain more for each unit sold, for example reaching better agreements with suppliers.

As we have explained, this ratio (margin) is calculated by dividing net profits by sales. Then, if we have seen that the net profits of the year are increasing in a bigger way than the revenues (quantified sales) of the Group, the group is earning a bigger amount of money for each sale.

Now, we will continue with the comparison between Return on Equity and Return on Equity before taxes.

1.5 *ROE vs. ROE_{bt}*

As we have explained in previous lines, the company can influence in its profitability after taxes through 3 main factors:

- 1- Expenses related to sales (operation margin)
- 2- Sales related to assets (turnover)
- 3- The debt's cost used to support the capital's structure of the company.

The effect of these 3 factors is magnified with the financial leverage and **is reduced with the taxes.**

The taxes reduce the shareholder's profitability. If we multiply the capital's profitability before taxes by (1 minus – tax), we are going to obtain the ROE:

$$ROE_{BT} * (1-T) = ROE \text{ as a consequence } \rightarrow ROE_{BT} = EBT / \text{Equity}$$

$$ROE_{BT} = 7075 / 27103 = 0,2610$$

ROE_{BT} ratio involves subtracting the tax payment from ROE; it means that is not considered the fiscal impact on the financial profitability.

Now, we are going to see the **fiscal impact** that bears BMW through the graph representing the difference between ROE and ROE_{bt}. We will start explaining a little bit about the real tax rate.

- *Real tax rate*

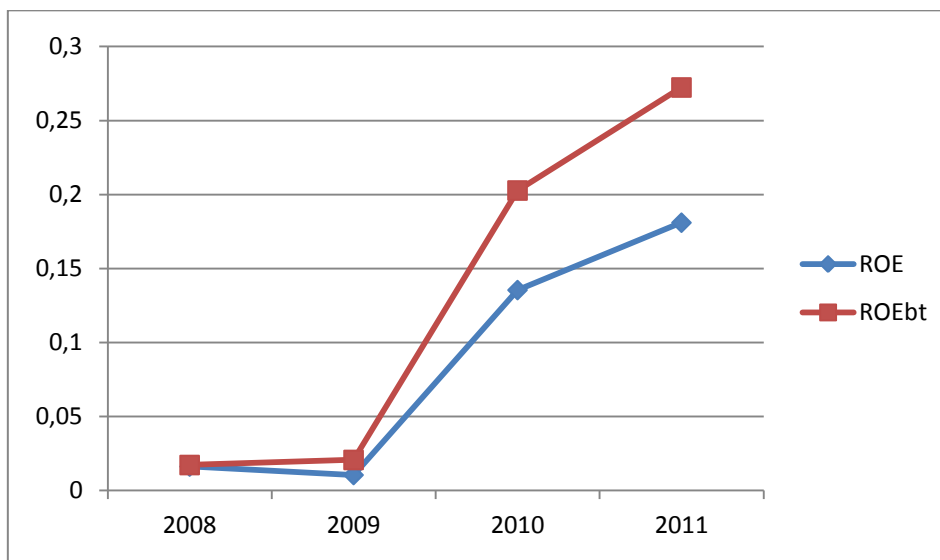
In order to determine the tax rate applied by German government to German companies, we are going to show the real tax rate.

How can we obtain it? → $TAX RATE = (TAXES PAID BY BMW/EBT)$

	2011	2010	2009	2008
Taxes paid	2476	1610	203	21
EBT	7383	4853	413	351
TAX RATE	33,53%	33,17%	49,15%	5,98%

Explained this part, we are able to represent both ratios (before and after tax ROE). By this way, we will be able to analyze, compare and show the relationship between both and how taxes affect the company profitability.

	ROE	ROEbt
2008	0,01627781	0,017313668
2009	0,01054482	0,020738137
2010	0,13552027	0,202799833
2011	0,18105007	0,272405269

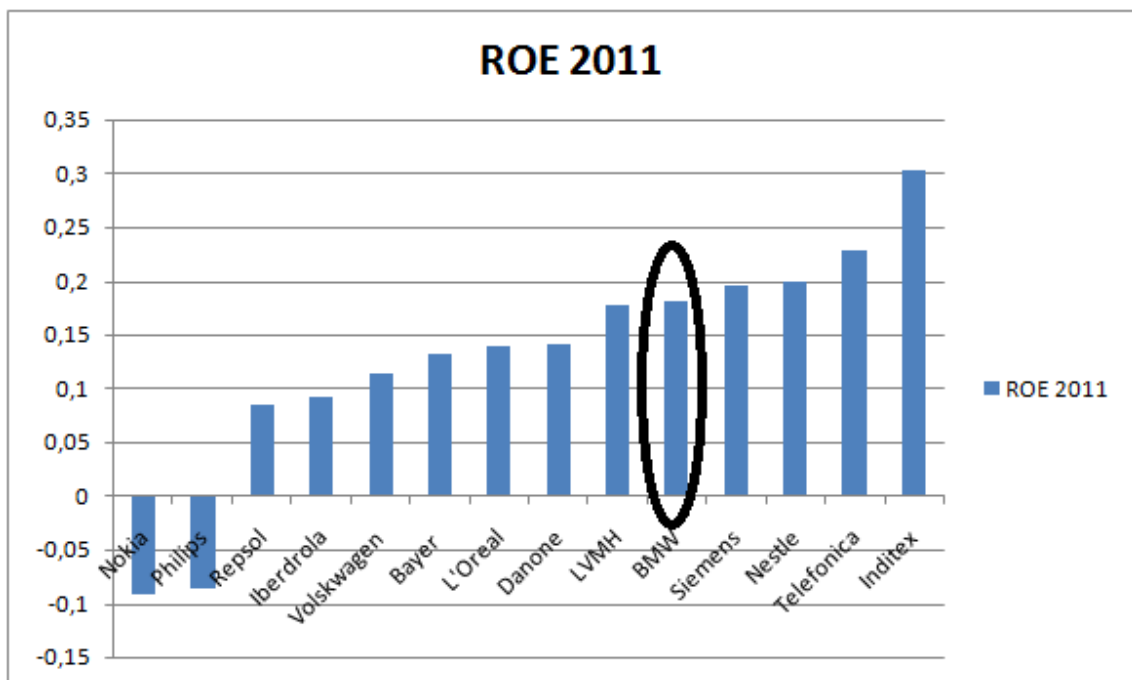


As we can see, both ratios are following a similar growing trend, although the ROE before taxes is growing in a more exponential way, generating more profitability. We can say that as the ratios are increasing the fiscal impact is growing too, because as they are increasing the difference of value between both (ROEbt – ROE) is increasing too, which means that the company is paying a bigger amount of money in terms of taxes.

1.6 BMW Group position

Once finished the ROE analysis for the particular company (BMW group), we will finish explaining about this ratio comparing the BMW position in the Eurostoxx 50.

As we have done during all the work, we will use a graph to explain this comparison with the idea to have a more visual tool to analyze and understand the idea:



We can appreciate that the BMW group is one of the most profitability company around the Eurostoxx 50 (in Equity terms). That means that our analyzed company is one of the companies which take a higher profit for each invested amount of money invested of its Equity as it regards its ratios calculation: net profits of the year divided by equity.

2. Return on assets (ROA)

The return on assets (ROA) percentage shows how profitable a company's assets are in generating revenue.

It is one of the indicators used by investors to analyze their investments or partners to assess the management of the manager. The ROA is defined as the economic profitability on the total investment without considering the type of financing.

It measures a company's earnings in relation to all of the resources it had at its disposal (the shareholders' capital plus short and long-term borrowed funds). Thus, it is the most stringent and excessive test of return to shareholders. If a company has no debt, the return on assets and return on equity figures will be the same.

The formula used to calculate ROA is the following:

$$\text{ROA} = (\text{EBIT}/\text{sales}) * (\text{sales}/\text{assets})$$

$$\text{ROA} = \text{EBIT}/\text{assets}$$

As we can see in the above formula, we can calculate the data dividing EBIT (earnings before interest and taxes) among the actual assets.

Before pasting a table with the results, we will write out an example of how we have calculated ROA from 2011:

$$\text{ROA}_{2011} = (8.018.000.000/68.821.000.000) * (68.821.000.000/123.429.000.000);$$

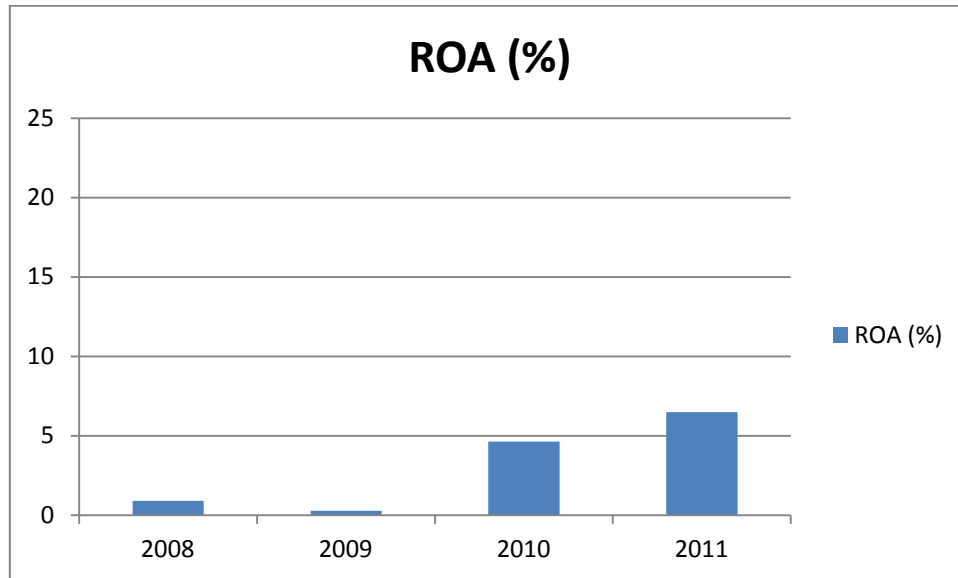
$$\text{ROA}_{2011} = 8.018.000.000/123.429.000.000 = 0,065$$

Once we have showed how we acquire the data's, we are able to paste the table with the ROA evolution in the BMW group in the last four years, explaining and interpreting the meaning of its evolution.

As we have seen in the previous table related to the return on equity, the BMW group profitability was strongly affected by the European impact of the global economic and financial crisis. This could be

Year	ROA
2008	0,91%
2009	0,28%
2010	4,64%
2011	6,50%

the main cause of the low profitability obtained for assets during 2008 and 2009.



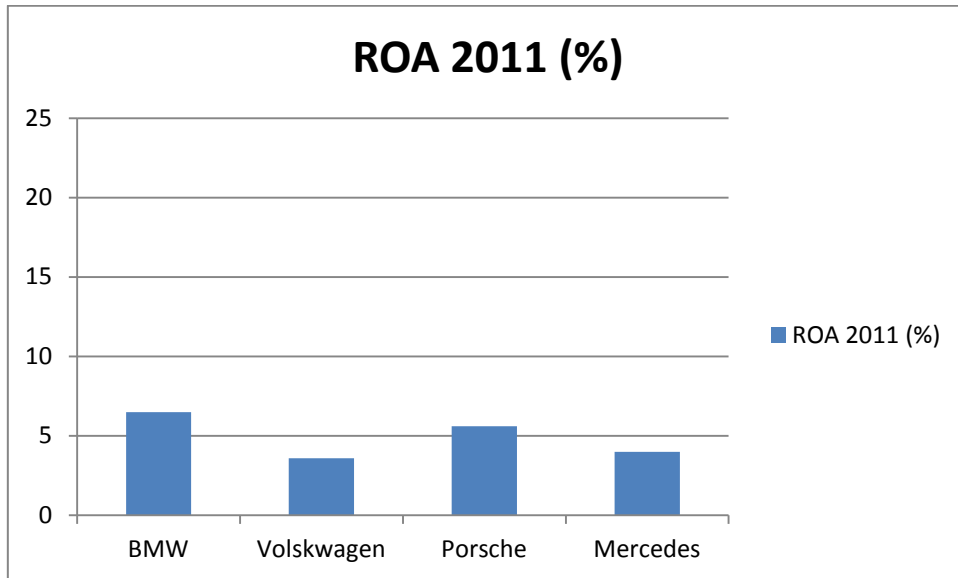
During these years (2008 and 2009) the BMW group has obtained a profitability closed to 0-1%, what it means that their assets profits are related to this 0-1% from its earnings before interest and taxes (EBIT). So we must interpret this ratio in the following way:

- If our ROA is 4%, we can draw from this data that the firm takes a profitability of 4% from every asset related to its EBIT (earnings before interest and taxes).

When we analyze the next period (2010 to 2011) we appreciate an important increase of this ratio, related to an increase of the assets profitability. This rise may be caused by the economy improvement, allowing the group to increase its sales and in consequence, its revenues.

Thus, the group has gone from having assets profitability of about 1% related to the EBIT to increase that assets profitability to a 6,5% what it means a very important rise, been a substantial growth of this profitability of the BMW assets (as we have said, this ratio is always related to EBIT).

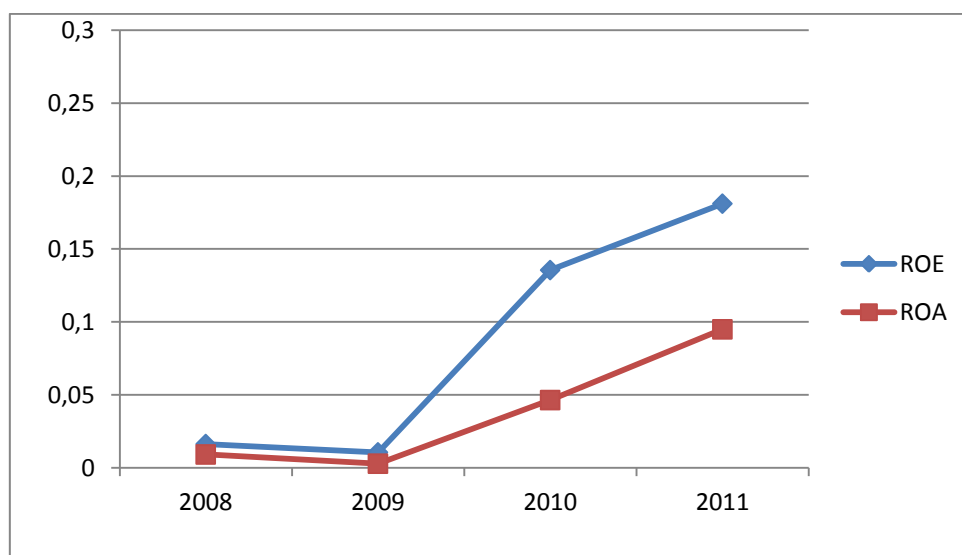
Now we are going to see the comparison between the ROA of other companies of the same market:



2.1 ROE vs.ROA

We can say that the difference between both is all about liabilities. The big factor that separates ROE and ROA is financial **leverage**, or **debt**. The balance sheet's fundamental equation shows how this is true: $assets = liabilities + shareholders' equity$. This equation tells us that if a company carries no debt, its shareholders' equity and its total assets will be the same. It follows then that their ROE and ROA would also be the same.

But if that company takes on financial leverage (as it happens in the BMW Group), ROE would rise above ROA.



When debt increases, equity shrinks, and since equity is the ROE's denominator, ROE, in turn, gets a boost. At the same time, when a company takes on debt, the total assets - the denominator of ROA - increase. So, debt amplifies ROE in relation to ROA.

As we can see in the last graph that is what it happens, ROE is amplified against ROA. Its strong ROE is a solid signal that managers are doing a good job of generating returns from shareholders' investments. ROE is certainly a "hint" that management is giving shareholders more for their money.

On the other hand, if ROA is low or the company is carrying a lot of debt, a high ROE can give investors a false impression about the company's fortunes. So as we can see, ROA is increasing too in last year's so it is a good notice from the company because they are financing its resources with a lower level of debt, decreasing its risk level.

3. Value added

EBITDA + Salaries

We can define it as increased wealth generated by the activities of a company in the period under consideration.

Another form to calculate it; is obtained by reducing sales revenue, the incorporated materials and other external services.

This added value is distributed among the factors that have created: **labor and capital**, pay, payment, each of them represents a cost to the company.

The value added of the labor is remunerated by labor costs, including **wages of employees of the company and social security contributions**.

The values of the value added generated by BMW in the last 4 years are the following:

	2011	2010	2009	2008
salaries	8514,675	7936,057	6962,144	7564,300
EBITDA	14545	10932	5321	6065
Value added	23059,6754 M €	18868,0579 M€	12283,144 M€	13629,3M€

In the last 2 years analyzed we can observe a clear increasing trend of the value created by the company. This fact is caused mainly by the great increase generated on the EBITDA, because the trend of the salaries remains an increasing constant trend over time.

In the following section we are going to see how the company has managed this value added respect to the salaries paid to employees of the company.

We can analyze the previous table with another perspective but in the same way; how the **company is acting respect to its added value**, for that reason we are going to show the following table showing this relationship in our company in the last 4 years:

SALARIES/EBITDA

2011	2010	2009	2008
0,5854	0,7259	1,308	1,247

In 2011, for each euro paid in salaries, BMW has got 0,5854 € IN EBITDA.

The analysis of this table is so clear, we can appreciate the first two years that the impact of the economic crisis affects hardly the EBITDA obtained by our company despite to the salaries remained constant; for that reason the value obtained is quite higher than in 2010 and 2011.

On the other hand we can see in 2011 and 2010 the economic recovery of BMW after the crisis; and as a consequence BMW obtained an EBITDA so much higher and the salaries remained in a constant growth, for that reason the values obtained are so lower than before.

For noticing this fact we are going to see the difference between 2009 and 2011 for instance:

2009:

- **Salaries**

Workforce at the end of the year * Personnel cost per employee

$$= 96230 * 72349 = \mathbf{6.962.144.270 \text{ €}}$$

- **EBITDA**

4.000.082.890

2011:

- **Salaries**

$$100.306 * 84887 = \mathbf{8.514.675.422}$$

- **EBITDA**

14.545.000.000

4. Cost of capital (K)

In this section we are going to calculate the value of (k) which means the cost of financing to BMW.

The formula used to calculate this formula is:

$$ROE_{BT} = ROA + (ROA - K) * \text{Liabilities/Equity}$$

$$0,2610 = (0,2610 - K) * (96326 / 27103)$$

$$K_{2011} = 0,961\%$$

The values of the K is so low respect the other companies analyzed en class; it mean that BMW has a great competitive advantage in financing respect to the others because our financing is quite cheaper than the rest because our capital cost is equal to what the market would demand for investing in a project with a similar risk we are considering; and In our case the quantity demand is lower.

5. Optimal BMW situation

Once we know the situation of our company respect to the leverage ratio, now we want to know if we are close to the optimal or not; for that reason we are going to calculate the optimal leverage ratio through this formula:

$$ROE_{BT} = ROA + [ROA - e] * (Liab. / Equity) - j * (Liab. / Equity) ^2$$

$$0,2610 = 0,0649 + [0,0649 - 0,005] * (96326/27103) - j * (96326/27103) ^2$$

$$j = 0,01328$$

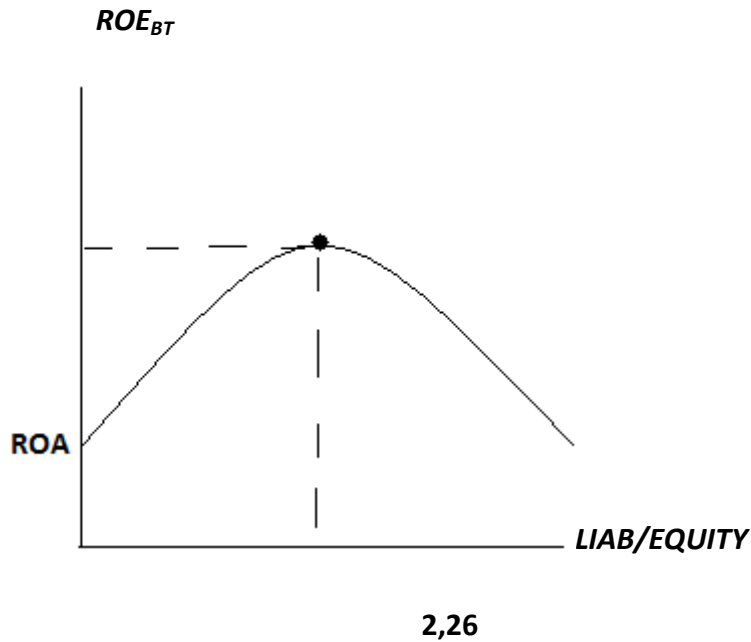
By this formula we relate ROA and ROE_{BT} in order to find the value of **j** which is the **bank's sensibility**. The value of the **e** is more or less 0,49 , which is the value of the Euribor and whose function is to tax the loans they make to each other banking institutions in the Euro zone.

The analysis of bank's sensibility through this value allow us to visualize in a fast way the economic advantages and disadvantages of a project. It can proportionate us the basic information to take a decision according to the risk degree that we want to take it.

In our case $j = 0,01328$ the willingness of banks are quite high because for the value of j is so low.

But if we really want to find the optimal leverage ratio we have to work with the following formula:

$$(ROA - e / 2*j)$$



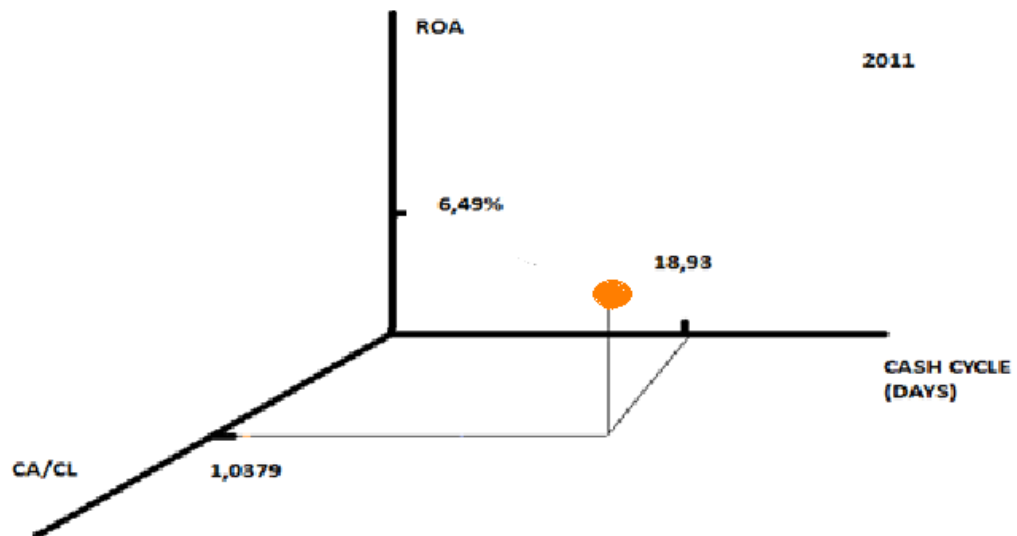
The optimal leverage ratio would be 2,26 $\rightarrow (0,0649-0,0049)/ 2* 0,01328 = 2,26$

If we compare the real leverage ratio with the optimal one, we find the conclusion that the leverage ratio of BMW is too high and it's involves in an excess of debt for the company and it can derivate in a risky situations in a near future

Finally we have to say that the profitability of the company is quite related to the risk taken.

6. Profitability respect to the risk in a short term period

ROA	6,49 %
CASH CYCLE	18,93 DAYS
CA/CL	1,0379



Once we have analyzed this graph we can say that BMW is perfectly solvent in a short term period.

The ROA is increasing over time in the last year achieving its maximum value in 2011 with 6,49 % , focusing in the cash cycle conversion we have to say mainly that it's positive and it means that the average period payment is higher than average period income; in other words BMW doesn't have the gap production's situation because receive the money before pay to the suppliers.

If we focus in the last aspect analyzed the relationship between current assets and current liabilities we have to say that the asset are higher than liabilities; it means that the debts in a short term period are well covered.

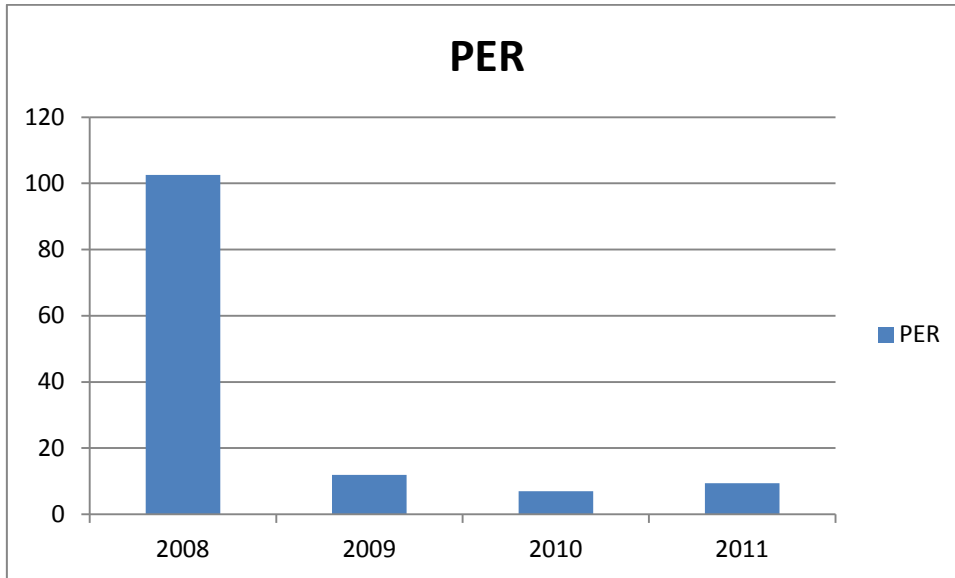
7. PER

When we speak about the PER we speak about the price of the current share regarding earnings per share.

PER = SHARE PRICE / EPS (EARNINGS PER SHARE)

	2012	2011	2010	2009
PER	9,38	6,95	11,96	102,58

<http://www.eleconomista.es/empresa/BMW/recomendaciones-consenso>



Explaining this behavior we have to calculate the price x share:

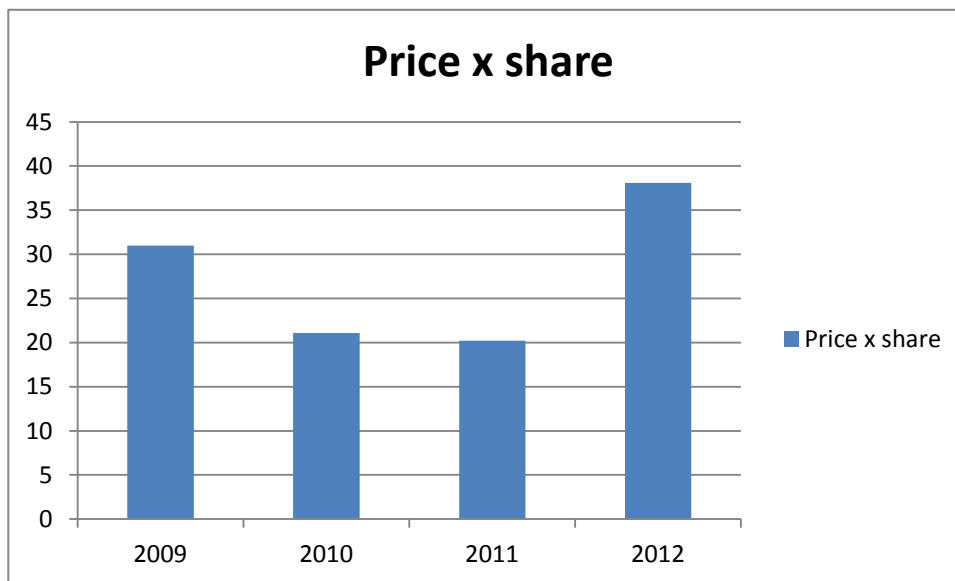
	2012	2011	2010	2009
Pay-out	0,3654	0,3073	0,2627	0,9380
Real tax rate	0,3392	0,3353	0,3317	0,4915
Dividend x share	2,50	2,30	1,30	0,30
1/PER	0,1066	0,1438	0,0836	0,00974
g	0,041	0,03	0,022	0,00008

g = growth rate

$(1-\text{payout})(1-\text{tax rate}) * \text{Roa}$

PRICE X SHARE = (Dividends per share / ((1/PER) - g))

	2012	2011	2010	2009
PRICE SHARE	38,11 €	20,21€	21,10€	31€



Once we have analyzed the table we have to say that is a good idea invests in BMW for several reasons.

The price per share has a clear increasing trend; it means that your investment in BMW will be more profitable over time.

Another reason is the increasing trend of the dividends distributed in the last years; the better companies are which don't require having low salaries to obtain profitability.

On the other hand if we focus on the growth rate, we have to say that it's increasing over time, the company is not affected by the economic crisis, and the German companies are take advantage about the situation improving its financial situation, specially the companies situated in the luxury sector.

Focusing in the **dividend per share** and **growth rate** we also observe an increasing trend in both aspects, it means that the company is in a growth process despite the economic situation and on the other hand we have to say that BMW manage its profitability without the need to decrease its salaries, it reflects that.

8. Conclusions

The conclusions obtained in the profitability section of this work are so positive respect to BMW.

- ROE has a positive increasing trend in the last years; in other words the **financial profitability** is in a optimal situation respect to the other companies analyzed in class. (18%).
- ROA has a positive increasing trend in the last years; in other words the **economical profitability** of the BMW is increasing and currently has the highest ROA of the companies of the same market segment which we have analyzed.
- **ROA > K**, It means that the economical profitability obtained in the projects or investments performed by BMW are higher than the cost of capital; so it involves that financing would be a good option for BMW, because the investments will be profitable.
- Focusing in the financing way used by BMW we have to say that **debt** is excessively used by BMW; because the current leverage ratio is 4,55 and the optimal one is 2,25, it could cause risky situations in long-term period to the company if don't manage correctly its financial situation.
- The **bank's sensibility** obtained (J) is a quite low value respect the other companies analyzed in class, it means that that the banks are willing to lend money to BMW before other companies.
- Focusing in the **dividend per share** and **growth rate** we also observe an increasing trend in both aspects, it means that the company is in a growth process despite the economic situation and on the other hand we have to say that BMW manage its profitability without the need to decrease its salaries, it reflects that

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