

„KHHT Dolgozat”

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A magyar autóipar elemzése 1990-től napjainkig

The Performance of the Hungarian Automotive Industry and Market from 1990
to Nowadays

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II. évf.

Pénzügy és Számvitel Szak (Angol képzés)

Budapesti Gazdasági Főiskola

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A magyar autóipar elemzése 1990-től napjainkig
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Kutatásunk témája a magyar autóipar illetve autópiacon helyzete 1990-től napjainkig volt. Arra kerestük a választ, hogy alapvetően mi mozgatja a keresletet és a kínálatot, valamint milyen tendencia figyelhető meg bennük. Felállítottuk a hipotézist, miszerint a magyarországi autópiacon meghatározó szegmense a gazdaságnak, és a kereslet-kínálat folyamatában különféle tendenciák figyelhetők meg. Megvizsgáltuk azon változókat, melyek alapján meghatározzák az eladásokat. Ez magába foglalta az egy főre jutó bruttó hazai termék, a tényleges olajár, illetve a pénzügyi piac helyzetének részletes elemzését. A vizsgálat során statisztikákat, grafikonokat és másodlagos irodalmat alkalmaztunk. Ezenkívül, interjúkat készítettünk autópiacon szakemberekkel, melyeket alaposan kielemeztünk. Kérdéseink főleg az eladási tendenciákra és az ok-okozati összefüggésekre fókuszáltak. Mivel a rendszerváltás folyamata jelentősen befolyásolta a piacon helyzetét, elemzésünkben külön kitértünk a pénzügyi és a strukturális következményekre, mint például a külföldi működő tőke beáramlása (FDI). A dolgozat végén levontuk a konklúziót, mely szerint az autópiacon a magyar gazdaság fontos szereplője, ezért ösztönözni kell a keresleti oldalt, ami egy komplex folyamat, és nagymértékben függ a világgazdasági viszonyoktól.

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The theme of our research was the Hungarian automotive industry and market from 1990 to nowadays. Basically, we made an attempt at answering the question how the demand and supply side of the car sales work, what is more we tried to find recurring patterns, in other words tendency in them. We used this methodology in order to formulate our hypothesis that the Hungarian automotive industry and market play an important role in the Hungarian economy. Besides this, we also described the tendencies in the car sales demand and supply. We scrutinised the variables that fundamentally determine the car sales growth. This included the detailed analysis of GDP per capita in Hungary, the real oil price and the financial market conditions. Our research involved statistics, the application of graphs and secondary literature. Moreover, we conducted interviews with the professional representatives from the automotive industry, we analysed them and drew the conclusions that supported our hypothesis. Our questions to the interviewees focused mainly on the tendencies of car sales and the strategies in the short and long term. As the transitional economy significantly influenced the market, we studied the process and results of it, for instance the Foreign Direct Investment inflow into Hungary by the means of automotive companies. As a conclusion, we found that the Hungarian automotive industry and market has significant impact on the Hungarian economy. Therefore, incentives should be created for the sake of encouraging the demand side of car sales, though it is a complex process and depends heavily on the global market conditions.

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I.INTRODUCTION

In retrospective, Henry Ford had a great vision when he noted: “I will build a motorcar for the great multitude.” in 1908. (About.com Investors) The manifestation of this vision was the model T, which was one of the first products of mass production. Ford’s idea of the moving assembly line revolutionised the whole world of commerce and trading, what is more a new industry emerged that is the automotive industry. Since then, the car business has become one of the most influential factors in the global economy. Needless to say that after the transition period, the Hungarian automobile market also participated from this boom. Hungary’s automotive industry is also one of the key sectors in the national economy, accounting for approximately 10 percent of GDP on the basis of data of 2010, and employing about one hundred thousand people in the workforce. (HR Portal) This paper will offer a descriptive study of the automotive industry from 1990 to nowadays in Hungary and will try to highlight the process how such a successful market emerged and then declined due to the crisis.

In socialism there was no real auto market, the liberalization of the market occurred after the transition period. This resulted in the complete restructuring of the economy, which resulted in a new situation. Obviously this was a complex and slow procedure, but we will see that the investors quickly realized the gap to invest into Hungary. Therefore, we will analyse the transitional economy in Hungary in order to understand the context in which Foreign Direct Investment emerged. The concept of privatization will be discussed, and the advantageous economic circumstances, which resulted from the transitional economy. We will introduce the favourable points that attracted the foreign investors, such as Audi or Suzuki.

After having discussed the transitional economy in Hungary, we will study the Foreign Direct Investment and its role in the automotive industry in the second chapter. We will conclude that FDI has a positive impact on the economy for several reasons. However, it should be emphasized that there are also obstacles and motivators for the investors, and if we study them we can understand the process of it. It is inevitable to make the connection between the automotive industry and FDI, and we will demonstrate this with the example of Audi and

Mercedes. The main point is that the automotive industry and FDI are inseparable terms, and these kinds of investments are very profitable for the country in the long term.

As the main interest of our research is the Hungarian automotive industry we shall be able to interpret the car sales and their tendency. In order to do this, first we have to focus on the determinants of car sales growth. Our model will be based on the GDP per capita, on the real oil price and on the financial market conditions. We will study these variables one by one in more detail in the third chapter. We will observe that the real oil price and the financial market conditions are the most important factors, therefore we will emphasise their role with paying special attention to the processes that influence them. For example, we will discuss the supply and the demand aspect of the crude oil price.

In order to receive a thorough picture of the automotive industry in Hungary, we will include some interviews with the stakeholders. In these interviews we will focus on the process they experienced in this sector and will highlight the positive and the negative points both from the point of view of the producer and the consumers. Both a strategic and a financial aspect will be provided in the third chapter in which we will analyse the above mentioned interviews.

The conducted research will support our hypothesis that the Hungarian automotive industry and market show noteworthy features. These will be discussed in detail with the help of the above mentioned factors. We can raise the question, will they justify our thesis that the Hungarian automotive industry and market are important for the Hungarian economy? Hopefully, at the end of our paper, in the conclusion part we can answer this question. We have to add that the Hungarian automotive industry and market are complex issues, but we presume that the arguments we chose (the GDP index, the real oil price) are reliable in economic issues.

Our conclusion will lead to the ultimate idea that the Hungarian automotive industry is the organic part of the economy for several reasons. Even though it is a relatively new market in Hungary it could manage to enhance the economy, what is more it could attract foreign investors, which profited the economy. The crisis shook this industry, but the participants are optimistic about the future prospects. It will be clear that it is not in the interest of the stakeholders to allow the market to collapse. What is more it would not serve the Hungarian economy, because this is an essential sector.

II. TRANSITIONAL ECONOMY IN HUNGARY

In socialism, people had to wait for years to have a car, what is more it was the privilege of a very narrow layer of the society to require a car. After the transition period this has radically changed, everybody can have a car as long as they can afford it, without waiting for it for years. However, affordability is not really an obstacle anymore, since people can take out a loan and can have the car basically regardless of their financial status. This chapter will scrutinise the automotive industry in Hungary from 1990 to the beginning of the crisis, 2006-2007, and will highlight how this industry could become one of the key sectors in the Hungarian economy. In the first half of the chapter, we will study the foreign direct investment, that is the multinational companies, and then we will turn to the market that reacted to the increased demand.

Though Hungary is a relatively small country compared to other Western countries, there is a market of automobiles, which was established about during ten years. Due to the market economy, investment possibilities emerged, which were optimistic for the foreign investors. There were several reasons why Hungary was an attractive country to invest into, and the big multinationals, such as Audi or Opel quickly realised this opportunity. Thanks to the automotive foreign direct investment arrived to Hungary, which had a great impact on the economy. Not only did Hungary's export increased considerably, but the labour market profited as well.

Now, we turn to the issue of foreign direct investment and show how both Hungary and the investors could make mutually beneficial agreements. First of all, it should be mentioned that we can talk about the term, transitional economy, which refers to the process of transition. Namely, the transition from a centralised socialist economy to the capitalist system. There are several countries in the European Union that have adopted the market economy, especially in Central and Eastern Europe, for instance Poland, Hungary, and then also became European Union members. There are several reasons for the increased FDI in these countries, since their economic situation offered special circumstances.

Basically, the procedure of transition involves the liberalisation of economic entity, the introduction of the private ownership and the creation of the market equilibrium. In the former regime these were unknown phenomena, the equilibrium was artificially created by the centralised administration. Demand and supply was strictly controlled, though they were not

in the condition of equilibrium. That is the reason why people had to wait for their own cars for years. Furthermore, there was a shift from state control to privatization. As Kornai suggests this process involves:

“The word ‘privatisation’ ... is used in two senses. In the narrower sense, it means the transfer of assets hitherto owned by the state into private hands. The broader interpretation covers the property relations in the economy as a whole, so that privatisation of the economy means that the share of the private sector grows until it ultimately becomes the dominant economic sector.”(Kornai [1995] 32) in (Bitzenis [2009] 57)

This definition provides us the implication that the former state monopoly has disappeared but in the same time the private capital has flourished. The privatization is an alternative way of distributing and choosing the means of generating wealth. As Bitzenis observes this change is essential for advanced western countries for numerous reasons. (Bitzenis [2009] For example, it enhances the possibility of competition, which is a basic feature of a healthy economy. Moreover, the private sphere is considered to be a better producer than the state, since people expect better quality from a more transparent source. As Bitzenis notes: “The government is not a good manager of economic resources or a good monitor for the assets it entrusts to others’ and fails to provide motivation for managers and employees to increase production.” (Bitzenis [2009] 58)

On the one hand, as it was a new, emerging market the conditions were favourable. There was not serious competition yet and it was relatively easy to gain a good position. However, in the former regime Hungary was interested in mainly domestic bus and truck production, for example Ikarus, Rába after the transition period this branch started to seriously decline. To put it simply, there was not any domestic factor on the market that may have threatened the foreign investors. This might be an attractive point for the foreign investors, since if there is no competitor it is easy to get a big market share. Obviously, there was an economic openness and it was significant in the region, since other close countries such as Slovakia or Romania could not offer as good conditions as Hungary did.

On the other hand, it should be noted that it was quite cheap and easy to buy a plot in the beginning of the nineties. When Suzuki invested in Hungary as a foreign investor, they could buy the plot where they operate now for low cost. (Actually our country did not make any profit from in short term, but if we take a look at in long term we gained a lot. In long run they provided work places, they increased the GDP of Hungary, they increased the exports, as

they have domestic operation they also increased the VAT incomes. They also raised the income of the state with local business tax and with the corporate income tax). In fact, usually these were unused plots on the peripheries, like Suzuki's manufacturing site in Esztergom. After checking it on a map, we can see that for example the Audi's manufacturing site is located outside the downtown and it does not disturb the image of the city. According to the website of Audi Hungaria Motor Kft., the original plot was a green field, with a structurally complete hall. Apparently, the site in question was not used by anyone on the basis of the photos. However, it is important to mention that the price of these plots is confidential, which might imply that the purchase price was low, indeed. Though, if we consider the gain and the loss side in this matter, it is easy to realise that the problem is more complex than that.

Concerning the geographical location of Hungary, it is in the centre, close to both Western and Eastern Europe. Therefore, it may serve as a logistic hub between the countries, what is more the country has a well-developed infrastructure regarding its motorways. It is easy to transport for instance to Germany or Austria, but even to Turkey. This results in possible low transportation or logistic costs, which is again a strong point when it is about investing. For example, the Audi Motor Hungaria Kft. is seated in Győr, which is right next to the Austrian border. The question arises, if it is so close why did Audi vote for Hungary? The answer is obvious, Hungary could provide better conditions, regarding the taxation, the labour force and so on. In fact, being close to West Europe can guarantee the cooperation of other countries and multinational companies.

All of the above mentioned factors are important, but on their own, they are not attractive enough to draw the attention of the investors to Hungary. One of the key features is the labour force, since a producer company needs many skilled workers. It is essential to employ people from the region as this is the most economical way to maintain a producer company. Nevertheless, quality should be sustained, especially in the case of multinational companies like Audi or Suzuki, and it very much depends on the work force. Besides, automotive is a unique industry requiring specialised knowledge. Hungary was always famous for its high standards and competitiveness of education, though to obtain this knowledge it is very cheap from the point of view of the employer.

To conclude, the transitional economy of Hungary provided special circumstances for the investors, and we will see in the next section due to this very reason Foreign Direct Investment emerged in the country. Had it not been for the transition, foreign capital would

not have been raised in the country. The automotive industry also took advantage of this opportunity, and invested heavily into Hungary. We could see that there were numerous attractive points for the investors, which were really the consequence of the transition, for example the evolvement of the market economy. These foreign investments resulted in the boost of the economy as a whole.

III. FOREIGN DIRECT INVESTMENT AND THE AUTOMOTIVE INDUSTRY IN HUNGARY

As IMF's (International Monetary Fund) Balance of Payment Manuel defines:

“Direct investment is a category of international investment made by a resident entity in one economy [home country] (direct investor) with the objective of establishing a lasting interest in an enterprise resident in an economy [host country] other than that of the investor (direct investment enterprise). ‘Lasting interest’ implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence by the direct investor on the management of the direct investment enterprise. Direct investment involves both the initial transaction between the two entities and all subsequent capital transactions between them and among affiliated enterprises, both incorporated and unincorporated.” (Bitzenis [2009] 79)

In this section we will explore the issue of Foreign Direct Investment, and its relationship to the automotive industry in Hungary. We will focus both on the process and the importance of foreign investment. It is interesting to note that these capital inflows have serious effect on the economy, which is mostly positive. It will be pointed out that there is a strong connection between FDI and the auto industry, which concluded in the development of the economy after the transition period.

Foreign Direct Investment (FDI) is a very interesting and relevant thing to define, so academics and other organizations has researched about it. The aim of the research was to understand how organizations develop and improve countries with their investment decision. This investigation is focus on shifted towards opportunities provided in developing markets for example South America, Souht-East Asia and Central and East Europe. Because of the company's want to achieve higher and bigger amount of profit they try to invest in these targeted potential countries. The commonly accepted goal of a multinational enterprise (MNE) or a multinational corporation (MNC) or a transnational corporation (TNC) is to increase the shareholders wealth to the maximum level. (Bitzenis [2009])

In practice it manifests in the improvement of the cash flow and the better allocation of the costs and resources. Those companies (Audi, Mercedes and Suzuki) targets are to increase the market shares. In which situations invests a company into a foreign market?

1. If the foreign market offers better opportunities, for instance: Hungary has cheap labor force, Hungary has a good geographical location in Europe. From the view of Suzuki, the allocation is much better than from the Far East.
2. If the home market is over-saturated in other words overcrowded, for example: In the aspect of Audi and Mercedes Germany has a well-developed auto market with less emerging niche and possibilities.
3. Due to the globalization the markets has become more competitive and the investors try to increase their profits and minimize the costs with investing in a good market.
4. If a multi-level company would like to influence a distant market which otherwise would be unavailable, for instance Suzuki won the market of Europe through invested in Hungary also. (Bitzenis [2009])

All the possible barriers what a company can face in the invested foreign market have to be taken into consideration. These obstacles can be:

1. legal issues, such as: certain permissions
2. politics like: certain subsidies or current payable taxes
3. currency: the relationship between Hungarian Forint and other currencies
4. culture: public moral and habits
5. economic situation: the level of the position of the Hungarian market compared to the global economy.

Several surveys were conducted by researchers concerning the motivation and the barriers of foreign investments in the case of Hungary. The following table will summarize the findings of these surveys:

Motivators and Barriers of FDI in Hungary between 1993-2000

Table 1.

Surveys	Motivators	Barriers
Genco, 1993	• To penetrate new markets • To broaden the market for companies' own products • To accumulate experience on the Eastern markets • To acquire dominant position on new markets • To exploit cheap labour and technicians • Fiscal incentives	• Lack of clearly-defined legislation • Lack of property rights • Lack of developed market economy • Lack of capital market • Complicated permit procedures • Inadequate credit system
Klaus, 1995-1996	• The local market (the size) • Factor cost orientation (low cost) • Geographical proximity • Purchasing power of consumers • Qualified labour force • Political and economic stability • Lack of local competitors	• Limited purchasing power of consumers • Overall instability
Pye, 1998	• The size of the market, • The market growth potential • Maintaining market share • First mover, follow the clients, serve other markets • Labour cost advantages • Overall stability • Profitability and local market access • Serving regional and EU markets • Skilled labour force • Supplying neighbouring CEECs • Privatization process	• Unskilled labour force • Political and economic instability
EBRD, 2000 Worldwide survey (including Central European and SEE)	• Access to attractive host/regional market • Proximity to home market • Cheap skilled labour • Cheap labour (unskilled) • Favourable regulatory environment	

countries)	• Favourable tax treatment • Strong institutional link with home country • Access to raw materials	
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Source: (Bitzenis [2002] 106-107)

It is clear that as time passed by the motivators and barriers changed. Though, we can find recurring patterns, like the market size or skilled workforce as advantages, and instability as disadvantage. These variables have connection with the GDP of the country and with the financial market conditions, later on we will observe that the car sales are determined by the similar factors. If we would like to gather the motivators and barriers of FDI in 2011, we would receive similar results, though presumably the market share is not so dominant, and instability is more emphasized.

A very important point is how to be a “new” member of the targeted market. For this a specified strategy must be applied according to the conditions of the foreign market. There are five general strategic points how to enter into a foreign market:

1. The trading, which include exports and imports in indirect and direct form.
2. Foreign Direct Investment (FDI)
3. Portfolio investment
4. Collaboration
5. Entry without transfer of money e.g.: License, franchise. (Bitzenis [2009])

There are several ways to realize FDI. The main question is the ownership in case of Suzuki, Mercedes and Audi, it is done by their own wholly subsidiary. It means that all the assets, the technology and know-how are the property of one single firm. They transfer internally the capital, and the parent company is the ultimate controller. Why do not the parent companies trust the Hungarian branches and give them more power? In every case the task of the management board is controlled by the leaders of the parent company. The reason is that they are familiar with every aspect of the system and they know how to manage the business, for example Ulrich Minke who is the CEO (Chief Executive Officer) of Audi Hungaria Motor Ltd (Világgazdaság Online). They do not want to risk the operation of the business, hence they make the decisions. The allocation of the resources is also managed by the parent company, because they are the ultimate owners. Nonetheless, the middle management level is

usually composed of Hungarian members, which benefits the undertakings life, because they can handle the legal, political and human resources issues. They may have some experience how to run the everyday life of the entity, as they know the Hungarian attitudes. Mostly the connection between the workers in the factory and the top management is channeled through by the Hungarian mid-leaders as they have the good skill to communicate with both parties.

We mean by specific strategy that new investors assign several miles-stones in the targeted area, for example Audi followed this scheme. They entered in 1993 in to market, with buying the manufacturing site, than in 1994 they started to produce an engine to the cars. Through these years they gained lot experience about the market, so continuously they invested more and more, and they reached the point that they want to concentrate the whole process into one location, and in this case this Hungary (e.g. : Audi TT at Győr). Another form of strategy is Mercedes's , they also has some mile-stones. They signed the agreement with the government in 2008 and the factory starts its operation in February 2012. In the beginning in the life of the factory they are going to produce only some spare parts to the cars, and the others will delivered in to the factory of Kecskemét where they will assemble the whole car. They short term aim (5years) is to manufacture every part of the car in the same place. As we can read and estimate Mercedes will speed up the procedure, so they going to reach that point much earlier than Audi did. The explanation is that Mercedes had easier position on the market, because in the beginning of the nineties when Audi started to invest in the country, the circumstances were much more difficult. This was the period when the free market economy begun to emerge and develop, the purchasing behavior just started to spread the whole country across. So gaining some experience took longer time, than in Mercedes's life in 2008. Admittedly Mercedes entered in a well-developed, more "Europeanised" country, which is much more similar to the German market compared to Audi's situation in the nineties.

Audi decided to expand its operation the overcome the difficulties of the nineties. Their car production belt was stretching from Prague to Poland, Hungary was a logical choice concerning geographical strategy. In the beginning, they planned to develop its new engine in three steps, but later on the investment was proved to be so successful that they invested more. Apparently, Audi also took a risk, when they decided to expand the operation, but after two years the level of quality, productivity and reliability was rather high due to the good management and the motivated and well trained work force. The amount of the total investment was more than one billion Deutsch Mark, which means that the return of

investment is at least the same amount or more. What is more, they established a research and development centre in 2003, due to the globally increased sales. (Crouch, Voelzkow,[2009]) Can Mercedes be as successful as Mercedes has been? The answer is hopefully yes, because Hungarian economy would profit from it. Though, we have to bear in mind that both the economic and the political situation are very different nowadays. According to Timothy Ash, Royal Bank of Scotland's chief analyst, the Hungarian market and the government is considered to be unpredictable by the foreign investors. (hvg.hu) As we could see these heavily influence the FDI inflow, therefore we cannot really predict the future.

What are the required criteria that the company has to fulfill from the beginning of the foreign investment until the actual operation starts? One of the most important aims from the view of the investors is to be cost efficient. To reach this objective they have to use some local resources that are cheaper to obtain from Hungary. This way the company supports the Hungarian economy and they can minimize the costs at the same time. Prior to the actual capital inflow, the company negotiates with the government about the conditions of the investment. For example, Mercedes received several subsidies from the state and the European Union:

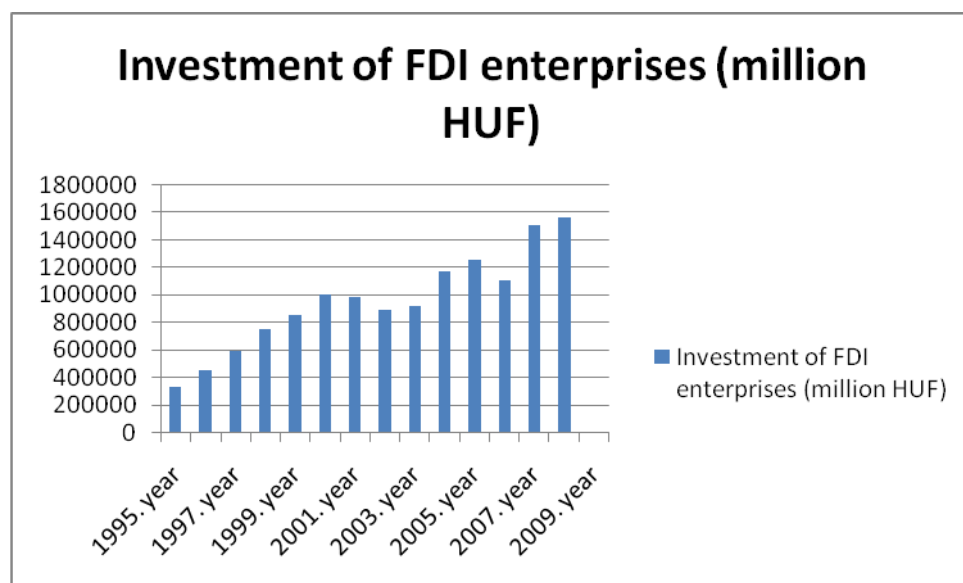
1. 29,7 billion HUF for vocational training contribution and tax allowances. This amount had to be approved by the European Union.
2. 214 million HUF for logistic network
3. 354 million HUF for infrastructure from which 250 million came from the local government
4. 110 new flats were built to them by the local government which is approximately another 800 million HUF. (origo.hu)

In general, contracts contain that the forty percentage of the raw material has to be provided from Hungarian suppliers, which might benefit both parties. This let the Hungarian market have new competitors since there is an increased demand. We assume that they probably have an agreement on the VAT (Value Added Tax) as well. For the sake of future recruitment for instance Mercedes made a deal with the Faculty of Mechanical Engineering

and Automation (Kecskemét College) about hiring students for internship where they can gain and increase their knowledge. (Mercedes Benz Manufacturing Hungary, Kecskemét)

The figure below represents the FDI Investment in Hungary between 1995 and 2008. We can observe that there was an increasing tendency from 1995 to 2000. Then, there were slight decreases, though the investment rate was quite high in 2007 and 2008, compared to the nineties the amount increased by almost five times. Therefore, there is an increasing tendency in the investments, which might continue in the future as well. It is needless to say that the nineties created a tradition for investment by offering special conditions. Even if we take into consideration the slight decreases, we can conclude that on the whole those do not modify the increasing tendency. This supports our hypothesis that FDI is a beneficial phenomenon for the Hungarian economy.

Figure 1 Investment of FDI enterprises from 1995 to 2009 in Hungary



Source: Központi Statisztikai Hivatal

All in all, we could see that the FDI inflow into Hungary significantly influenced the economy in a quite positive way. The representatives of the automotive industry, such as Audi or Suzuki seized the opportunity emerging from the fact that Hungary was involved in the process of transition. One might say that the state supported these investors, though they basically take out the profit from the country, hence there is no point in providing great subsidies and allowances for the company. In this chapter we tried to show that it is a two-

folded process, but on the whole this is beneficial for the country, because the advantages outweigh the disadvantages. Consequently, the automotive industry enhanced the Hungarian economy, what is more it can be seen as a good example for other foreign investors.

IV. DETERMINANTS OF THE CAR SALES GROWTH

In order to interpret the sales statistics, we may want to study the determinants that influence the purchases. As it was mentioned before, the product of the automotive industry is unique concerning the purchasing behaviour; it can be regarded both as luxurious and ordinary. Obviously, consumers do not purchase cars each year, though they might in five years time. However, it is a means of transportation, which means that there are situations when it is inevitable to have a passenger car. This implies that there is certainly an everyday usage aspect, what is more if we consider the sales data, we can see that the Hungarian auto market is not restricted for the privileged.

As David Haugh, Annabelle Mourougane and Olivier Chatal mention, in the long term car sales depend on GDP per capita (*gdppc*), real oil price (*roil*) and financial market conditions (*fci*). These three factors are equally important when we want to determine the demand for cars, if one of them decreases the whole equation decreases as well. Moreover, Haugh, Mourougane and Chatal noted that there is a specified error correction model for each G7 country (United States, Japan, Germany, France, Italy, United Kingdom and Canada). (Haugh-Mourougane-Chatal [2010])

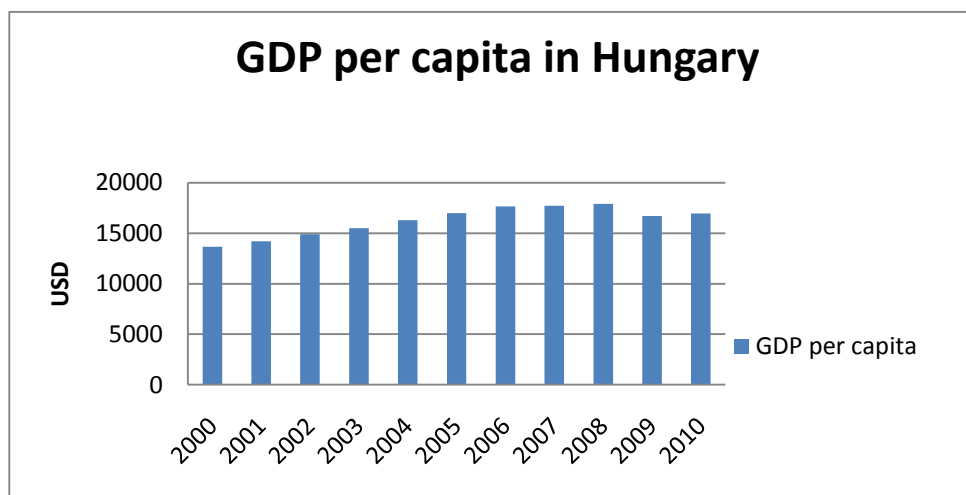
$$\log(\text{sale}) = c_0 + c_1 \log(\text{gdppc}) + c_2 \log(\text{roil}) + c_3 \text{fci}$$

Though Hungary is not included in the above mentioned countries, the Hungarian economy has strong relationship with Germany, hence it is worthwhile observing the results. According to their table, the coefficient of the GDP per capita is 0.62 compared to the American one, and the normality is 0.72 based on the data between the third quarter in 2000 and the fourth quarter in 2008. (Haugh-Mourougane-Chatal [2010]) Normality refers to the Jarque-Bera test, which is a diagnostic tool that tests the null hypothesis that the sample has normal distribution or not. (Chen- Kuan) What does this mean in practice? Basically, all of the countries have a high index of financial market condition, which implies that during the observed period this was the most significant variable. This is not surprising, due to the fact that the automotive industry is rather capital intensive.

IV.1 GDP per capita

Regarding the influencing factors, we will study them one by one in more detail. The GDP per capita measures the total output of a country divided by the number of population. (Investopedia) According to the estimations, the population in Hungary is around ten million, which classifies as a small country. (Központi Statisztikai Hivatal) The GDP per capita changes every year, and it has an obvious connection to the purchasing power, if it is high, people are better off financially, and they may buy a car. The following table shows the GDP per capita per year in Hungary, in the amount of US Dollar, at constant prices, constant purchasing power parity, the reference year is 2005.

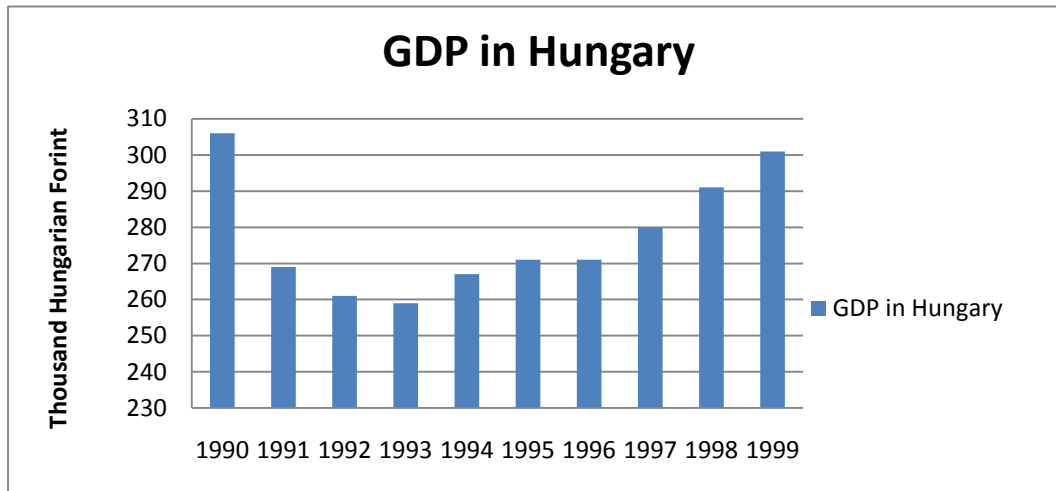
Figure 2. GDP per capita in Hungary



Source: OECD, Gross Domestic Product per capita

Unfortunately, this chart summarises the data from the 2000, but if we take into consideration the data of GDP in general from 1990, we receive the data:

Figure 3. GDP in Hungary from 1990 to 1999



Source: Központi Statisztikai Hivatal

Apparently, the second graph illustrates that after the transition period there was a significant decrease in the GDP. In the beginning it was rather high, at then there was a sharp drop, and at the end of the nineties there was again a considerable increase. The average GDP in Hungary was 277.6 thousand Hungarian Forints in the period between 1990 and 1999. We use this measure, because it demonstrates well how the economy changed during the period in question, in case of GDP per capita these movements cannot be shown in such a demonstrative way. To be precise, the mean of the GDP per capita in Hungary in the period between 2000 and 2010 is 13296 US Dollar. All in all, the relatively high GDP in the beginning of the nineties supports the hypothesis that there is a strong relationship between car purchases and GDP per capita.

IV.2 The real oil price

The second factor, the real oil price is a crucial variable not only in the automotive industry, but in the global economy as well. As the economist, Robert Mundell put it in his lecture in Hungary: one of the main reasons for the crisis of the global economy is the price of the crude oil. (Mundell) During the history, the price of the oil was always volatile, for example the OPEC oil crisis in the seventies demonstrates this, since it is a scarce resource, with a constantly high demand. As Gergely Kotán, Valéria László and András Sali note: the price of the oil and its volatility have an effect on the corporate and on the domestic sphere, and on the economic policy of the state. Kotán, László and Sali created a model that presumes that the participants on the market consider the price increase permanent. (Kotán-László-Sali [2007]) In case of the corporate sector, oil can be a source of energy, when it is about production. As follows, their production costs may increase and it may have an impact on their profit as well. However, companies might look for alternative resources, and from the statistics of OECD it is revealed that they actually do, this solution requires a greater investment, which might not return. What is more, corporations may shift the increased costs to the costumers, but it can cause a decrease in the consumption, which again, lowers the profit. Regarding the automotive market, the high price of the oil can influence the production, which means that producers should increase the prices. But will the costumer pay the higher price?

Kotán, László and Sali explain that the increased price of the oil modifies the structure of consumption and saving of the household. (Kotán-László-Sali [2007]) Directly their costs increase as well resulting in the decreased income spent on other products. In other words, if they have to save more for a car then they used to, households will not buy as many cars as they did formerly. If they happen to have savings, the situation is better, because their demand will not necessarily decrease. On the other hand, if they have debt and due to the monetary policy the interest rate increases, the liability of the households also increases, and at the same time their demand will decrease as well. Another aspect is that besides influencing consumption, the increased oil price might affect the labour market. There are two main transmission mechanisms, the aggregate and the allocation effects.(Kotán-László-Sali [2007]) The main difference between them is that aggregate tools cause a decrease in the creation of employment and enhance dismissals, while allocation accelerates both simultaneously. There can be one winner in this situation, and this is the energy sector, due to the increased demand.

To answer the raised question about the higher prices, this theory suggests that in case of higher oil prices the customer will not buy the product. Customers have to face with increased costs and liabilities, furthermore they may even lose their jobs. What is interesting that this process is not valid in the other way around, studies show that the decrease in the price of the oil does not boost the economy as much as the price increase weakens. This whole chain results in the weakening of the whole economy, and this is also true for the auto industry, the volatility of the oil price might depress the market.

As the supply side goes, this is a scarce resource in the Western world. Arabic countries have the real monopoly in gaining this commodity due to their natural features. Actually, both from political and financial reasons these countries would not like to reveal the amount of their stock, ensuring a hierarchical situation with the United States of America. Nevertheless, America can produce substantial quantities of crude oil, for instance in Texas, still it is far not enough to satisfy the demand. Fifty percent of the supply is imported, mainly from the Middle East. In order to control the supply, and weaken the dependency with this region, the U.S. took certain steps towards these kinds of regulations. These first occurred in the seventies, called as CAFE (Corporate Average Fuel Economy), which was aimed to set the fuel standards for the carmakers. Obviously, producers try to find the loopholes and seemingly it is not in their interest to decrease the fuel usage. In spite of meeting this criterion, they concentrate on selling cars with increased size and power in the U.S. Obviously, this trend also determines the Hungarian market, as they give us the main pattern to follow. (Jack W. Plunkett [2003])

Now, we can scrutinise the history of the oil price in the period question, between 1990 and 2010, both globally and in Hungary. Not only does the oil price influence the supply and demand for cars, but it also affects the usage of cars, since oil serves as power for cars. In general, we would assume that if the price of the petrol is high, people tend to use their cars less often, which causes less car purchases in the long term. Nevertheless, the price of the oil is a complex index, it also includes a certain amount of tax, and it depends on several factors. Admittedly, the market tries to reach the equilibrium point of the demand and supply, but we have to take special attention to short and long term from this point of view. The big multinational companies represent the demand of the households, there is no direct relationship between the producer and consumer. Basically, these companies have three channels to obtain the oil: by long term contracts, from the spot market and by forwards. The advantage of the forwards is that volatility can be prevented, but there is significant risk on

the market, especially if there is no trust in the economy. However, in the short term the demand for oil is inelastic, because it takes a lot of time and money to change the technologies, which means that consumers will buy it regardless of its price. In contrast, in the short term alternative resources and methods may occur, and the increasing demand of the developing countries should be taken into account. (Kotán-László-Sali [2007]) The following chart summarises the oil price globally from 1990 and 2010:

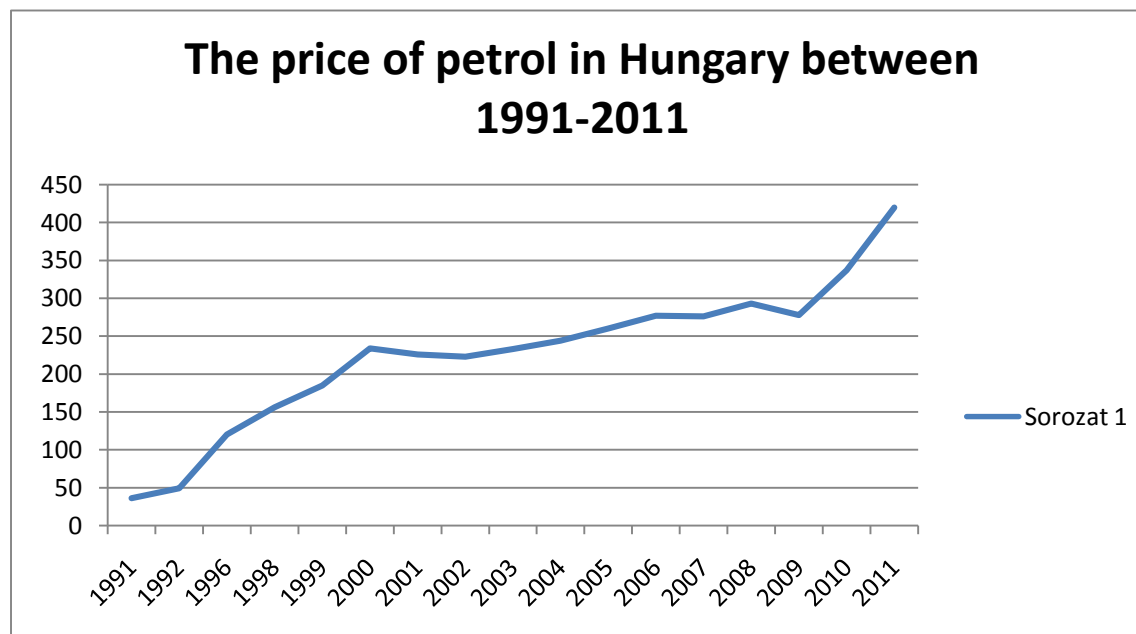
Figure 4. The price of crude oil between 1990 and 2010



Source: Bloomberg

We can see that in the beginning of the nineties the price was quite flat after a one bigger increase. After 2000 the prices started to increase dramatically. Below we show the price of the petrol in Hungary:

Figure 5. The price of petrol in Hungary between 1991 and 2011

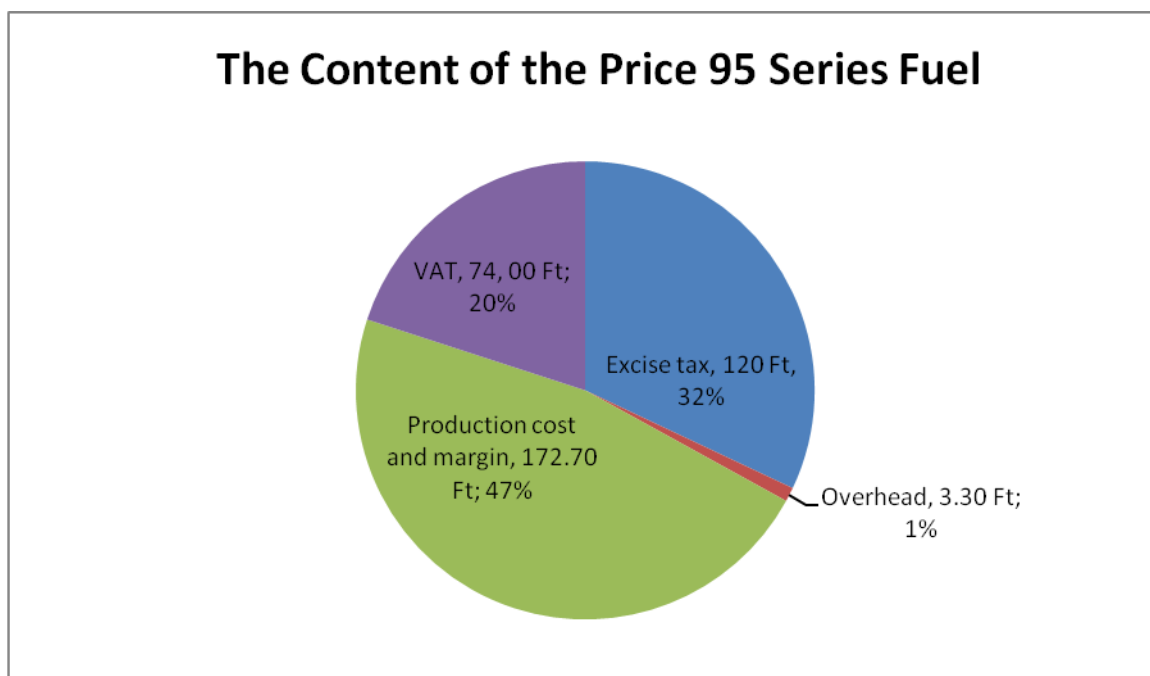


Source: Menedzsment Fórum

As this graph shows the levels of the oil, we can observe that the prices in the Hungarian market are increasing more intensively than on the world market. Why is this tendency? Firstly the big oil companies want to control the supply with producing much less than before, and this is a good reason to make the oil prices higher on the markets. Secondly, we are still in a vulnerable position because of the relation of the Hungarian Forint and the US Dollar, as the Forint is unexpectedly changeable against other currencies like with the USD. The eighty percentage of the oil consumption in our country is imported, and the other twenty percentages is self-manufactured. This amount what we can produce in Szolnok or in Százhalombatta would be enough only for two-three weeks at this present consumption level. Thirdly, as our country faces significant deficiency and the government wants to compensate with levying taxes, they also increased the taxes on fuel in the form of excise tax. This table bellow shows what the prices include. As we can see it contains thirty two percentage of excise tax, twenty five percentage of value added tax, one percentage of factory overhead and forty seven percentage of other margin, this is all together approximately three hundred seventy Hungarian Forints (this data is from June of 2011). Obviously these data has increased nowadays as well. If the prices are increased the government reacts with the

monetary policy with increasing the taxes and duties and of course they take into account the inflation.

Figure 6. The Content of the Price 95 Series Fuel in Hungary



Source: Ténytár, Based on the data on 30. June 2011 by MOL¹

After all, the question arises, is oil a normal or luxurious good? In case of a normal good, demand increases when incomes rise, which can be true to some extent for fuel. Though, this commodity can be a luxurious good as well, since there is lower quality substitute for it, for example gasoline. A luxurious good has income elasticity above unity. (Begg-FischerDornbusch [2008]) According to J. Muellbauer and A. Deaton, the income elasticity for fuel was 0.3 in 1977. (Muellbauer-Deaton in Begg- Fischer-Dornbusch [2008]) As it was already mentioned the demand for oil is inelastic in the short term, which seems to justify that oil is a necessity and a normal good. However, in 2011 fuel is more expensive than

¹ : This graph has already changed since the excise tax increased, and the VAT will grow with two percentages from the beginning of the next year, 2012.

it was back in the twenties and we can be sure that its income elasticity will not be the same. Interestingly, it is difficult to evaluate fuel according to these labels.

What is the relation between the oil prices and the auto market? Since our country is in globally a weak situation in every level of the market; this relation also faces some difficulties. For example with expensive fuel prices people will be more sensitive to buying a car or not. With these circumstances people will use their cars less often than before, because of the increased petrol prices, the increase of the current taxes, the service costs, the insurance fees, more than fifty percentages of the users will be the “weekend drivers”. The households do not get loans so easily, this is also true in the case of cars, so the market lost those consumers. This means that the fuel consumption decreased which gives another good reason from the side of stock exchange and not from the aspect of the state, to increase fuel prices. Though they do not have that much opportunity to put that high margin on the prices, since it is already so high, that people would not pay more, they have other high costs as well to spend on. It results in fewer sales in volume both in car and fuel.

IV.3 The financial market conditions

Turning to the third factor that determines the car sales growth, the financial market conditions, this is the most complex variable. No doubt that the financial market has relation to the other two variables, GDP per capita, and the real oil price, this is the one that can modify all the others on its own. If we are just thinking of the financial crisis in 2008, it is easy to realise its superior power. Moreover, the automotive industry is a capital intensive one, therefore it is inevitable to cooperate with the financial sector. Referring back to our idea that the financial background of the consumer who wants to purchase a car has not been always an issue, this is due to the financial sector, namely the banks and financial intermediaries. The banks ensured loans for almost everyone who asked for it. How could this happen?

Again, we have to turn back to the transition and the FDI inflow into the country, if we want to understand the financial market conditions in Hungary. When we speak about the automotive industry and the financial sector we shall take into consideration the banks, because they provide loans for the potential costumers. The transition offered special condition, as Colombo and Stanca mention “(...) three factors played a major role: the success of structural reforms, the timing and strategy of the privatization process, and the incentives created by the government to FDI inflows.” (Colombo, Stanca,49) These investments improved the bank system as well, since the increased equity helped to improve the quality of the service, and they ensured the liquidity, as follows the credibility. Besides this, the two-tier structural reform also encouraged the entering of the foreign commercial banks, though in the first half of the nineties their presence was still low. The quality of the loan portfolios was low, due to the lack of a proper regulatory framework for prudential lending and of the experience of the bank managers. This resulted in crisis situations, in reaction the government introduced bank consolidation and strict bankruptcy law in order to enforce hard budget constraints. (Colombo, Stanca,50) In detail, this included the recapitalisation and the privatisation of the banks. As Colombo and Stanca summarise, the outward orientation towards the foreign investments was one of the key features of creating an efficient and independent system of financially strong commercial banking system. (Colombo, Stanca,51)

In the beginning of the nineties people bought the cars by cash, and not with credit. The explanation for this is that there was no existing framework for providing loans. This

phenomenon has just started to enter into the public knowledge. As we can see from the table they sold around twenty five thousand cars in 1990. Those were all bought by cash. This figure may seem to be few, but if we take a look at this time, the market was a brand new market, which just started its development. By 1995 this data doubled itself, which shows that our market really started its own improvement. During these years banks started to operate in a new frame, they started to be able to finance the households, and they had the time to work out the car financing as well. They also started to become a very relevant member of the consumption market with the savings, landings and with giving financial advice. We can observe in data of 1998-1999 that the market could have sold around one hundred thousand new automobiles. This amount let us draw the conclusion that the banks started to grant loans to the domestic consumers. At this period people financed the eighty percentage of the cars by cash, and just took a loan for the remaining twenty percentage for twelve to fifteen month duration.

Indeed, the financial market seemed to be so stable that investors expected to introduce the Euro in Hungary in 2009. However, it was clear for the market participants that the large structural deficits of this region would not be tightened as elections were held during this time (for example, 2002 and 2006 in Hungary). The lack of significant fiscal adjustment during 2000's resulted in the weakening of the financial market, affecting also the currency of Hungarian Forint. Another important issue was the high level of government debt, the market expected Hungary to breach the Maastricht Treaty from this respect. As the International Monetary Fund claims in 2003 in its report: "Investors are also concerned about inadequate policy coordination that risks clouding the exchange rate outlook and the eventual fulfillment of the stability criterion." (International Monetary Fund, Global Financial Stability Report [2003] 63) What is more, "(...)Investors generally perceive the inflation target as having been subordinated to exchange rate considerations in Hungary, following the speculative attack in January and the June devaluation." (International Monetary Fund, Global Financial Stability Report [2003] 63)

To conclude, we could see that the demand for car sales is a complex procedure and it depends on many factors. The GDP per capita, the real oil price and the financial market conditions greatly determine the demand, however each one of them is a very complex variable in itself. Due to the lack of space it is difficult to analyse them in more detail, though we tried to create an overview of them. Although all of the variables are equally important, taking into consideration the present situation of the auto industry in Hungary, the real oil

price and the financial market conditions have greater impact on the sales. As the purchases of cars are mostly financed by bank loans, it is not a surprise that they an essential role in this process.

V.THE ANALYSIS OF THE HUNGARIAN AUTOMARKET BETWEEN 1990 UNTIL NOWADAYS

After having introduced the determinants of the car sales, now we would like to give some interesting data concerning the past and the present actual auto market in Hungary. We will focus on the statistics of the Hungarian Vehicle Importers Association (Magyar Gépjármű Importőrök Egyesülete) from the beginning of the 1990's till 2015 with some forecasting data. We will include the sold amount of passenger each year. Furthermore we would like to build a tendency from the given statistics.

The market has several types of segments from the point of view of cars:

1. Segment A: cars up to two million HUF, like Fiat Panda, Ford Ka, Renault Twingo etc.
2. Segment B: cars between two and three million HUF, like Fiat Punto, Seat Ibiza, VW Polo, Citroen C3 etc.
3. Segment C1: this is the lower-middle class which is around four-five million HUF, like Audi A3, BMW 1, Renault Megane, Seat Leon, VW Jetta and Golf etc
4. Segment C2: this is the real middle class, cars until 6 million HUF like: VW Touran, Seat Altea, Mazda 5, Ford S-max and Chrysler PT Cruiser etc.
5. Segment D1: this is the upper-middle class or the lower-upper class, here the prices of the cars around 8-9 million HUF, like Audi A6, Volvo S60, VW Passat and Alfa Rome 159 etc.
6. Segment D2: The real upper class, here the cars are 10 million and above it, like Audi A8, BMW 7, Mercedes S-class, Lexus LS and VW Phaeton etc.
7. Segment E: this is also the part of the upper class, but here the cars are cross-countries, like Land Rover Discovery, Range Rover Vough, BMW X5, Audi Q7 and Mercedes R-class etc. (Magyar Gépjármű Importőrök Egyesülete)

But we would like to pick out the three most important segments, which were most affected by the crisis, this would be the cars up to 3 million (A-B segment together) the cars up to 6 million (C1-C2 segment together) and the luxurious category which is above 10 million (segment D2-E together).

For the sake of simplicity, now we divide the market into three segments based on their prices and their sizes. There is segment A, segment B, and segment C. The segment A contains the value of cars up to 3 million Hungarian Forints. This segment had a great impact on the whole market since this group characterises the average layer of the society. The consumers of this segment earn approximately 73.500-150.000 Hungarian Forints in net/month. Therefore for this level is very hard to afford another additional loan, presumably they already have one for their flat or for something else, and we should bear in mind that it is a kind of luxurious product. However in the beginning of the nineties there was a big boom in the auto market where we tried to adjust to the western habits, and according to the sales data it was not considered to be that luxurious as it is this time. This was one of the reasons of the economic crisis.

The middle class segment contains cars up to six million Hungarian Forints. This is the level that the lower and the real middle class may afford, as their incomes are around 150.000-250.000 Hungarian Forints net/month. These cars are better equipped and represent better quality and these cars are more for the families. The members of this group have changed a little, because one part of them has become the “member” of the lower class, due to the excess loans, which results a decrease in the volume of the sold cars. But the other part of the layers are unchanged, they have better circumstances and may have bigger chances to save up some money. As they have much more money on their bank account compared to the segment A, they have the possibility of selecting from a bigger scale both of the cars and in the financial constructions. For example banks offer better conditions in financing a car because their financial back ground can cover it. In contrast to segment A they usually have own-fund which again provides better circumstances. They have secure jobs, incomes and they have the possibility to plan for the future while in segment A may not.

Unsurprisingly there is one more category, the luxurious products cars ten million HUF or above it. This is a very special segment and different from the others, since this part is created by the top members of the society. Their expectations are quite different even from the upper middle class people, due to the fact that for them having a car might be a prestige,

or they might even consider it as a hobby. Obviously, this is the segment for which affordability is not really an issue. They might pay by cash, or if they raise a loan they will not have liquidity problems. From this point of view they create the most reliable consumers, and we will see that this segment was not really hit by the crisis, since their demand might be regardless of their financial circumstances. What is more, they gained more with reorganization of the personal income tax, which was cut down on from thirty two percentages to sixteen percentages. As a result, they have more income, which may enhance their consumption.

Turning to the actual data, we will study the statistics and analyse them in detail. We will highlight the points or periods that show peculiar tendencies for the sake of understanding the mechanism of the market. Our analysis will emphasise also the financial and economic context in order to explain the data, what is more we will make an attempt at forecasting the sales data. The table below concludes the car sales in Hungary from 1990 to 2011.

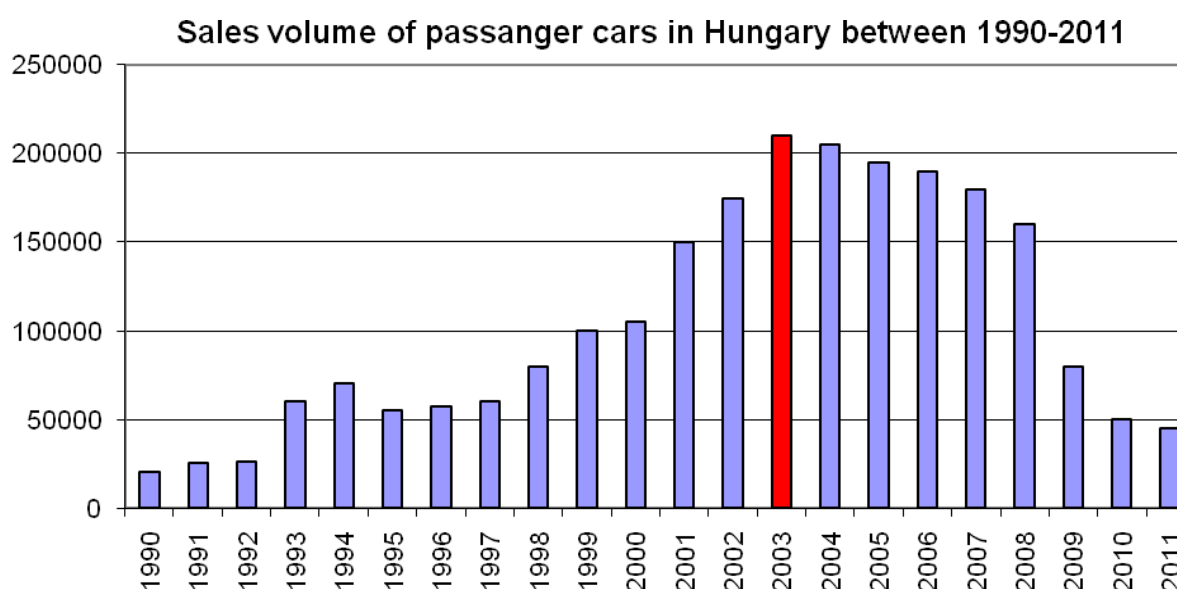


Figure 7. Sales volume of passanger cars in Hungary between 1990-2011

Source: Magyar Gépjármű Importőrök Egyesülete

In the beginning of the nineties as we mentioned it before, our market was such an undeveloped one that there was no great activity on the market, due to the transitional period. When turned to western thinking and habits, our car sales volume started to slowly increase. At that time there were not any financial support in the case buying a car, everybody bought by own found. This period was characterized by the older generation of the consumers, due to the younger layer could not afford to have one. By older generation we mean people between thirty five and forty years old. The reason was that the inflation was rather high due to the monetary policy which had to be that tight after the transition.

Then in 1992-93 the banks had appeared on the market. Lot of foreign banks came into our market, as it was undeveloped, and they realised the emerging opportunity and that it was untapped. With the appearance of them our auto market began to grow faster and improved a lot. It also raises the sales with providing financial support to the households and to the car dealers. From the aspect of households, they become much more confident when it is about buying or not a car, and loans started to spread across the whole country besides that a car is not a luxurious thing anymore. When the financial intermediaries started to support the potential consumers they controlled the given loans very much, in order to maintain the balance. Banks also gave the opportunity for the car dealers to start operate, and invest into the car market instead of anything else in Hungary. As the potential car retailers realised that the banks provided better chances to sell more, they were able to import more cars from the west into Hungary. This way they expended the range of selection which led to sell more. Due to the inflow of cars from the west, a better quality occurred, the life cycle of the cars increased a lot and thanks to these the prices of the cars also had increased. This time the loans were denominated by Hungarian Forint. When the banks appeared on the market it was such a successful business that the car dealers could sell the same amount in a month that they could sell earlier in a whole year when banks were not operating. All the given loans had to have own fund in the portion of at least thirty-forty percentage. After all these effects, the car sales had increased by sixty-seventy percentages from 1992 to 1993 as our graph illustrates. This tendency continued until the economy crisis.

A boom in the volume of sold cars followed this period, due to the increased portion of loans. In 2000 there were one hundred five thousand sold cars. As we can estimate between 1990 and 2000 the volume has increased five times. During these years the role of the financial sector grew a lot. As the number of the banks increased on the market, and the habits of taking a loan became frequent in case of cars, they created a very competitive situation on

the field of car financing. It was much easier to apply and receive a loan, as it was before in the nineties. This made the conditions of taking a loan less stricter. The duration of loans were lengthened to one hundred twenty months, which is ten years from forty eight and from seventy two months, which is four and five years. On the other hand they decreased the portion of the own fund. It has several traps. In short term, they sell lots of cars in these years, but most of it is financed by loans, which does not guarantee the liquidity. To be precise, the sixty-seventy percentages of the sales were financed by loans.

In long term it caused the crisis situation what we are facing nowadays. Let us explain why was this phenomenon harmful, that they increased the length of the duration of the loans, and decreased the portion of own fund. Now we will present how a loan is constructed in practice. Let us assume that we take a ten year long loan in the amount of four million Hungarian Forints to buy a car. In the first three-four years we just pay the amount of the interest, which is not equal to the principal of the loan. We already paid out approximately one-one and a half million HUF out of four million and just three-four years passed, but we still have to pay for the real price, the principal. During this time the value of our car had depreciated about fifty percentage, that means the value of our car is just around two-two and a half million, but of course we have to pay back the total amount of the principal for further six-seven years. This diminishes the opportunity to sell our car within ten years, because we still have to pay back the total amount, though our car does not reach the amount of the principal, as it worth only two-two and a half million of HUF.

We also have to take into consideration the loans denominated by foreign currency. Around 2003 and 2004 it was frequent to take the loans in Swiss Franc. The Swiss Franc provided better conditions in loans, as the base rate was around four percentage while the Hungarian Forint had around nine and eleven percentage base rate. At this time the Swiss Franc was between 140 and 160 Hungarian Forints. By the time Swiss government started to protect their own currency with decreasing the base rate around zero percentage, which resulted in a stronger Swiss Franc and a weaker Hungarian Forint. We would like to give a short summary why the Hungarian Auto market collapsed:

1. The domestic market is designed for around 100.000-120.000 for instance in the year of 1999-2000, and not like in the years of 2000-2007, when the market had around 200.000 cars.
2. The increased portion of loans that almost everyone could apply for.

3. The lengthening of the duration of the credits, and “cancelling” the own funds.
4. The exchange rate, mostly connected to the Swiss Franc loans.
5. The financial crisis globally.

What reactions did the crisis cause? The long term loans stopped the constant increase, because there is no target on the market. Since if someone took the loan for ten years that person will not buy a new car until his or her loan runs out. As the sixty-seventy percentages of the cars were sold with loans, we can imagine and see how it really killed the market from this point of view in long term. The banks got their loan system reorganised, they do not give a credit that easily as they used to, and so this also made an end to the market. The banks also lost a lot of money, because almost the half of the households could not pay the fees back to them, so they face serious liquidity problems. Many of the dealers had to close its business, as they could not cover their costs from the sales, which led them into indebtedness and eventually they went to bankruptcy. The other part of the dealers tries to survive this period by the means of merger; with sharing the costs and the incomes as well. But there are also some dealers who just left or plan to leave the country. According to a survey carried out by PriceWaterhouseCoopers in 2010 fifty two percents of the car dealers believe that in five years term sale volumes will increase, and the remaining forty eight percentage find that there is little chance for it. It is important to note that none of the car dealers thinks that there is no chance for the improvement of the sales. (PriceWaterhouseCoopers [2010]) All in all, it is clear that there is a big risk and there is no confidence on the market.

VI. ANALYSING THE CONDUCTED INTERVIEWS

So far we concentrated on the theoretical approach in our research, and now we will present the practical results. In order to get a deep insight into the automotive industry in Hungary, we also conducted some interviews with the stakeholders of the market whose opinions are quite relevant and reliable. As they are active participants of the market, they could provide us with some practical and empirical ideas. Besides, we wanted to receive a true and fair view. The subjects were the Chief Executive Officer (CEO) of Porsche Hungaria Bank, the CEO of Seat Hungary and a CEO of a luxurious auto company, furthermore a financial representative from the automotive industry.

Our questions relate to the market situation of the past, present and the future. (See it in the appendix). We focused on the evaluation and the history of the market in Hungary, what is more we incorporated the future aspects concerning the Hungarian market. Both the demand and supply side of the market process were highlighted, furthermore the relationship between these two variables were discussed. The reasons and the consequences of the crisis, including its connection to the financial sector were in our interest.

Now let us to analyse the reports, the similarities and differences from the received answers. In generally all the interviewee gave the same answer to the first question, that the market was so undeveloped, the monopole situation was specific in the market, the buyers was the older generation, everybody bought their car in cash as there was not any financial help (for example, banks). The market just started to build itself up and started to improve. To the second question we received again the same ideas, that the banks helped the market, and how intensive did sales volume grow after their appearance. But there is an interesting answer in the third question. As we interviewed a CEO of a luxurious car dealership, we totally got a different answer from him. The answer was that he does not usually sale cars with any financial help like loan or credit, if he does it was very rare. He told us: “This level always had that fifteen or twenty million HUF to buy their cars, as it is a kind of prestige for them.” But the answer from the CEO of Seat Hungary sees it in another way, “As our products the Seat is actually for the lower or sometimes for middle-level, we were hit the biggest by the crisis.” This answer shows us again, that this level used the most frequent the bank loans, and that was the reason that they could sell that much car at those period. What is interesting more that we got again totally different answers for the fifth question. The CEO of Seat told, that

they are unable to sell any car on the market right now, or if they can, they just sell few. From the aspect of the CEO of the luxurious car dealership, they are not able to buy and invest enough money into cars. That shows us how big the demand of these products is, we can say that from the view of them, the market faces over demand situation.

For the sake of being able to understand the Hungarian automotive we also included an interview with a representative from Germany. Mr Ralf Bach is the former P & L Director Sales Motor Solutions and CEO GE Money Service GmbH. He is an expert in the field of auto financing, and during our interview it turned out that the German auto market represents a completely different way from this regard. He emphasised that the German market is fundamentally different from the Hungarian one concerning its size and its purchasing power. He concluded that the German market is rather based on the ecological considerations while the Hungarian is based on the emotional attitude. German consumers take into account the size and the fuel consumption when they consider buying a car. In contrast, Hungarian consumers wanted to copy the Western image due to psychological considerations, and they voted for the fancier and better equipped cars, especially during the last twenty years. Moreover, it should be mentioned that in Germany most families have two cars. This can be traced back to the fact the Germany's GDP per capita is much higher than in Hungary. As the consumers are better off financially, there is no tradition for buying cars without own fund. What is interesting that in Germany there is no significant demand for the medium class of cars, because usually people have a luxurious and a low category car. In Hungary this works the other way around, there has always been great demand for the middle class. There is increasing and strong competition on the German auto market, since it is already full of captive and non captive cars. The crisis has a reverse effect on the auto market compared to the Hungarian one, the purchasing power suddenly increased because of the fear of the higher interest rate and inflation. We can draw the conclusion that the German market satisfies different demands, and there is significant competition because the market is over capacitated. Still, it has problems which can be harmful in the long term, for example the low demand for middle class cars. The Hungarian market is more balanced from this aspect.

All in all, the interviews supported our idea that the Hungarian auto market is an active factor in the economy, and the crisis hit the sector severely. However, as it was already implied not everybody lost in this situation, the demand for luxurious cars is relatively constant. What is more, in Germany an increasing demand occurred, but the full market may have dangerous consequences in the long term. The interviewees emphasised the crisis was

the direct consequence of the cooperation with the financial intermediaries, which gave rise to the increased sales.

VII. CONCLUSION

Our research was aimed to explore the Hungarian automotive industry from 1990 and 2011. We proved that this sector has significant impact on the Hungarian economy. The transitional economy attracted the FDI into Hungary and the main investors were from the automotive industry. There has been an increasing tendency in these investments, hopefully this will continue in the long term, because this is profitable for the country. However, we could see that as researchers note it is difficult to set up a prognosis for the long term, since investment depends on political and market conditions that are sometimes unpredictable. Nevertheless, the fact that Mercedes has just started to operate on the Kecskemét plant implies that Hungary and big multinational companies can conclude agreements between each other that are beneficial for both of them.

We showed the determinants of the car sales, which again supported our hypothesis that the automotive industry has strong connection with the economy both on a micro and on a macro level. It should be mentioned that the GDP per capita, the real oil price, and the financial market conditions have effect on each other, therefore it is difficult to compare them. The tendency that they show depends on many factors. Although we used these to be able to compare data to each other, because as secondary literature argues these are demonstrative data. It can be a further question what effect the constant oil price increase will have in the long term. Will it result in buying less car or in developing alternative sources instead of oil? Though it was not the aim of this paper to solve this problem, it is interesting to think further this issue.

The practical aspect of our research, the interviews confirmed our theoretical findings. An interesting point was the issue of the crisis, since the different participants have opposite experience. It does matter who in question is, since it is not a surprise that professionals from the luxurious level have different opinion of the crisis and of the future of the market and industry compared to lower levels. It could be seen that there is always someone who wins and one who loses. On the whole, we could support our hypothesis by the means of a thorough analysis.

Now, we can answer the question raised in the introduction, the above mentioned arguments underlined our hypothesis in an effective way. We were able to analyse the most important actors of the problem and we concluded that all the factors are linked to each other. Obviously, they are in balance when demand and supply meets in the equilibrium, but this rarely happens, and again this is affected by micro- and macroeconomic variables. As conclusion, we can say that we can get an overview of the industry and market with the help of scrutinising the factors we used, and we could verify our hypothesis that the Hungarian automotive industry and market are important for the Hungarian economy both in the short and long term.

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APPENDIX

We asked these questions from each interviewee:

1. How do you remember to the beginning of the nineties when the auto market in Hungary emerged?
2. The car financing by banks dates back to 1993-94 in Hungary. How did this affect the market in your opinion?
3. In the beginning of the 2000's financing without own funds and the expansion of the duration from 6-7 years to 10 years emerged. What was its effect on the sales in the short and long term?
4. What are the real reasons for the crisis in your view?
5. How does the crisis effect the classes (A, B,C)
6. What is the situation nowadays and in the future?

The first interviewee was dr. Sarlós András who is the CEO of Porsche Bank. He is the organizer of the bank; he is responsible for the given loans for the automotive market.

1. How do you remember to the beginning of the nineties when the auto market in Hungary emerged?

dr. Sarlós: *As I remember the market was fully monopolised after the transition. All the car sellers had to have a kind of permission to be able to trade with cars. That permission was a bit difficult to get, but if you were talent enough you could receive it. Thanks god, this permission did not last long. Mogirt was the responsible group, how imported the new vehicles and the used one as well. So our country just started to develop.*

2. The car financing by banks dates back to 1993-94 in Hungary. How did this affect the market in your opinion?

dr. Sarlós: *The first bank how started to finance the market was the Merkantil bank. They start their operation in the year of 1992. It made a great impact on the market. In the first period, people just could apply for loan denominated on Hungarian Forint. As I can remember, when the banks appeared on the market, that time the dealers could sell the same amount of cars as they sold in a whole year before. So I can say, this really helped the auto market.*

3. In the beginning of the 2000's financing without own funds and the expansion of the duration from 6-7 years to 10 years emerged. What was its effect on the sales in the short and long term?

dr. Sarlós: *At this time the structure of the given loans has already developed. Most of the sales were accomplished with the help of the financial institution. This resulted an increase for the dealers, as more households could buy a car. The problem was that these loans were asset-backed loans. That means almost everybody could apply for a loan, which shows that how the banks were irresponsible. The other bad things from the view of the banks were that they reduced the portion of the own-fund, sometimes this portion was equal to the zero, and they increased the length of the loan duration from five-six years to 10 years. So in short run I can tell that the volumes of the sold cars increased, and several new members invested into the car market. On the side of long run this killed the market. The banks and the dealers made a kind of "suicide".*

4. What are the real reasons for the crisis in your view?

dr. Sarlós: *Nobody counted with the exchange rate, but people should have calculate with the risk of it, as it could be seen on all the prospects. This could be the most relevant factor of the crisis, as I can see the market.*

5. How does the crisis effect the classes (A, B,C)?

dr. Sarlós: *Let me define it shortly. The luxurious level (C) was not hit by the crisis. Those level of the society still have that amount of money, they are still reach and most of them could probably gain on the crisis, just take a look at the personal income tax as the government reduced it from 32% to 16%. The class B's consumers are the middle class. They may afford to buy, but they mostly postponed to buying in this time*

a new car, they are trying to save up instead of spend. The class A have been “knocked-out” by the crisis as the financial support ceased.

6. What is the situation nowadays and in the future?

dr. Sarlós: *The size of the market increased by approximately 4-5% compared to the past year. We did not expect any changes for this year, and we not expecting to next one as well. The portion of the own-funds will increase, the minimum level is going to be around 35% or more.*

The next interviewee was Zoikosz Kosztasz the CEO of Idealauto Ltd. They trade with luxurious products from the west like Audi, Mercedes, Aston Martin and Procshe etc.

1. How do you remember to the beginning of the nineties when the auto market in Hungary emerged?

Mr. Zoikosz: *There was a big boom in the beginning of the nineties, due to the transition. My experience was that the cheap, the simple and the “ugly” cars owned the market and not the luxurious cars. The people did not have to wait for years to get their own cars. An increase could be estimated in the numbers of the volumes of the cars.*

2. The car financing by banks dates back to 1993-94 in Hungary. How did this affect the market in your opinion?

Mr. Zoikosz: *As the banks started to operate on the auto market, it made an increase in the sales. The dealers could apply for any support from the financial intuitions, so they could invest more money into cars. From the side of the households, more of them could buy a car.*

3. In the beginning of the 2000’s financing without own funds and the expansion of the duration from 6-7 years to 10 years emerged. What was its effect on the sales in the short and long term?

Mr. Zoikosz: *I can tell you, that our consumers never really had to use any financial support from the bank to be able to buy a car. They never faced any liquidity problem, as they do not face nowadays as well. The situation is, that this segment realising an increase, so a kind of over demand characterizes the market. This is our fortune.*

4. What are the real reasons for the crisis in your view?

Mr. Zoikosz: *The end of the financial support, the weakness of our currency, the exchange rates. Luckily, we are not affected by the crisis, as I told you it before.*

5. How does the crisis effect the classes (A, B,C)?

Mr. Zoikosz: *Segment A and B were injured the most from the crisis, as they used the loans, the financial help from the banks. I can again say that our consumers are at the same level as it was before the crisis.*

6. What is the situation nowadays and in the future?

Mr. Zoikosz: *The situation right now is there is absolutely no financing from the side of the banks, they do not give loans and some of it is not able to give. I think this period will last at least 4-5 years. I hope our tendency will not change.*