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BUDAPEST BUSINESS SCHOOL FACULTY OF INTERNATIONAL MANAGEMENT AND BUSINESS

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ANALYSIS OF HUNGARIAN AGRICULTURE

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1. INTRODUCTION

In our country, in Hungary there are crucial industries which are important for the habitants, for the government, for the whole country and for other countries as well, due to the export and import. In my studies I have found out that the export is a great advantage for the countries and for the import we can say the same. With these two options a country can develop and can support other countries to develop, as they can export and import not just products but also know-hows, technologies and so on. Nowadays the word is getting more globalised and for this reason the export and import is getting more easier than before. For these reasons I have chosen the export as a main topic of my thesis.

As in my thesis I would like to write about the export in Hungary in case of one main industry. This industry is the agricultural industry. I have chosen this sector, because as E. W. Stewart said: "Agriculture was the first occupation of man, and as it embraces the whole earth, it is the foundation of all other industries." So, the agricultural industry has a historical background and it is an important industry besides other industries.

Firstly, I will provide an economic overview about Hungary with historical and nowadays' characteristics and I will write some sentences how the agricultural sector is operating the pandemic situation. As my Bachelor was Human Resources, I cannot leave out the labour force in case of the agricultural sector. Secondly, I will introduce the export, the definition of the export and the main characteristics of the Hungarian export. After a short overview I will focus on the agricultural export in case of Hungary. Moreover, I will introduce the Foreign Direct Investment as a definition and show figures as an overview about the Hungarian FDI, as in the analysis section I will focus on the Visegrad4 countries' FDI. If we are talking about export, we have to mention the Hungarian Export Promotion Agency. I will show their strategy and the regions where they are operating. In the last chapter of my general background, I will explain the main regulations in the European Union and in Hungary regarding the agricultural sector, as they are helping to operate on the field of foreign trade.

After the theoretical background, I will introduce my methodology and in the methodology section I will introduce my semi-structured interview questions as well. I will describe the reasons behind the questions and give an overview about them.

My research questions are the following: What is the situation of Hungary in case of the export, in the agricultural area compared to the other Visegrad4 countries? What are the

opportunities in Hungary that help exports in the agricultural sector? In order to getting the answers for these questions I will analyse the main economic indicators, the RCA (Revealed Comparative Advantage) numbers and the Foreign Direct Investment figures, in respect of the Visegrad4 countries, as a comparison to Hungary.

Besides the analysis of the statistical data, to get a clear picture I will also use semistructured interviews with a Hungarian family business owner and with a Hungarian Limited Liability Company owner in the agricultural area. My aim is to get answers for these questions with the help of numbers and with the help of people who are working in that area, and who has a business in the agricultural sector. I think the interviews can provide the facts behind the changes, so they can complement each other to get the best results.

In the last part of my thesis I will make a conclusion about the results and I will summarize my thesis about the Hungarian agricultural sector in case of the export.

GENERAL BACKGROUND

2. AGRICULTURAL SECTOR IN HUNGARY

In this paragraph I would like to show an overview about Hungary's agricultural industry. My aim is to show the main characteristics in a timeline from the early situation, from the World Wars to the nowadays situation, in the year of the pandemic. I would like to show a picture about the agriculture's opportunities and situations in the last hundred years, to show the development of the agricultural sector in Hungary and of course to show a short overview about that industry.

2.1 Historical overview

In this part of the chapter I will start with the situation between the two World Wars. Hungary was a traditional leading exporter of agricultural products. The agricultural situation was not preferable as the men had to go to the Wars. There were no human resources and not just human, but animal resources as well, like horses. The uncultivated soil's number was huge and for this reason the production dropped with almost 50 % compared to the previous years. The food shortage started due to the previously mentioned reason. The world crisis didn't help with its decreasing prices in the agricultural sector. Between 1929 and 1933 the prices of the animals dropped with 48%, while the prices of the plants dropped with 54%. In contract the industrial products' prices started to increase, with almost 70%. For this reason, the so called 'agricultural scissors' appeared in Hungary. The export stagnated or decreased, while the import increased in the agricultural area. Therefore, the government tried to intervene with some actions, with e.g. export succharge. (Gunst, Lőkös, 1982) After this period the agriculture didn't change significantly until the second World War .

After the second World War the land reform was being introduced which made a huge effect on the agricultural sector in Hungary. The land reform means to abolish the large estate system and grant smaller lands to farmers. Due to this reform the 3,2 million-hectare lands were separated to 2 hectares lands. With this change the smaller landowners could produce more and more to supply their country with agricultural products. On the other hand, the smaller farmers had shortage in case of the means of production. To solve this problem and due to the political background, the socialist model was introduced. The small farms had been collected to so-called producer cooperatives, due to this cooperation the individual farming collapsed and just half hectare remained in somebody's hand. In this period the

agricultural sector started to use machines instead of animals and for this reason the output could be more and more. (Laczka, 1998)

From the socialist model the Hungarian agricultural system (and of course political) started to change to the capitalist model after the end of 1980's. The transfer of lands to private hands had started and the producer cooperatives collapsed. Almost 600 thousand people received lands, but unfortunately those people didn't want to cultivate lands, so they have rented them or just left them uncultivated. (Lányi, 1998)

Hungary became the part of the European Union in 2004 and it was beneficial for the agricultural sector as the European Union provides subsidies and provides regulations besides the national ones and a relatively large protected market for agricultural products. The main idea of the EU was to make the agricultural sector more 'greener', but this idea came later. The other advantageous idea and measurement is the duty-free shipping within the European Union. From another perspective this free shipping means more competitor within Hungary as well, as not just the export started to increase, but also the import. (Valkó, 2020)

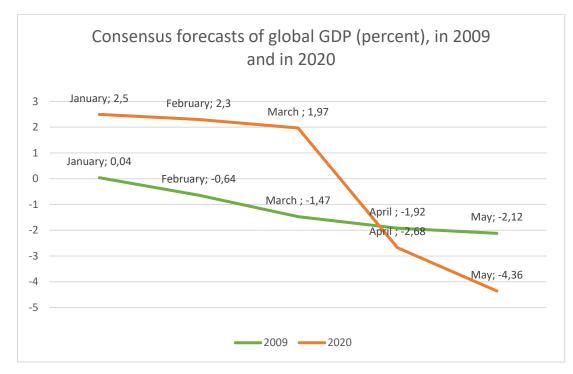
I would like to emphasize first of all that agriculture has traditionally been important in the Hungarian economy. Agriculture had stages from the early years to nowadays and always being dependent on the political situation of the country. There were years when just some of the people could own lands and years when those people's lands had been taken away because of the forced cooperation. After the cooperation, again the lands could belong to more owners and thanks to the European Union could become competitive. With the European Union's help, not just the subsidies help a lot to the farmers, but also the regulations. In the end of my general background section, I will introduce the regulations of the country and of the European Union. Moreover, in the analyse section I will explain the subsidies, which are granted by the country and by the European Union.

2.2 Nowadays' situation

2.2.1 Pandemic situation

The nowadays' situation is very interesting in every industry not just in the agricultural sector. The reason behind this situation is the COVID-19, which started in the late 2019s. From early 2020 the situation started to be worse and worse, and for this reason lot of countries decided to introduce the lockdown, which has a crucial effect on the tourism mainly, but also on every other area. To show its impact on the global GDP, I will use the

following figure and compare the numbers to 2009's number after the financial crisis. So, on the following picture I will show the global GDP in percentage, from January to May, in 2009 and 2020. (Blake and Wadhwa, 2020)



1st Figure:

Source: Consensus Economics, World Bank

As we can see on the above figure, the numbers are shocking compared to the after 2008's crisis. The fast-economic impact started in March with 3,89 % drop to April, while in the 2008's crisis had 1,39 % drop. In 2020 April the global GDP was smaller than in 2009 with 0,76 %. May showed a significant drop again, while in 2009 the global GDP was -2,12 %, in 2020 the global GDP was -4,36 % in May. It means that the situation was better in 2009 with 2,24 %. (1st Figure)

To sum up, we can say that all around the world in case of the GDP the situation was shocking compared to the situation in 2009, after the 2008's crisis. It is important from our point of view as we can see the pandemic decreased the whole global GDP and not just some of the industries. The pandemic managed to decrease the global GDP from January to May with 6,86 %, which is a great number compared to 2009, as in 2009 the decrease was 2,16 % from January to May. The shocking numbers are showing the global GDP, so we cannot find out what is the situation in for example Hungary, and in the given industry, like in the agricultural industry. In the following section I will show the nowadays' situation in the

Hungarian agricultural industry, in 2020 and 2021. Moreover, I will try to show what happened during the pandemic and how the pandemic effected the agricultural industry in Hungary.

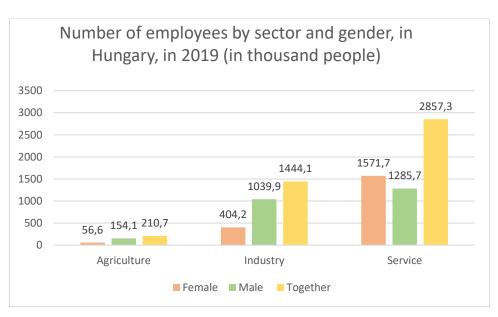
2.2.2 Nowadays' situation in Hungary in the agricultural sector

As we have seen previously, the COVID-19 effects were worse than the 2008's crisis effects. On the other hand, the agricultural sector didn't suffer that much due to the pandemic. As the main agricultural products are crucial necessities, and they are also needed during the COVID-19 crisis, so it was not a question for decision-makers to impose restrictions on agricultural workers, businesses, and companies. Moreover, we have to mention that the agriculture is a typically slow-response sector, which means that there is no immediate and fast reaction to outputs. Of course, there will be a little decrease due to the workers can get the virus or the transport of the products won't be that smooth as it was before, but these drops shouldn't be that significant. To talk more about the transportation and about the export, we cannot ignore the fact that the Hungarian agricultural sector's export has been conducted mainly in the European Union, with almost 90 %. For this reason, the Hungarian agricultural products' transportation didn't suffer due to the pandemic. In turn, the weather can make a higher effect on the agricultural sector and for this reason a drop can happen in 2020 and 2021, but the main reason behind won't be the pandemic, but other external causes. (Zsoldos, 2020)

So, we can see that the agricultural industry didn't suffer that much as other industries did due to the coronavirus, and the reason behind can be that the agricultural products are crucial necessities for the people or the other reason can be that this industry has slow reaction to outputs. With these reasons the impact of the pandemic has not been significant, on the other hand, we saw in the previous section that the global GDP dropped with a significant percentage due to the coronavirus. The reason behind the fall may be that other industries have suffered more from the virus than the agricultural sector, and the decrease of these industries is showing a huge decrease in the global GDP. As we have mentioned in the above section, the tourism and other service-related industries had a huge loss due to the pandemic and due to the lockdowns in most countries. The more isolated industries, like where the people can work from home (e.g. offices) or where the people can work with a huge distance (e.g. on the farm) are still operating, in fact, it can even expand without any effect of the coronavirus.

2.3 Labour force's situation in the agricultural sector in Hungary

On the following figures I will show the labour force numbers separated by genders and in the following sectors: agricultural, industry, service. First, I will show the numbers in 2019, before the pandemic, and then in 2020.

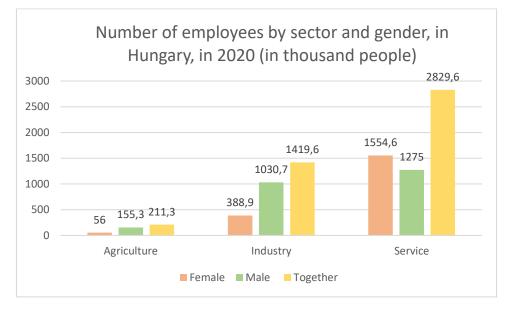


2nd Figure:

Source: KSH, 2020

On the above figure we can see almost the same as on the below one, the proportion of workers in specific sectors remained the same in 2020. The numbers slightly dropped from 2019 to 2020. In the industry sector in 2020 there were less workers, with 24,5 thousand people, than in 2019, while in the service sector this number was 27,7 thousand people. In contract the number of the workers in the agricultural sector increased with 0,6 thousand people. (KSH, 2020) So, we can say that the agricultural sector didn't suffered due to the pandemic. The gender distribution in specific sectors shows the same proportion in both years, so I will analyse the 2020 data in the following. (2nd Figure)

3rd Figure:



Source: KSH, 2020

As the above figure shows the number of employees in the agricultural sector is the lowest, in the industry sector is in the middle and the service sector has the highest number of employees. The women number is lowest in case of the agricultural sector, with 56 thousand people, while in the service the number of female workers is 1554,6 thousand people, which exceed the male number with 279,6 thousand people. While in case of the industry and in case of the agricultural sector the number of male workers exceed the females, with 641,8 thousand people, and with 99,3 thousand people. (3rd Figure) So, we can say that in the industry sector the male workers are dominating the sector, while the service sector is dominated by female workers. The other interesting number is the 'together' number, which means the female and the male workers' number is 2829,6 thousand people, which is higher with 2618,3 thousand people. On the other hand, in the industry sector there are 1419,6 thousand people 'together', which is lower with 1410 thousand people, while it is higher from the agricultural sector, with 1208,3 thousand people. (KSH, 2020)

So we can say that the labour force number is very low compared to other sectors, like compared to the service or industry sector and the female number is the lowest in the agricultural sector compared to the other three sectors, with 26,1 %, while in the industry sector the female workers has 27,4 % and in the service sector the female workers has 54,9

% from the total workers. The main reason behind this may be the difficulty of physical work and the demand of the home office opportunities and part time jobs among women.

3. EXPORT IN THE AGRICULTURAL INDUSTRY IN HUNGARY

In this paragraph I will introduce what export means and what are the export characteristics and later I will write about the agricultural export situation in Hungary.

3.1 What does export mean?

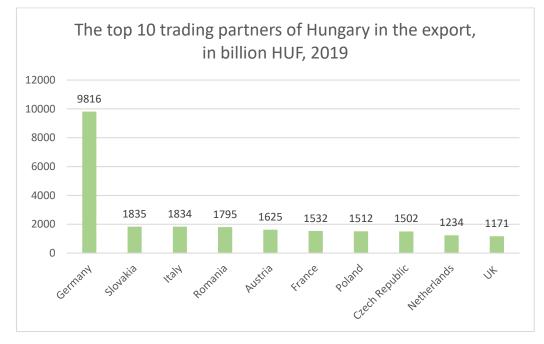
Export means: producing goods or services in one country and selling them in another country. The producing country is the home country, while the buyer country is the host country. So, producing a product or service domestically, and selling it in a foreign country. The other crucial thing is the comparative advantage in case of export. The comparative advantage means you can provide something better than any other businesses, and the host country has demand as well. Lot of countries want to increase the export, as the comparative advantage will increase proportionately with the export. Governments also prefer export as the export can help to make jobs, higher wages and develop the infrastructure. There are tools which can be implemented to boost the export in a country. These tools are trade protectionism, which means implemented tariffs and with this way the import will be lower, while the export will be higher. The trade agreements are also crucial parts in case of the export boosters. There are multilateral, regional, bilateral, and unilateral agreements among countries to make the trade smoother. The last export booster is the low value of the currency. The Central Banks can use this trick with lower interest rates and the governments can use the money printing thing to lower the value of the country's currency. Of course, the money printing trick can cause currency wars, which is not the best for the countries' economy. (Amadeo, 2020)

So, we can see that the export is a complex definition, and it has lot of components. With the help of the components, you can calculate numbers, which help to analyse the export of the given country. In the analysis section I will use the revealed comparative advantage to show the export power of the Visegrad4 countries and to compare them with these numbers.

3.2 Export in Hungary

On the following figure I will show the top ten main trading partners for Hungary in the case of export, in 2019.

4th Figure:

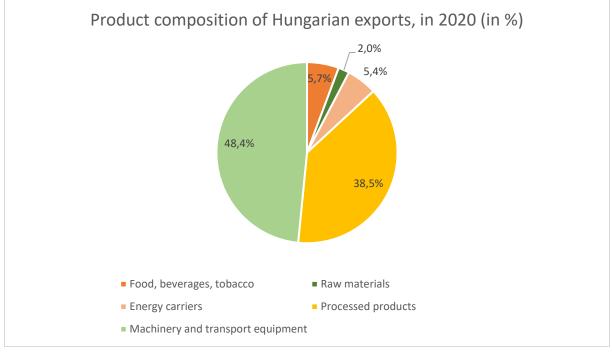


Source: KSH, 2019

As the above figure shows the main export partner for Hungary is Germany with 9816 billion HUF. The other nine countries have significantly less shares. The second one is Slovakia, which has smaller number, with 7981 billion HUF, which is a high number compared to other countries. For example, in case of Slovakia and Italy the difference is less, just 1 billion HUF. On the other hand, we can only see European Union's countries, except of the United Kingdom, but this data was made before the Brexit. Also, we can see that we can find the other three countries which are member of the Visegrad4 cooperation. (4th Figure) It will be an important information as in the analysis section I will compare Hungary to the other Visegrad4 countries with the Revealed Comparative Advantage numbers. (KSH, 2019)

So, as the graph shows the main trading partner in case of the export is Germany, for Hungary. The second one is Slovakia, which is part of the Visegrad4 cooperation. Poland is the 7th one and the Czech Republic is the 8th one, so we can say that all of the Visegrad4 countries has a trading relation with Hungary in case of the export.

5th Figure:



Source: KSH, 2020

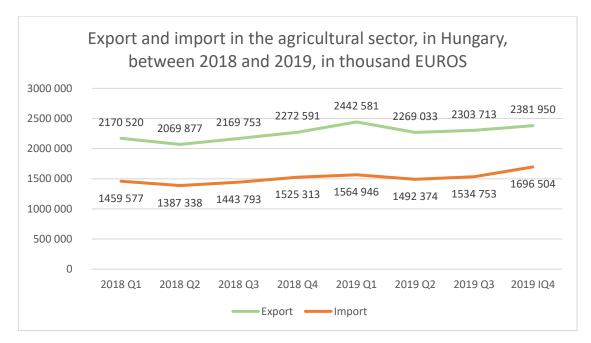
On the above figure we can see the foreign trade product turnover in percentages in case of Hungary, in 2020. The main product was the machinery and transport equipment, which is not a big surprise as Hungary's main export partner was Germany, as we have found out from the previous figure. The second product category is the processed products, with 38,4 %, which means 13309,3 billion HUF. The food and beverages and tobacco standing on the third place, with 5,7 %, which is lower from the machinery category with 42,7%. (5th Figure) The last ones are the raw materials, with 2 %, which contains the agricultural products as well. (KSH, 2020)

To sum up, in case of Hungary the trade product turnover is the lowest for the agricultural product as it can be found in the raw materials category, while the machinery and transport equipment standing on the first place, with a high percentage, almost half of the foreign trade product turnover in 2020. The tendency was very similar in the previous years, so we can say that in case of Hungary the raw materials had a very low percentages in case of the foreign trade product turnover, but it can happen due to lot of reasons. For example, due to the shortage of the raw materials inside Hungary or due to the regulations, which will be discussed in the last paragraph of the theoretical background discussion.

3.3 Export in the agricultural industry, in Hungary

As we have seen on the previous figure, the raw materials' products (containing the agricultural products) turnover is not a significant percentage, but in the following figure I will introduce the export and import between 2018 and 2019 in case of the agricultural products.

6th Figure:



Source: KSH, 2020

On the above picture we can see the changes in case of the export and in case of the import between 2018 and 2019 broken down into quarters. It is important to note that the numbers for specific quarters may also change due to seasonality. The most conspicuous object is on the figure is the export which exceed the import in every quarter. The export has ups and downs, but with not a significant number. The main drop was between 2019 Q1 and 2019 Q2, with 173 548 thousand euros. The main increase was between 2018 Q4 and 2019 Q1, with 169 990 thousand euros. In case of the import, these numbers are mainly around 1 550 000 thousand euros. The import increased between 2019 Q3 and 2019 Q4 with 161 751 thousand euros, while the export increased with a smaller number, with 78 237 thousand euros. (6th Figure) This was the first quarter where the import increased with a higher number than the export. (KSH, 2020)

So, it is important to see that the numbers are higher in the first quarter as well as in 2018 and 2019, and then, after a small drop, until the fourth quarter, they show an increasing

trend in both years, both in terms of imports and exports. This may be due to seasonality. In the agricultural sector the nowadays situation shows high number in the export compared to the import. The export exceeds the import, but in the last quarter, in 2019 Q4 the import was closer to the export than ever between 2018 and 2019. The reason behind the higher export can be that Hungary can supply itself with the agricultural products and has a surplus to supply other European Union countries, as we have seen on the third picture. On the other hand, as I have mentioned previously the regulations have an important role, if we are talking about the agricultural industry in the European Union and in Hungary as well.

In this section we have seen that the export has main indicators and with those indicators help we can measure a country's export and foreign trade situation. In case of Hungary the main export partners can be found in the European Union (like Italy, Germany, Slovakia), and we have seen that all the other three countries from the Visegrad4 cooperation are trading partners for Hungary. We have discussed the foreign trade product turnover, where the highest percentage was in case of the machinery and transport equipment, with almost 50 %. This high percent can happen as the first export partner was Germany. Due to the Hungarian and German relationship in the automotive industry, it is not a shocking number. (Keszthelyi, 2020) As we have seen the raw materials (which contains the agricultural products) had a very low percentage, with 2 %, but the fifth figure showed that the export in case of the agricultural industry is still exceed the import, with a significant number. So, we can say that there are other sectors where the trade relationships and number of export and import are higher, but still in the agricultural sector the export is more than the import and the country can supply not just itself, but the members of the European Union as well.

4. FOREIGN DIRECT INVESTMENT IN THE AGRICULTURAL INDUSTRY IN HUNGARY

4.1 What does foreign direct investment mean?

According to the IMF and OECD definitions, "direct investment shows the aim of obtaining a lasting interest by a resident entity of one economy (direct investor) in an enterprise that is. resident in another economy (the direct investment enterprise)". For the governments the FDI is crucial, especially for the developing countries to make their economies stronger and to help in the development. The main resources what are crucial for the developing countries are technology, capital, know-how and infrastructure. It is also important to mention that these investments are long-term investments of a country or of a person who make the investment in another country, which is the host country. In the following section I will show Hungary's Foreign Direct Investment outflow of Hungary and the stock FDI in Hungary. (Koluman, 2020)

4.2 Foreign Direct investment in the agricultural sector

On the following figure I will show the Foreign direct investment position of Hungary, in the agricultural sector from 2010 to 2019.

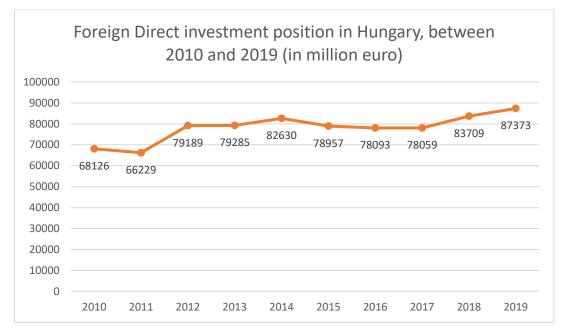




Source: Worldbank, 2019

As we can see on the figure the direct investment of the agricultural sector of Hungary had some changes during the years. From 2010 to 2011 there were a higher drop, which could happen due to the 2008's financial crisis. This drop was 36,45 million euro. The highest increase can be found between 2011 and 2012, with 115,99 million euro. Between 2012 and 2016 the increase was slight, but still the direct investment increased. After the increase, there had been a decrease in 2018, with 43,4 million euro. Then there was another small increase for 2019, so in 2019 the direct investment of Hungary in the agricultural sector was 523,27 million euros, while in 2010 it was just 385,62 euros. On the following figure I will show the total FDI position of Hungary, which includes the agricultural sector, manufacturing, services and other thirteen economic activities. (7th Figure)

8th Figure:



Source: Worldbank, 2019

On the figure we can see almost the same trend as we have seen the FDI position of Hungary in the agricultural sector. The drop can be found here as well, from 2010 to 2011, but here with 1897 million euro. The slight increase can be found here as well, but not till 2016, as in 2016 the number was smaller, with 864 million euro if we compare it to 2015. 2017 is similarly characterized by this smaller decline, with 34 million euro compared to 2016. Between 2017 and 2019 a slight increase can be found. (8th Figure) While on the previous figure between 2018 and 2019 there had been a decrease, here we can see an increase. (Worldbank, 2019)

As we have seen on the figures, the Foreign Direct Investment position of the agricultural sector is significantly low, compared to the total, which contains other economic activities. Between 2010 and 2019, the figures do not show outstandingly different results, either for the agricultural sector or for the total economic activities. However, there are differences between years in terms of growth and decline. (Worldbank, 2019) The Foreign Direct Investment is a crucial topic from my point of view as in the analysis part I will show the Foreign Direct Investment numbers and I will compare Hungary to the other Visegrad4 countries.

To sum up this section, the foreign direct investment measures stocks and flows as well. In case of the flows we can divide it to two sections, inflows, and outflows. In our case the outflows are more important, and for this reason I have analysed them on the above figure. We have found out that a law has been implemented between 2018 and 2019, and for this reason the difference between those years is significantly high, with more than 100 billion USD. In case of the stock the numbers show a slow increase. In the analysis section I will show FDI numbers as well but concentrating on the agricultural sector and make a comparison among the Visegrad4 countries. In the following section I will introduce the Hungarian Export Promotion Agency and its aim, which has a crucial role if we are talking about foreign direct investment or talking about export.

5. HUNGARIAN EXPORT PROMOTION AGENCY

The abbreviation of the Hungarian Export Promotion Agency is the HEPA, which is a Hungarian 'company', which try to help to the Hungarian companies to make deals with foreign countries or companies. The aim is to provide appropriate opportunities for the businesses on the foreign markets and help them to succussed in international markets. This Agency is a non-profit agency and operating under the Ministry of Foreign Affairs. The HEPA try to help to enter to the international market to Hungarian businesses. With their help they can sell their products and services on the foreign markets. The list of the support is very long, with market research, export trainings and relationship building with abroad. The other main service of the HEPA is to provide necessary intercultural knowledge for almost every sectors and industries. For this reason, Hungary can gain long-term growth, increased productivity, and demand in case of the labour force. The HEPA's partner office covering 27 countries network operation a foreign partners and Hungarian between businesses. (HEPA, 2021)

5.1 Export strategy

The national export strategy of the HEPA is to increase the export share of the small and medium-size companies by 50 %. To involve the domestic SMEs promotion in the international companies' global value chain. In Central European comparison to make the fastest and most on the market developing export financing system. To build internationally recognized Hungarian brands based on the existing companies with outstanding export successes. The HEPA is trying to achieve these aims till 2030. So, as we can see the strategy is a long-term strategy.

5.2 Regions and sectors of the HEPA

HEPA is currently operating in 6 foreign regional partner offices whose main task is to find out the needs of the local market, the opportunities in that market, and promotional activities. The main tasks of these partner offices are the following:

- Commercial representation of HEPA partners
- Exploration of the business opportunities on the given market
- Identifying and qualifying the local potential partners
- Organize the sector specific B2B meetings on the given area
- Collect information about the economic background about the potential business partners
- Product and market research, etc.

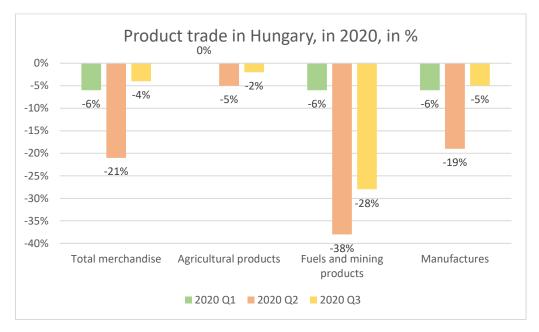
These regional partner offices are located all around the world, the cities are Belgrade, Istanbul, Moscow, Toronto, Shanghai, and Tokyo. So, as we can see the cities are in almost all over the world and the tasks are helping to the Hungarian businesses to export or make foreign relationship with a preferable country. (HEPA, 2021)

The sectors are containing the food industry, the agricultural industry, the environment and construction sector, the health industry, the mechanical engineering, automotive and electronics sector and the digital solutions, ICT, and start-ups. As we can see the range of the sectors are wide and with this opportunity every sector can prevail in case of the export promotion supplies.

5.3 Nowadays numbers in the export based on the HEPA

On the below figure I will show the nowadays product trade in Hungary in case of the agricultural products, the fuels and mining products and the manufactures. As I have mentioned previously these products can be promoted by the HEPA as the HEPA contains these products' sector as well. I will show the latest percentages in case of the product trade from 2020 broken down into quarters.

9th Figure:



Source: HEPA, 2020

In the third quarter of 2020, product trade partially recovered after the spring closures. As I have mentioned in the 'Due to the pandemic' because of the coronavirus the lockdown makes its effect on the trade as well. Trade in electronics, textiles, vehicles, and their components contributed most to the normalization of trade. Despite the better results, the total value of trade is still below the level of 2019, and it is crucial to note that trade in services continues to perform at a low level, as the personal attendance is essential in case of the services. Proportionately, by the third quarter, trade in goods will be 11% lower than in 2019, while trade in services will be 17% lower. On the other hand, the agricultural products are performing with the best percentages, in the first quarter of 2020 the percentage was 0 and it decreased just to -5 %. (9th Figure) So, as we can see and as I have mentioned previously the agricultural products are vital and essential products, for this reason we cannot live without them. (HEPA, 2020)

To sum up, the nowadays situation is getting better compared to the second quarter, the tendency shows a slight increase in the trade of products in Hungary. We can also say that the agricultural products have the best situation, while the fuels and mining products has the worst based on the HEPA's figure. The industries where the personal attendance is crucial are suffering due to the lockdowns and due to the restrictions. Finally, we can see that the agricultural sector could survive the pandemic and could grow in the last period as well. In the analysis part of my thesis I will focus on the impact of the pandemic, in my semistructured interview questions.

6. REGULATIONS

In this section I will focus on the regulations in the agricultural sector in Hungary. First, I will show the regulations in the European Union, then I will show the regulations inside the country, inside Hungary.

6.1 Regulations in the WTO, in the agricultural sector

Based on the FAO, which is the Food and Agricultural Organization of the United Nations the World Trade Organization is restricting the trade of the foods and agricultural products to prevent the large-scale shortage of these crucial products in temporary point of view. Between 2011 and 2017 lot of net food-exporting countries started to use restrictions, like quantitative restrictions to stop the increasing prices in the home economy and to supply the home country with enough products. The WTO wrote in the GATT, in the Article XI and paragraph, that the import and export cannot be restricted with other ways, just with taxes, duties and with other charges. Other instruments are not allowed, like quotas or export licences etc., on the other hand, in the second article we can find that the quotas can be ignored, if "the export prohibitions or restrictions temporarily applied to prevent or relieve critical shortages of foodstuffs or other products essential to the exporting contracting party". While, the "critical shortage" is not clarified, the countries can decide their export restrictions in almost full freedom. (FAO, 2017)

The export restrictions in the agricultural sector has been used and will be used in the coming years. The reason behind the use of the restrictions is to try to force the prices to remain in a lower level in the domestic market. Also, we have to mention the supply of the domestic market, which is a crucial point in case of the restrictions in the agricultural sector. Unfortunately, the not that positive effect has also appeared, as the net import to the developing countries has higher prices with these restrictions. (Sharma, 2011)

The agricultural sectors' restriction's effect at the country level are the lower prices in the domestic market, and the high increase in the supply in the home economy. However, it has a negative effect on the long run as the consumers can disappear on the domestic market, and for this reason there won't be any consumer for the given product. Moreover, it can cause move to another type of product for the farmer, which is not restricted, and which measures are predictable. (FAO, 2014) In case of the international level the restrictions can cause less global supply on the foreign market. Moreover, in some estimates from 2006 to 2008 the price-insulating behaviour as an aggregated effect of the countries was a 52 % increase in case of the rice and 18% increase in case of the wheat and maize. So, we can say that the uncertainty is high if there are lot of exporter and they are affected by the restrictions. Also, we have to mention, that these restrictions are mainly impacted the neighbour countries in case of the trade and the situation can be worse if the alternative source of the given product is not available. (Kym et. al., 2013)

It is not a surprise that the WTO is negotiating about the restrictions. They have started to debate the following topics: export restriction exemption for the international organization who are sharing the products as an aid, reduce the impact of the export taxes and restrictions and determine these numbers with the help of the percentages of the domestic market production, to stop the export restrictions except of the taxes in case of poor net food-importing countries and to reach the balance in the international trade with the export and import restrictions. (Anania, 2013)

6.2 Regulations in Hungary and in the European Union, in the agricultural sector

As we have discussed earlier there had been an acquisition of the lands in the agricultural sector before Hungary became member of the European Union. When Hungary became the member there had been an agreement, which said that any European Union member's citizen can buy a land in Hungary for 10 years. It has been expired in 2014. The Act CXXII of 2013 in case of the marketing of agricultural and forestry land grants the opportunity and right to become an owner of agricultural land to Hungarian natural person and EU nationals. (Magyar Közlöny, 2013) On the other hand, it prohibits any non-EU citizens, and foreign and (with some exclusions) domestic legal persons, from ownership like this. The regulations about the export and import in case of the agricultural products (like animals and genetic resources) being implemented on EU and on national level as well. (Balassa-Versics, 2015)

What about the agricultural companies? The agricultural land acquisition by home and host businesses are highly regulated, moreover it is prohibited in Hungary in the same Act what I have mentioned earlier. This ben also prohibits the purchase of the Hungarian lands by non-EU citizens, even if they are using domestic legal person. So, as we can see there are strict rules if we are talking about agricultural lands, and the owner is highly regulated (just EU citizens can own) and also the acquisition is highly regulated as we have seen in this section. (Balassa-Versics, 2015)

In case of the export and import we have to mention the National Food Chain Safety (NFCS), which is regulating the production, export and import of the following products: crop seeds, plants, protection materials for plants. For instance, the quarantine pets' and controlled species' import are also regulated with the Ministerial Decree no. 7/2001 (I.17). (Ministerial Decree, 2001)

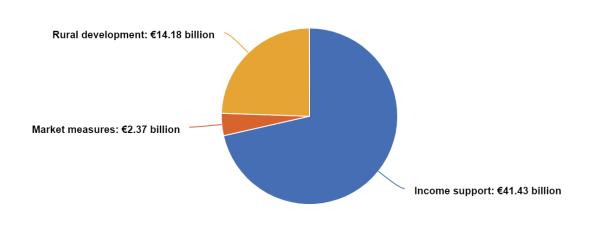
To sum up, we can say that in case of the regulation of the agricultural products in Hungary there are two levels. One level is the EU level, the other one is the national level. In the first level the members of the European Union belong to the similar customs union, so these are the applicable laws for the EU, but still have to be in sync with the national laws. The second level is the national level, which implements the characteristics of the export and import and the distribution in the agricultural sector. With the help of the Community regulation the export and import inside the EU is free and don't have to pay anything at the borders. So, we can say that being the member of the European Union is an advantage for Hungary in respect of the export and import. (Balassa-Versics, 2015)

6.3 The Common Agricultural Policy

The Common Agricultural Policy has been implemented in the European Union, in 1962. Its importance is based on the subsidies which are provided by the European Union to its member states and to its agricultural businesses. In the interview part I will also try to find out if the interviewees get any support from the European Union and from Hungary as well.

When we are talking about agriculture, we have to mention the subsidies and policies as well, as this industry is an infant industry. Infant, as it is not able to compete with other industries. The subsidies are mainly coming from the European Union. Based on the official website of the European Union we can say that the European Union has a common agricultural policy. It was established in 1962, and the aim behind this policy was: to support the partnership between the society and the farmers and inside the European Union. From the overall EU budget, which is 103,08 billion euro, the subsidies of the agricultural sector are high, with 57,9 billion euro, which is 56% from the EU budget. On the below chart we can see what areas get more from that 57,9 billion euro and what areas get less.

Figure 10th:





Source: europa.eu, 2019

Accordingly, from the EU subsidies 71,46 % is helping to increase the income for the farmers. The EU invest 24,46 % from the support to help in the development of the rural areas. Moreover, only 4,08 % support the stabilisation and prevention from market crisis, like support the market measures in the agricultural area. In the following section I will introduce these segments of the subsidies and what are the aims behind these supports.

European agricultural fund for rural development (EAFRD) is a tool of the CAP to help rural areas to progress. The budget was significant between 2014 and 2020 with around 100 billion euro. This programme will be going on till 2023, so we can say it is supporting the rural areas nowadays as well. The main six points are the following:

- "fostering knowledge transfer and innovation in agriculture, forestry, and rural areas.
- enhancing the viability and competitiveness of all types of agriculture and promoting innovative farm technologies and sustainable forest management.
- promoting food chain organisation, animal welfare and risk management in agriculture.
- promoting resource efficiency and supporting the shift toward a low-carbon and climate resilient economy in the agriculture, food, and forestry sectors.
- restoring, preserving, and enhancing ecosystems related to agriculture and forestry.

 promoting social inclusion, poverty reduction and economic development in rural areas." (Europa.eu, 2021)

As we can see the main idea behind the six points to support the development of these rural areas, to make the farming more efficient by providing technology for the farmers. Moreover, we have to mention the promotion, because they are spending money to promote the welfare and promote the risk management, which is a crucial point in the agriculture. The risk can be higher than any other industries due to the weather, and due to the animals (birds are eating the seeds out from the soil). These aids help to promote the environmentally friendly opportunities, like helping the agriculture to keep the carbon low and being climate resilient.

Market measure can be the Tariff Rate Quotas (TRQs), which are important from our point of view. The European Commission for agriculture and rural development department is managing the TRQs. The TRQ calculated with quantities within the tariff quota and the Commission is notifying the authorities on the national level. Once the import and export quotas are being announced, the countries in the European Union should issue the import and export licence for the quantities taken into consideration the tariff rate quotas.

Ultimately, we have to talk about the income support, which received the most aid in 2019, with 41,43 billion euro. This support is a direct payment and the aims are: to make the agricultural sector more profitable, to supply the European Union with products and food and to secure the EU from food shortage, to guarantee safe and healthy food at reasonable prices, and also to pay for the farmers as they take care of the environment and of the countryside. The euro is distributed mainly to farmers based on land size, so based on the hectares. The European Union countries cannot decide if they support the farmers with these kinds of payments, this is an obligatory payment. There are specific supports which are trying to help to the youth farmers, to the small and medium sized farms and to the farmers who has aggravating factors, like lack of labour force, not good quality soil and so on. But why they need that much support? The answer is: risk. Farming is very risky and not just risky, but costly as well. With these aids the EU trying to help them to make opportunities for the European agri-food sector and for the people who are working in that sector. The practical side of this aid is very simple: in every year the farmers have to apply for the aid after their parcels with a declaration. The European Union is dividing the aid between the countries and on the country level the national authorities are dividing that aid between the

farmers, this name is "shared management". Last, but not least there are conditions that must be met. There are some of the conditions: have to be located in the European Union, there is a minimum income and land required (from 100 euro to 500 euro and from 0,3 hectare to 5 hectare), the numbers are depending on the country, have to perform activity in the agricultural sector, they have to be "active farmer", which means have to prove that they are doing farming activity, the negative list is like airports, railways etc., and the most important is the payment entitlements to receive decoupled income support payments. (Europa.eu, 2021)

So, as we have seen these aids are trying to support not only the farmers themselves, but also the agricultural sector. It is crucial to see the importance of these supports, due to the high-risk factor of the agriculture. The weather and the climate can destroy everything in a minute, but with these aids the people who are working in the agricultural sector feel like they have a security and help if their income would be threatened by external influences. Moreover, the rural areas can develop as well, not just with the EAFRD, but with workplaces which are provided by the farmers. Last but not least, young people do not need to move to city centres, as they can find opportunities in their hometown or village. Hence, with the help of subsidies not just the farmers can feel the positive effects, but also towns and villages as well, with workplaces, and infrastructure developments thanks to the agriculture sector and thanks to the farmers.

In the following section will describe the methodology of my research and after the methodology I will represent my research questions and try to find answers for the questions. I will try to get answers for my questions with the help of the analysis of the numbers and interviews and with the help of the theoretical background as explanations for the results.

7. METHODOLOGY

The purpose of my thesis is to provide an answer to the research questions based on reliable information. The sources that were used were mainly the official pages of different statistical and data websites such as UNCTAD stat and World Bank data. Moreover, several articles were found that were linked to the topic of the research paper.

My research type is a mixed research type, as I have used qualitative data, like interview, but also used statistical data as well. I will compare Hungary with the other three Visegrad4 countries in case of the main economic indicators, then calculate RCA indexes and compare Hungary with again the other Visegrad4 countries. In the end of this section I will compare them with the help of the Foreign Direct Investment numbers and percentages.

My approach will be induction type of approach because with comparison of other 3 countries with the chosen country (with Hungary) I can create a useful analysis for further usage. Data will be collected and compared in order to explore a phenomenon and create a conceptual framework.

The data collection will be secondary data collection because the data has been collected from different sources and made available for the research. In respect of the data analysis I have started with the description of theoretical background, with explaining Hungary's economy in the history and in nowadays. After the introduction of Hungary's economy, I have explained the export characteristics in case of Hungary, thereafter I have used the same method to introduce the theoretical background of the Foreign Direct Investment and then the Hungarian Export Agency. In the analysis section I will explain the agricultural industry specificity and the importance of the EU. Firstly, I will analyse the RCA indexes, then I will use interviews as well to get more information about the topic. My interviewees will be a family business owner and a limited-liability company owner in the agricultural industry (working with plants and animals as well). I will use tables and figures to summarize the numbers in case of the main economic indicators, RCA indexes and FDI numbers and percentages.

To summarize the interviews, I will also use tables to highlight the main common points of the interviewees and the main differences in the answers. My semi-structured interview questions' first question is regarding the type and the size of the business, the question was the following: What kind of economy do you deal with? With the help of the answers I can get a clear picture about the business, about the type of the cereals and about the animals.

The second question was regarding the export: How long have you been exporting? With this question I wanted to get information about the experience of the export. With the third question I wanted to know: What are the crops and animals that are exported? As I wanted to see from their wheats and animals which one can be exported, what is the demand in case of exporting from Hungary. The following question was this one: Where are the given crops and animals exported? I have asked this question to find out which are the main countries from the partner countries and have an overview about the importing countries from Hungary in the agricultural products. The fifth question was in respect of the relationship with a foreign country as my question was: Which country has the closest export relations? Sixth question was referred to the previous one as I wanted to know how many years this relationship has existed. The seventh and the eighth question were in relation with each other as the 7th was: which year had the highest exports and the 8th which year had the lowest export. The reason behind these questions that I wanted to know if there are any trends in the export in case of the agricultural products. The ninth question was a complex question: Are there subsidies that encourage exports? If so, what are they like? If not, what would they be happy about? I wanted to know if there are subsidies which can help for the younger generation to start to export. The 10th question was regarding the prices of the exported products. The 11th was regarding the other Visegrad4 countries, if there are any relations with them, as I wanted to get information about them form the interviews as well, not just from the figures and numbers. The 12th question was about the Hungarian export situation, as I wanted to know how the exporters see the options of Hungary in case of the agricultural sector. The 13th question was regarding the subsidies: What are the opportunities that you think could increase exports? The 14th and 15th questions were almost the same as I have asked Where would you prefer to export and Where would you not prefer to export? The last question was about the subsidies: Do you get any support? What most? I wanted to know about the sources of the subsidies and what kind of wheats, products and animals are mainly supported by the European Union and by the nation.

To sum up, in the following section, in the analysis part I will introduce my research questions and aims of my thesis and I will introduce what we have discussed in the theoretical sections in a practical way, in numbers, in percentages and also on tables and on graphs.

ANALYSIS

8. RESEARCH QUESTIONS

In this part of my thesis I will introduce my research questions and my aim with this thesis. I will analyse not just numbers, but also interviews as well. After the research questions introduction, I will analyse the Visegrad4 countries, and Hungary's situation in the Visegrad4 cooperation. Later, I will show economical numbers about the four countries, and show the export situation with the help of the Revealed Comparative Advantage numbers. As my focus will be on the export, after the RCA I will show main figures about the Foreign Direct Investment, in case of the outward situation and in case of the inward situation about the Visegrad4 countries. In addition, I will show the importance of the European Union's and Hungary's subsidies in the agricultural area. To make my thesis more practical, I will use not just quantitative, but also qualitative method, with semi-structured interviews, for this reason in my thesis I will use mixed research methods to get a widen picture about the situation of Hungary in the export of the agricultural sector. My aim as I have mentioned, to find answers to my research questions which are focusing on the export situation of Hungary in the agricultural area. My research questions are the following:

Question one: What is the situation of Hungary in case of the export, in the agricultural area compared to the other Visegrad4 countries?

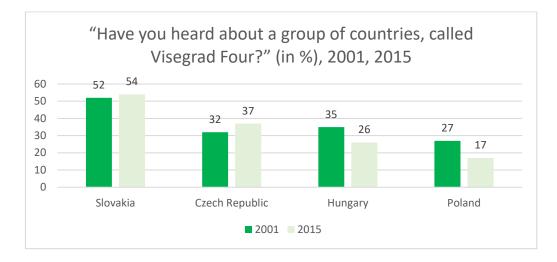
Question two: What are the opportunities in Hungary that help exports in the agricultural sector?

With the help of the mentioned quantitative and qualitative methods I will try to find answers to my questions. I have to mention that I know that my research is limited as there are lot of areas of the agriculture and I cannot get answers from every area, but I will try to collect data and collect interviewees from not just one area, to broaden my view into this topic. In case of the interviews I will make them with one Family Business and one Limited Liability company to make an interview with a smaller and with a bigger business. In the last section of my analyses part, I will sum up the limited answers to my research question and I will sum up my whole thesis and make a conclusion about my results. In the conclusion part I will show my own ideas and perspectives about nowadays situation in the agricultural area and about the export in the agricultural area in Hungary.

9. WHAT IS VISEGRAD4?

In this section I will make an overall introduction about the Visegrad4 countries and give an overview about the preferences and situation based on the: 25 years of the V4 as seen by the Public article. I am focusing on the Visegrad Group or with another name Visegrad4, because later I will make a comparison among these countries in case of the agricultural industry. I have chosen this cooperation because my focus will be Hungary, but these countries can be found in the same area with almost the same preferences. They represent good comparative cases to Hungary, because these countries share a very similar past, including their planned economy period, a very similar level of development (as I will demonstrate it later) and similar traditions and heritages. The Visegrad Group can be found in the Central Eastern European area. The parties of the cooperation are Hungary, Poland, Czech Republic and Slovakia. We can say that it is a unique corporation in the European Union. The formation was in 15th of February 1991 in Visegrad in the castle in the North part of Hungary. The participants were Václav Havel (Czech Republic and Slovakia as Czechoslovakia), Lech Walesa (Poland) and József Antall (Hungary). We have to mention that the four countries development and history of the economy was similar, and in all of the four countries agricultural is a crucial sector. Almost the same happened 650 years earlier in the same place, as the rulers of Central Europe made a discussion about a cooperation in 1335, in Visegrad. Throughout the history, their situation has not been so strong continuously. However, all the four countries could join to the European Union and to the NATO as well. (Gyárfásová, Meseznikov, 2015) The importance of this cooperation is not the same in the countries. On the following figure we can see that how many percentages of the V4 country's citizens heard about the collaboration in 2001 and in 2015.

11th Figure:



Source: IVF 2001, 2015

The figure shows that in Slovakia this number rose with 2 %, while in the Czech Republic with 5 % from 2001 to 2015. It means that the public awareness slightly increased in those countries, however in Hungary and in Poland this number decreased. In Hungary it lessened with 9 %. The reason behind can be due to the political changes inside the country and due to the rising awareness to another cooperation like to the EU. The reduce of the percentage in case of Poland is higher a little bit, with 10 %. We have to mention that Poland has the largest area besides the other V4 countries and Poland has a significant power in the region and in case of the political situation. So, the reason behind the drop can be these causes and can be that the Polish people's public awareness is focusing on the country itself and not on the regional cooperation. (11th Figure)

Overall, we can say that the public awareness of the countries shows current situation in the given country and it can change from year to year. The political elites have a great power to influence these percentages and to change the public awareness focus from one cooperation to the other. (Gyárfásová,Meseznikov, 2015)

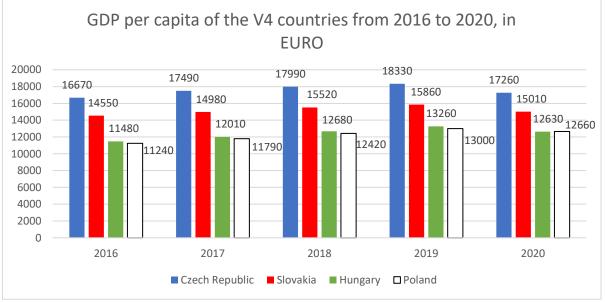
9.1 Visegrad4 in numbers

In this paragraph I will show three from the main five economic indicators of the Visegrad4 countries - in order to demonstrate their similarities in economic terms. These indicators are the GDP, the employment indicator, and the HICP. The GDP per capita, shows the economic output of the country, divided by the citizens of the country. The employment indicator indicates the number of the employed people in the given country and if they are making more or less profit than previously. The Harmonised Indices of Consumer

Prices that shows the price changes of the goods and services consumed by the households. It has a close connection with the inflation. (Kuepper, 2020)

On the below figure we can see the first indicator, which is the GDP per capita in the examined region in EURO. At the first glance we can see that the Czech Republic has the highest number (euro) in case of the GDP per capita, while Slovakia is the second and Hungary and Poland are the third and fourth. The reason behind in case of Poland can be the number of citizens as it has more inhabitant than the Czech Republic, but also, we have to mention the increased output of those countries. The main change can be found in 2020, where Poland was the third and Hungary the fourth compared to the other V4 countries. The value of the GDP per capita decreased in that year, but in case of Poland this decrease was not as high as in Hungary. Poland's GDP per capita decreased with 340 euro, while Hungary's GDP per capita decreased with almost the twice, with 630 euro. The highest drop happened in the Czech Republic from 2019 to 2020 as it decreased by 1070 euro, almost the twice of Hungary's drop. (12th Figure) We can say that all of the countries' GDP decreased from 2019 to 2020, but the main reason behind is the COVID-19 and its impacts on the economies. (Eurostat, 2020)

12th Figure:

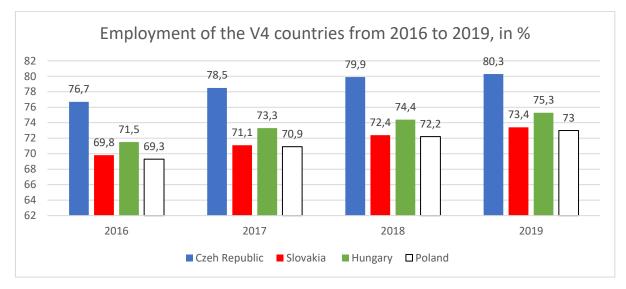


Source: Eurostat, 2020

On the below diagram we can see the employment of the Visegrad4 countries between 2016 and 2019, in percentages. The Czech Republic has the highest number again as it was on the previous diagram, but we have to mention that the GDP and the employment has a link. This relationship had been discovered by Arthur M. Okun. After Okun's Law Jon

Hilsenraith found out that if the unemployment rate dropped by 0,9 %, then the GDP should grow with 5%. (Foxman, 2012) Of course there are other factors influencing, but the main idea about this relationship can be found on the two diagrams. The other factors of the employment rates can be subsidies and the workforce composition. We can see that after the Czech Republic Hungary has the second highest employment rate between 2016 and 2019 thanks to the Public Employment Programme in Hungary. This new programme had been introduced in 2013 and with this support the councils could employ the unemployed people within the framework of the program. These employees can be found in almost any areas from the agriculture to the administrative areas. Slovakia and Poland show almost the same percentages, but mainly Slovakia has a higher employment than Poland, with 0,5%, with 0,2% and with 0,4%. The low number can also reflect the population composition by age, as the employment percentages counting only people who are between 20 and 64 years and not shows who are studying or being household employed. (13th Figure)

13th Figure:

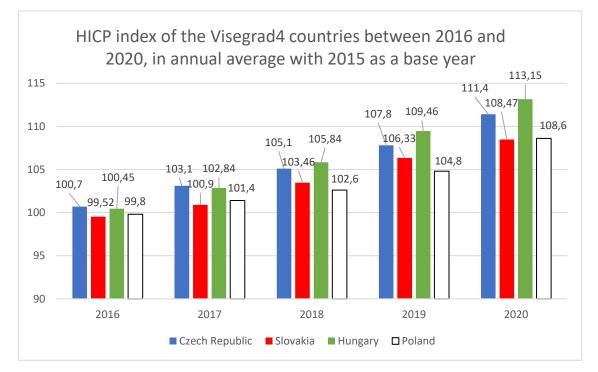


Source: Eurostat, 2020

The last economic indicator in our case is the HICP, which is the Harmonised Indices of Consumer Prices annual average numbers from 2016 to 2020 in case of the Visegrad4 countries. This is an important index, as it is measuring the stability of the country. The base year (100) is 2015 in case of the annual average indexes. As the diagram shows in 2016 and 2017 there were not a big difference between the countries, the numbers were between 99,52 and 100,7 in 2016 and between 100,9 and 103,1 in 2017. In 2018 the difference started to being larger and larger till 2020. Hungary had the highest number compared to the other countries and lowest for Slovakia. The reason behind can be the euro because Slovakia has

already euro, but Hungary's HUF is started to worth not that much compared to the euro and Hungarians had to pay more for the product which is coming from abroad. The figure shows a slow rise, but it is a normal process as the optimal inflation rate is around 2%. If the inflation rate would be 0% then not just the prices cannot increase but also the wages. So, we can say that the Visegrad4 countries rates are around 2% and around the optimal level. On the other hand, there had been a deflation in Slovakia and in Poland in 2016, which can lead to recession, however in the next year these numbers decreased to above 100%. (14th Figure) From 2019 to 2020 the numbers rose with more than 2%, but the reason can be the uncertain situation in the world due to the pandemic. (Pettinger, 2020)

14th Figure:



Source: Eurostat, 2020

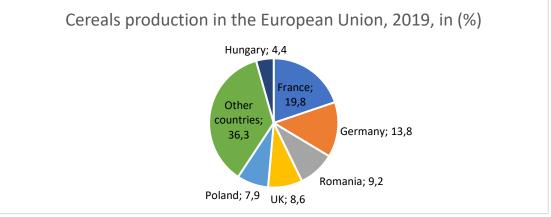
Thus, these four countries as we could see, are very similar to each other in terms of their level of economic development and economic behaviour and that is why I have chosen to compare Hungary with the other three Visegrad countries in my analysed topic, in agriculture.

10. AGRICULTURAL SITUATION IN HUNGARY IN NUMBERS

In this paragraph I will present nowadays situation in Hungary in the agricultural sector within the European Union.

On the following charts I will show three areas of the agricultural production, which has the highest percentage in Hungary, in 2019. On the below chart we can see that Hungary's production was 4,4 % in cereals. In the European Union France had the highest %, which is 19,8 %. (15th Figure)

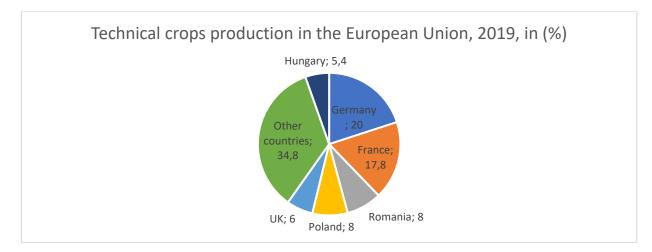




Source: KSH, 2019

On the below chart, we can see the technical crops percentages in the European Union, in 2019. In case of Hungary, the number is higher than the cereals number was, with 1 %. In case of the highest percentage, France got the second place and the highest output was in Germany, with 20%. (16th Figure)

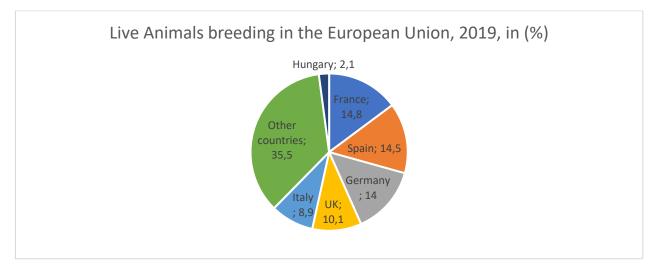
16th Figure:



Source: KSH, 2019

And last, but not least, third area is the live animal, with 2,1 % output in Hungary, while France was in the first place again, with 14,8 %. (17th Figure)





Source: KSH, 2019

So, as we can see from the KSH data, Hungary has a strong production and breeding in these agricultural areas. Of course, there are other parts, like fruits (1,3 % in Hungary), wine (0,4 % in Hungary), milk (1% in Hungary) and vegetables and horticultural products (1,2 % in Hungary), but in case of Hungary these percentages are much lower than in the mentioned three areas. These charts are important from the point of my analysis part, as I would like to analyse these agricultural areas in Hungary. In the following parts I will focus on the cereals area, on the technical crops production area and on the live animal area as an export from Hungary. (KSH, 2019)

11. FOREIGN TRADE NUMBERS IN THE HUNGARIAN AGRICULTURE

In this paragraph, I will introduce the national level of the agriculture in case of my examined country, in case of Hungary. In the last section of my analysis I will introduce two farmers and their export characteristics. For this reason, firstly I would like to give a prompt summary about the Hungarian agriculture, and also, I would like to show some figures which can be used to understand the answers of the interviews easily.

Figure 18th:

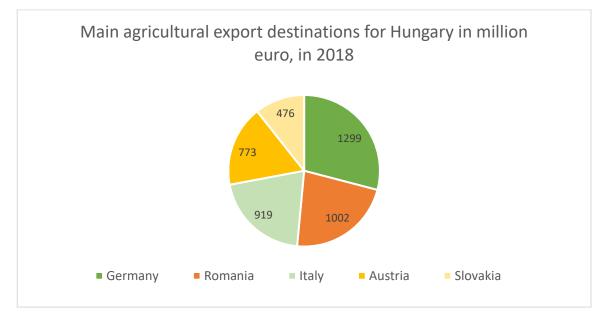


External trade of agriculture (left vertical axis, million EUR) and its share in the external trade of the national economy (right vertical axis, percentage)

Source: Hungarian Central Statistical Office

On the above figure we can see the export and import and the balance of these from 2010 to 2018. The export means services and goods which are produced in another country and consumed in the resident country. The import is almost the opposite of the export, these are services and goods which are produced in the resident country and consumed in another, in a foreign country. When the export is more than the import, it means the country has a trade surplus. If the export is less than the import, it means the country has a trade deficit. (Amadeo, 2020) In our case the export exceeds the import which means, the country has a trade surplus in the agricultural industry. The balance is not linear as there were some years when the export was higher and some years when the export was lower. On the other hand, we can say that the import is very close to be stable as the changes are not that significant. The drop in the export can happen due to any weather-related problems from year to year. From all of the industries' export in Hungary the agricultural industry had 8,3 % in 2018. From 2010 to 2018 the export increased with 56,7 % and the import increased with 48,6 %. The main export destination is Europe for Hungary, 85,8 % of the export was going to European destinations. (18th Figure) On the following diagram we can see the main five export markets. (NAK, 2019)

Figure 19th:

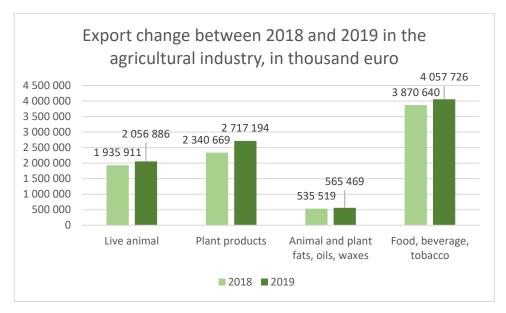


Source: NAK, 2019

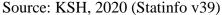
The main export partner for Hungary in 2018 was Germany, with 1299 million euro, the second was Romania, with 297 million euro less than Germany, with 1002 million euro. The third was Italy with 919 million euro, which is just less with 83 million euro than Romania's number. The fourth and the fifth partners are Austria and Slovakia. From the Visegrad4 countries only Slovakia can be found on the list, nor Poland and neither the Czech Republic. But on the other hand, as we can see all of them are countries from the European Union and some of them can be found in the border of Hungary, like Austria, Slovakia and Romania. (19th Figure)

What about the grants? As I have mentioned in the previous section the supports and aids are largely helping to finance the investment in the agricultural area in the European Union. Based on the NAK (Nemzeti Agrárgazdasági Kamara), which is National Chamber of Agriculture in Hungary, the subsidy was high, with 381,7 billion HUF to 181 688 producers in 2018. This subsidy was a direct payment, and as we have discussed in the previous paragraph these payments are income supports, and it has the majority if we talk about aids in the agricultural area. The national support also appeared in 2018, and with 98,6 billion HUF tried to help to farmers and agriculture workers to make more investment and profit. It was only from national budget, so it is a plus support over the European Union supports. (NAK, 2019)

Finally, I would like to show the impact of the COVID-19, in case of the export in the agricultural industry. On the below figure we can see the changes in the agricultural industry between 2018 and 2019, in four categories, which are related to animals and plants as well.







We can see that the live animal export increased with 6,2 %, the plant products export with 16,1 %, the fats and oils export with 5,6 % and the smoothest increase was in case of the food, beverage, and tobacco with 4,8 %. We can say that in 2019 we cannot find any decrease in the export due to the pandemic, but maybe the figures would show something else if we would analyse these numbers between 2019 and 2021, but unfortunately there is no access to these information on the KSH yet. (20th Figure) However, we can make a conclusion from these numbers, and the conclusion would be a stabile increase in the agricultural and in the food industry. (Szabó, 2020)

12. RCA COMPARISON

In this part, I will make a comparison with the help of the RCA (Revealed Comparative Advantage) indexes in the agricultural area, with the other Visegrad4 countries. I have chosen these countries, because also in the history and in the economy Hungary, Czech Republic, Slovakia, and Poland had and has almost the same characteristics. These countries can be found in the Central Eastern European Area and their climate is almost the same, which is a crucial condition in case of the agriculture. As we have discussed in the Visegrad4

overview this regional cooperation is significant in the European Union, however the public awareness of these countries is not increasing. Previously we have discussed the economic comparison of these countries with the help of the three main economic indexes, but in this section, I would like to expand this comparison to the international level with the Revealed Comparative Advantage numbers. First, I will compare Hungary and Slovakia, secondly Hungary and the Czech Republic and thirdly Hungary and Poland with the RCA numbers.

The RCA is an index which can be used in the international economics to calculate the advantage of a given goods or products. It is a useful index to compare countries to each other from the economic point of view in the given area. Unfortunately, it is not giving a full overview of an economy as it cannot be used to measure competitiveness of a country, like tariffs, subsidies and so on. (UNCTADSTAT, 2019) It is often called as "export specialization index", so it can give a great help in case of the changes of the export structure. (Fertő, 2001)

12.1 Hungary compared to Slovakia

In the below table I will show the RCA index numbers from 2014 to 2018, between Hungary and Slovakia in case of the agricultural raw materials. In the second row we can find Hungary's Revealed Comparative Advantage to Slovakia, and in the fourth row we can find the opposite, Slovakia's Revealed Comparative Advantage to Hungary.

Hungary's					
Revealed					
Comparative	2014	2015	2016	2017	2018
Advantage					
to Slovakia					
RCA index	0,54	0,53	0,56	0,57	0,5
Slovakia's					
Revealed					
Comparative	2014	2015	2016	2017	2018
Advantage					
to Hungary					
RCA index	0,82	0,91	1,11	1,46	1,68

1st table: Hungary and Slovakia, RCA indexes

Source: Worldbank

As we can see in the table Hungary lost its RCA to Slovakia during the 5 years period. From 2014 to 2015 there was a drop with 0,01 unit and then an increase with 0,03 units. This little raise continued between 2015 and 2017. The reason behind this increase can be the number of employees, which grew that time. More than 200 thousand people were employed in this sector in 2016. The agricultural area has also increased that time with 25,6 hectares from 2015 to 2016. The areas were mostly grasslands and arable lands. (Bene et al., 2016) From 2017 to 2018 there was a higher drop, with 0,07 units. The reason behind this drop can be that Slovakia's export increased a lot, but we will see it in the second part of the table. In the second part we can find RCA indexes regarding Slovakia's Revealed Comparative Advantage to Hungary. In this case the numbers are higher as they were in the first part of the table. The main reason can be the euro, as it was introduced in Slovakia in 2009. If the currency is hard currency the export and import is preferable for the partners. As Mark Rutte said: "This is what the European Union is all about. A strong market with a strong currency." From 2014 to 2015 there was a moderate increase with 0,09 units, but between 2015 and 2016 the increase was faster with 0.2 units. The reason behind is the land consolidation in 2016, which was a political issue in Slovakia that time, but finally they managed the realization of the land consolidation. (Takac et. al, 2020) Another reason can be found in the calculation of the RCA, because between these years Hungary's RCA index also increased but Slovakia's increase was 6,6 times higher than Hungary's increase, so the export was more. Between 2016-2018 the increase normalised with average 0,285 units.

In summary, the Revealed Comparative Advantage of Slovakia was higher than Hungary's Revealed Comparative Advantage between 2014 and 2018 in the raw agricultural materials, which means that Slovakia is exporting more raw products than Hungary.

12.2 Hungary compared to Czech Republic

In the below table I will make a summary about RCA index numbers from 2014 to 2018, with Hungary and Czech Republic in case of the agricultural raw materials as I did previously. In the second raw there will be Hungary's Revealed Comparative Advantage to Czech Republic, and in the fourth raw there will be Czech Republic's Comparative Advantage to Hungary.

Hungary's Revealed Comparative Advantage to Czech Republic	2014	2015	2016	2017	2018
RCA index	0,22	0,18	0,21	0,26	0,27
Czech Republic's Revealed Comparative Advantage to Hungary	2014	2015	2016	2017	2018
RCA index	0,3	0,16	0,28	0,41	0,36

2nd table: Hungary and the Czech Republic, RCA indexes

Source: Worldbank

The table shows a moderate increase in the first section. There was just one fall between 2015 and 2016 with 0,04 units. We can see here as well the increase of the employment between 2016 and 2017, but from 2017 to 2018 almost nothing changed with 0,01 unit. If we compare the numbers in 2015 Hungary had a Revealed Comparative Advantage with 0,02 units over the Czech Republic. The reason can be the Development Programme which was approved by the EU in 2015 May. There were less supports in the Czech Republic in the previous years. This programme helped to increase their agriculture with 3,6 Billion euro. With this support they could improve their production and their export opportunities. Moreover, the increase in the RCA numbers in the Czech Republic over Hungary can be that in the Czech Republic the export started to dominate over the import. We can say that the value of export increased by 6,2% thanked to the price development as well. (MoA, 2018)

So, we can see that Hungary's Comparative Advantage is not that far from the Czech Republic's comparative advantage as it was with Slovakia, but still the Czech Republic has higher numbers in case of the RCA. We can say that the Czech Republic has Revealed Comparative Advantage over Hungary.

12.3 Hungary compared to Poland

In this section I will still use the RCA index, but with the last Visegrad Group's country, with Poland. In the following table I will summarise the RCA index numbers from 2014 to 2018 in case of Poland and Hungary. In the second row there will be Hungary's Revealed

Comparative Advantage over Poland and in the fourth row there will be Poland's Revealed Comparative Advantage over Hungary.

Hungary's Revealed Comparative Advantage to Poland	2014	2015	2016	2017	2018
RCA index	0,15	0,11	0,17	0,2	0,16
Poland's Revealed Comparative Advantage to Hungary	2014	2015	2016	2017	2018
RCA index	0,6	0,56	0,64	1,06	1,17

3rd table: Hungary and Poland, RCA indexes

Source: Worldbank

In the above table we can see a huge difference between RCA numbers in case of Hungary and in case of Poland. The highest difference can be found in the last examined year, in 2018. Hungary's RCA was 0,16 over Poland, while Poland's RCA was 1,17 that time over Hungary. Based on Artur Łączyński's statistics study in the Polish agriculture, the price gap helped a lot to this index to become higher and higher. (Łączyński, 2019) Also we can see a drop between 2014 and 2015 with 0,04 units in case of Poland's RCA, but also Hungary had a drop that time with almost the same units, with 0,03 units.

To summarize the above tables, we can see a huge difference between Poland and Hungary, but the highest difference can be found between Slovakia and Hungary in the examined period. If we want to make it simple, Slovakia and Poland have the main Revealed Comparative Advantage over Hungary, while the Czech Republic's Revealed Comparative Advantage was significantly lower than the mentioned other two countries. In case of Hungary as we can see it from the data the export is much lower than in the other Visegrad 4 countries export. In the following paragraph I will try to find out other characteristics of these Visegrad 4 countries and make another comparison in case of the FDI, to get a clearer vision of the situation of Hungary in the mentioned location and in the agricultural area.

13. FDI COMPARISON

In this paragraph I will compare the other Visegrad 4 countries to Hungary based on the stock FDI in the agricultural sector in 2019. I have chosen the stock FDI against the flow, because the flow just examines transactions during a period, but stock examine the

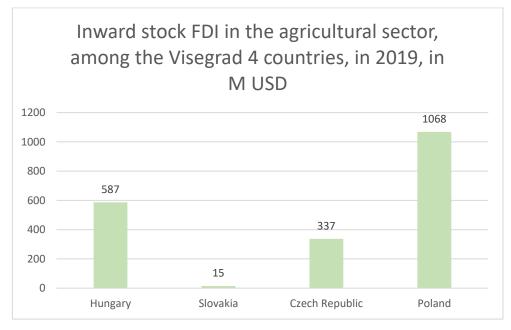
accumulated value of the foreign direct investment in the end of a given period, in our case in the end of 2019. I will analyse the outward FDI and inward FDI as well. While outward FDI stands for the resident investors' equity and net loans in foreign economies, the inward FDI stands for the opposite, value of foreign investors' equity and net loans in the examined economy. It can be expressed in USD or as a percentage of the GDP. I will analyse them using the second method, express them with percentage of the GDP. (GDP of the examined country.)

13.1Inward FDI stocks by agricultural sector

On the below diagram I will show the inward stock foreign direct investment in percentages of the GDP among the Visegrad4 countries in the agricultural sector, in 2019. Before the percentages, I will show two figures of the inward stock FDI, the first will be with million USD and the second with percentage to make the diagrams and the numbers more spectacular.

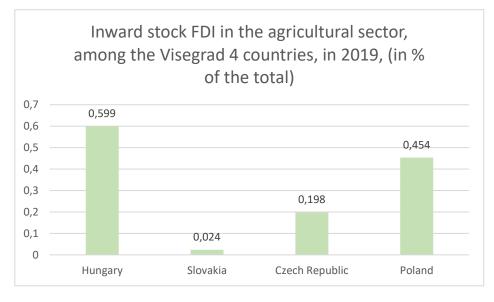
On the below diagram we can see the inward foreign direct investment in million USD between the Visegrad4 countries. As we can see the highest number is 1068 million USD and the lowest is 15 million USD. The difference is extremely high, with 1053 million USD. Hungary is in the middle with 578 million USD in case of the inward FDI, which is significant if we look at the 15 million USD of Slovakia. The Czech Republic is in the third place with it's 337 million USD, which lower with 250 million USD from Hungary's inward stock FDI. These figures show a significant difference between the Visegrad4 countries. I will analyse the possible causes behind these numbers on the percentages table.

21st Figure:



Source: OECD, 2019

22nd Figure:



Source: OECD, 2019

As we have discussed earlier the inward FDI measures the value of foreign investors' equity and loan (net) received by in our case the agricultural industry and the host country. These picture show that the FDI is in a very low level in all of the four countries, and not interested in the agricultural industry, but the reason can be due to the regulations what I have discussed in the theoretical background section. We can see on the diagram that

Hungary's inward stock FDI is the highest, with 0,599 %. It means that in Hungary there are more foreign investors in proportion to the GDP compared to the other three countries. The reason behind can be the support of that industry as well, but we will see it later in the policy section. Poland is the second one with 0,454 %, which is lower with 0,145% compared to Hungary. On the third place we can find the Czech Republic, which has less percentage in the inward FDI compared to Hungary, with 0,401%. However, Slovakia has the less inward FDI in the agricultural industry compared to the other countries. While Hungary has 0,599 %, Slovakia has 0,024 %, which is less with 0,575 %. (21st, 22nd Figures)

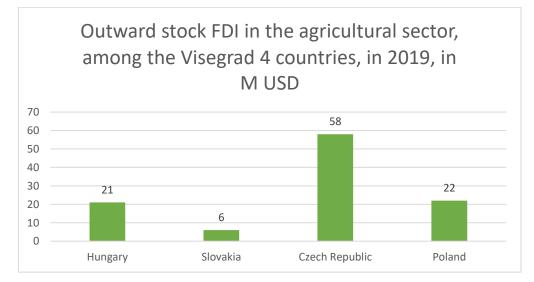
But what about the stock outward Foreign Direct Investment?

13.2 Outward FDI stocks by agricultural sector

In the below diagrams I will show the outward stock FDI firstly in million USD and secondly in percentages as I have done with the inward FDI previously.

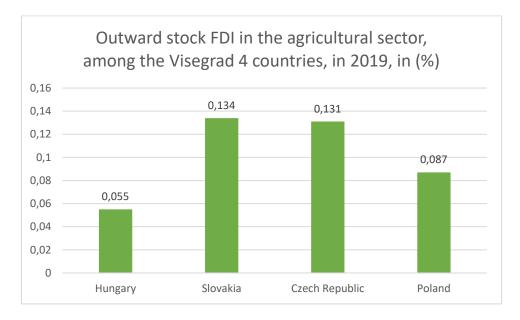
On the first outward stock foreign direct investment diagram we can see the numbers in million USD of the Visegrad4 countries in 2019. The figure below shows very low numbers for all countries. In case of the outward FDI the figure shows almost the opposite as the inward FDI. The Czech Republic has the highest number, with 58 million USD which is higher with 36 million USD than Poland's outward FDI. The difference between Poland and Hungary is not significant, with 1 million USD. On the other hand, Slovakia has a lower number, with 6 million USD, but in case of the percentages the figure will show another kind of ranking because these numbers are absolute values.

23rd Figure:



Source: OECD, 2019





Source: OECD, 2019

As we can see on the above table, the outward stock FDI in case of the agricultural sector shows almost the opposite as the inward stock FDI. As we have discussed earlier the outward FDI measures the resident investors' equity and loan in another country. So, it has a closer link with the RCA numbers, as also the RCA and the outward FDI considering the export. In this case Hungary is in the last place, and Slovakia has the most percentages compared to the other countries, with 0,134 %. The Czech Republic has almost the same percentage, it is lower with just 0,003 %. Poland is on the third place behind the Czech Republic, but with a higher difference, with 0,044%. Between Hungary and Poland has just 0,032 %, which is a very low number in case of the outward stock FDI. (23rd, 24th Figures)

To summarize the FDI among the Visegrad 4 countries we have to mention that the inward FDI and the outward FDI in agricultural activities is negligible. Furthermore, they show the opposite in the percentages. Furthermore, the numbers in case of percentages are lower due to the regulations of the agricultural sector. While Hungary had more foreign investors based on the OECD data, Slovakia had more investment in abroad. We can say that the RCA index numbers, and the outward FDI percentages show the same. Slovakia is getting better and better in investing abroad and exporting, while Hungary is in the last place in case of investing abroad and exporting in the agricultural area. Still, we have to mention that in case of the inward FDI Hungary was on the first place with high percentage compared

to the other countries. The reason behind can be that Hungary's agriculture is favourable for the foreign investors and for other countries.

14. INTERVIEW ANALYSIS

In this paragraph I will introduce my other research method besides the analyses of the RCA indexes. I will introduce my semi-structured interviews, with three interviewees. Two of them has a farm in the east side of Hungary. The interview questions were same for the two farmers, but I have made another interview for the Agency's worker. Due to the current situations the interviews were made online, with the help of the skype. I have made approximately 16 questions, but I have used the semi-structured method, because I wanted to let the conversation be smooth and I didn't want to make any barrier for the interviewees. I wanted to make a conversation not just an asking and answering method. The interviews were approximately 30 minutes and due to the online methodology, they were made from home. Before the interviews I have sent them the semi-structured questions and I have told them that these are just exemplary questions, they shouldn't talk about just these answers, they can add any other important information to the conversation if they want. Two of the interviews, with the farmers were a friendly conversation, as I have known them before. In the first part of this paragraph I will introduce the two interviews with the farmers, after the introduction I will highlight the similarities and the differences of the answers, then I will make a conclusion about their answers. To make the answers spectacular I will use tables to show the similarities and differences. I will draw a parallel between the similarities of the two farmers. Later I will make a conclusion about all the two interviews, and I will try to find out the main characteristics of the export in the practice. My aim is to get information about the practical background of the export in the agricultural sector and I would like to use my previous numbers and figures to support the answers in these export related questions. In the interview questions I will focus on the export and the export partners of Hungary, the main characteristics of the live animal and seeds export and I would like to get a clear picture about the nowadays situation in the Hungarian export in case of the agricultural products. The interviews language was Hungarian, but I will translate them to English.

In the below table I will show the details about my two interviews who are working in the agricultural area.

4th Table: **Details about the interviewees**

Main details about the interviewees					
Name will be	Location	Business	Main plants	Main animals	Size
FB.	Borsod- Abaúj- Zemplén county	Family Business	sunflower, barley, wheat, canola	sheep	300 ha, 860 sheep
LTD.	Borsod- Abaúj- Zemplén county	Limited Liability Company	sunflower, barley, wheat, canola	cattle	1500 ha, 800 cattle

Source: Own compilation based on the interviews

As we can see on the above, I will use two names of the interviewees as they wanted to remain anonyms. The name of the family business will be FB. as an abbreviation and the name of the Limited Liability Company will be LTD. as an abbreviation. In the following sections I will use these words to refer to my interviewees. The semi-structured interviews were made online, on skype due to the current situation and the language was Hungarian. In my thesis I will translate my questions and answers to English. The interviews take approximately 30 minutes and the number of questions were 16. In this section I will introduce the similarities and differences between the two businesses in the agricultural area and I will use tables to provide spectacular picture about the answers. The location of the businesses was almost the same as they are located in the same county but in another town. The first similarity can be found in case of the plants as they are producing the same plants on the same soil conditions. The first differences can be found in the sizes and in the business types. On the other hand, the animals are different as well as the FB. is breeding sheep, while the LTD. is breeding cattle. With these basic differences we can get a we get a broader picture about the agricultural industry in case of the Hungarian businesses and exports. In the following section I will start to analyse the similarities in the answers. (4th Table)

14.1 Similarities

Topics	FB.	LTD.
Nature of the export	The export is indirect in case of the sheep	The export is mainly indirect in case of the cattle and the seeds
Destination countries in the export	Italy, Germany	Italy, Germany, China, Slovakia
Export incentives	No export incentives	No export incentives

5th Table: Similarities in the interviewees' answers

Source: Own compilation based on the interviews

On the above table we can see the main similarities in the answers. The differences were more, due to the size of the business. The cardinal similarity was in the nature of the export, as all the two businesses mentioned that the export is not a direct export in the agricultural area. There are giant companies who transport the seeds and the living animal from one place to another. The reason behind is the sizes of the farming businesses. They have mentioned that there are smaller and bigger businesses in the agricultural sector and sometimes one business cannot fill a whole e.g. truck or a ship with his/her seeds or animals. These companies are also operating as a warehouse, as they are collecting the seeds from lot of businesses and they are storing them and if they can fill e.g. a ship, they are starting the transportation process. On the other hand, they are reducing the risk due to their in-time payment to the agricultural businesses. In case of the seeds this company is the COFCO, which is a Chinese company, and which is dealing with transportation of the agricultural products. In the field of living animals, the situation is almost the same. The TÉSZ (Termék Értékesítő Szövetkezet), in English the Product Supply Cooperative is collecting the living animals from the farmers and export them to another countries. In this case, you have to be a member of this cooperative and then you can export your animals indirectly with them. The reason behind is same what I have mentioned previously, as the sizes of the businesses are not great enough to fill a whole truck with the animals. So, with this indirect export the transportation cost is lower, and the risk is not that high, as these companies are paying for the farmers at the same time when they put their seeds or living animals in the truck. The relationship with other countries is lower, on the other hand, the farmers shouldn't take care of relationship building. Moreover, disadvantage can be the price itself, as it can happen that the companies paying less for the seeds and living animals than the countries would pay. So, this indirect export has advantages, but disadvantages as well. (5th Table)

The second main similarity is the destination country. As I have mentioned previously the export is mainly direct export, but the farmers know about the destination country, as every country has its own demand. For example, the FB has mentioned that the smaller lambs with 20-35 kilograms are going to Italy, but the bigger lambs, with 35-50 kilograms are being transported to Germany. All the two interviewees mentioned that the main importing countries from Hungary are Italy and Germany in case of the seeds and in case of the living animals as well. The LTD. added other countries like Slovakia (from the Visegrad4 countries) and China, but he mentioned that the main partner countries are these two countries. This relationship has been since the very beginning, since 1980's in case of all of the two businesses.

The third main similarity is coming from the export incentive. My question was the following: Are there subsidies that encourage exports? If so, what are they like? If not, what would they be happy about? The answers were similar as they have told me there is no such an incentive or subsidy. The FB. mentioned that he would be happy if all of the partners can be found on any websites with availability in case of the export in the agricultural area. Furthermore, he mentioned that the reason behind this can be the shortage of the agricultural products and also the country itself and also the European Union don't want the seeds and living animals be sold outside of the country and outside of the EU due to that deficit. Sometimes the EU have to buy agricultural products outside of the EU, but it is the last step as the LTD. mentioned, as they are trying to be self-sufficient. So, we can say that the reason behind the main partner countries can be this shortage, as the European Union trying to keep the agricultural products within its border. Based on the LTD.'s answer, without these export encouraging incentives and subsidies the relationship building, and the globalisation is very low in the agricultural industry, but there are some new relationships outside the European Union, with e.g. China.

To sum up, these similarities didn't depend on the size of the businesses. These are general similarities, whether it is a large or small agricultural business. The main ideas behind them are to make the transportation more cost-efficient, to supply the home country and the European Union firstly, and to strengthen the relationship in case of export within the EU, and unfortunately there are no supports which can help to encourage the export in this industry.

14.2 Differences

6th table: Differences in the interviewees' answers

Topics	FB.	LTD.
Exported seeds and animals	Exporting lambs	Exporting seeds and cattle
Closest relationship with that country	Germany, Italy	Turkey, China
This year was the most export	$2020 \rightarrow$ lambs	2010→ cattle 2021→ seeds
This year was the lowest export	1994 → lambs	2015→ cattle 2016→ seeds
Prices of the export	Increasing due to the euro and the demand in case of the lambs	Increasing due to the shortage in case of the seeds
Relationship with the V4	Just with Slovakia→ price- cutting role	With all the other three countries in case of seeds
Subsidies	Area and animal-based subsidies	Just area-based subsidies

Source: Own compilation based on the interviews

As we can see on the above table in the interview answers the differences has higher number than the similarities had. The reason behind can be the size of the businesses, and the main export orientation as the FB. is exporting just animals, especially lambs, however the LTD. is exporting cattle as an animal, and seeds. Due to this export composition, the main difference was in case of exported seeds and animals. The other main difference was the closest relationship with a country. The FB. had two countries which are important if we are talking about their export. The first is Germany and the other one is Italy. As we can see the main export partners are within the European Union if we are talking about lambs based on the interview with the Family Business. On the other hand, based on the interview with the LTD. the main export partner is Turkey, which is not in the European Union yet. They are mainly exporting cattle, including calf and pregnant heifer. If we are talking about seeds, there is a new partner, which is also not a member of the European Union, and this country is China. They are importing tons of seeds from Hungary, based on the interview with the LTD. For example, the COFCO is one of the main Chinese company which is importing to China and to other countries as well, as the LTD. explained it. The same method can be implemented as I have explained in the similarities section. They are collecting seeds from everywhere in Hungary, but of course it depends on the quality of the exporter's seeds. As the LTD. mentioned the SGS company is collecting from the seeds and ranking them. If the quality is good enough, they can be exported, if not they cannot be, or can be, but just on lower prices. So, as we can see, the destination countries can be different for different goods in the agricultural industries. (6th Table)

The third main difference was the year when the export was high. In case of the FB. the 2020 was the highest year in the export, with lambs despite the COVID-19. As the FB. mentioned the reason can be the increasing demand from Germany and Italy. On the other hand, LTD. mentioned that in case of the cattle 2010 was the best year for export, since that the demand for cattle decreased. They mentioned that the reason behind can be the higher demand for the lambs. So, we can see a parallel in the two interviews. In case of the seeds, 2021 is the best year as the demand and the prices are very high and not just from the European Union's countries but also from other countries as we discussed previously, from China. To sum up, we can say that the increasing demand for one animal can decrease the demand for another one. (6th Table)

The fourth difference was the opposite of the previous paragraph, the year when the export was low. In case of the lambs, it was in 1994. The reason behind, as the FB. mentioned the price-cutting role of one of the Visegrad4 country, of Slovakia. As he explained, Slovakia started to export more and more lambs, but the quality was not that high, so the price was low as well. If you wanted to enter to the competition you had to give your animals on the same price level as Slovakia did, but it was not fair from the point of Hungarian farmer's view as their lamb's quality was higher. For this reason, the price was very low that year in the export. For the LTD. 2015 and 2016 was the lowest if we are talking about export. Because of this drop, producing and selling were in deficit. As the LTD. explained, they

decided not to export them, they have started to sell their seeds and animals within the boarder of Hungary, but of course with lower prices. The seeds, especially sunflowers went to huge companies like Venus, but still export them was more pay off in the previous and in the later years as well. So, we can say that exporting is not always the best option for the farmers, as the RCA numbers showed in my previous analysis as well. (6th Table)

In the fifth row we can see the following difference: the prices of the export. The similarity in the two answers was the increasing prices, but the reasoning behind the increase was different. The FB. mentioned that the increase in the export prices can be found due to the euro and HUF relationship and due to the increasing demand in case of the lambs. The reasoning for the LTD. behind the increasing export prices, was the shortage of the seeds. The LTD. explained that nowadays there is a shortage in case of the seeds and not just within the European Union, as they have mentioned in the previous answers, but worldwide as well. China entered to the import market from Hungary and Turkey started to demand more and more, due to these reasons, the LTD. saw an increase in the export in case of the seeds. To sum up, we can say that the increase in the export has lot of explanations, it can be due to the currency, but also can happen due to the market situation and due to the increase in the demand and decrease in the supply. (6th Table)

The sixth difference had been mentioned previously in case of the FB. This difference is the relationship with the other Visegrad4 countries. The FB. as I have mentioned previously explained Slovakia's role in 1994 with its price-cutting situation. The LTD. mentioned that there is an export relationship with the Czech Republic, with Slovakia and with Poland as well. The export is lower with those countries than with e.g. China, but the reason behind is the almost the same situation in their agriculture. As the LTD. explained Slovakia has the best situation as it can produce for the locals and for other countries as well. This answer can explain, why Slovakia had those high numbers when I have analysed the RCA numbers. So, we can say that the other Visegrad4 countries have a relationship with Hungary, but just in some given areas, like in seeds. The opposite direction relationship can be found in the agricultural sector as well. As the FB. mentioned the 'bad' relationship is also a relationship as it has happened in 1994 in case of the lambs with Slovakia's pricecutting actions on the export market. (6th Table)

The last, seventh difference was in case of the subsidies, as they are receiving subsidies of course from the European Union and from the country itself, but the subject of this subsidies are not the same. While the FB. is receiving are and animal-based subsidies, the LTD. is receiving just area-based subsidies, but as he mentioned, they got money for every hectare to develop and to cultivate the land. As the FB. mentioned the animal-based subsidies depends on the age of the sheep and of course on the number of sheep. They could apply for more aids as well if the kind of the sheep is native in Hungary to get plus subsidies from the country. So, we can say that the subsidies proportionally had been divided besides the farmers. (6th Table)

As we have seen there are similarities, but also differences besides the farmers. It can depend on the sizes of the business, the mode of the business and on the main characteristics of the business (like cattle and sheep).

14.3 Interview answer's and latest (2018) RCA indexes

From the interview answer's we got a clearer picture in case of the Hungarian agricultural situation. As I have analysed previously with the RCA indexes, we have seen that Slovakia has the greatest power in case of the Visegrad4 countries and from the answers we could find out that the reason behind can be its competitive behaviour (price-cutting actions) and its agricultural characteristics as well. In case of the RCA numbers we found out that the difference was the highest between Hungary and Slovakia, as Slovakia had 1,68, while Hungary had 0,5 RCA index compared to each other in 2018. The difference between them was 1,18. Moreover, from the agricultural point of view Poland has almost the same situation as Hungary has, as we have seen in the RCA numbers Hungary's number was 1,16 and Poland's number was 1,17 compared to each other, which means there were just 0,01 difference in case of their Revealed Competitive Advantage, while this difference was more higher with the Czech Republic, with 0,9. I have analysed these numbers from 2014 to 2018, but in this situation I wanted to compare the latest RCA numbers to the interview's answer as it is the closest date and situation to 2021, to the current situation.

14.4 Interview answer's and the Outward and Inward FDI

In the FDI section I have analysed the outward and inward FDI in respect of the Visegrad4 countries. The latest date was 2019, so to be closer to nowadays situation I have used the numbers from 2019. To be more spectacular I have analysed these numbers in million USD and in percentages as well. In this paragraph I will only use the percentages as

a data to make a parallel between the interview answer's and between the outward and inward FDI numbers. As the interviewees mentioned Slovakia has the best situation in case of the export as they have enough products to supply its own country and to supply other countries, within and out of the EU. So, we can say it has the best situation from the Visegrad4 countries and in case of the outward stock FDI. As we have seen in the outward FDI section Slovakia has the highest percentage besides the Visegrad4 countries. It has 0,134 %, while Hungary has just 0,055 %, which is lower with 0,079 % in 2019 in case of the agricultural industry. On the other hand, again Czech Republic is standing on the second place as we have seen in case of the RCA numbers, with 0,131 % which is lower with 0,003 %, so with not a significant number. As the interviewees mentioned, Poland and Hungary have almost the same position in case of the export in the agricultural area. In the outward Foreign Direct Investment Poland had 0,087 % in 2019, which is lower with 0,032% from Hungary. So, as we can see the interview's answer is supporting the outward FDI numbers, as Slovakia has a leading role again and Poland and Hungary are standing on the almost same level.

However, the inward FDI showed the opposite of the outward, which means the import was more significant in case of Hungary and Poland as they have stood on the same level again, with 0,599 % and 0,454 %. Based on the interviewees' answers Hungary doesn't have enough agricultural products to supply not just itself but the EU as well. Of course, they have talked about the export, but as we have discussed it cannot supply the whole country, it needs import in some cases. The Czech Republic is standing before Slovakia in 2019, in case of the inward Foreign Direct Investment, in the agricultural area, with 0,198 %. Slovakia has 0,024 %, which is lower from Hungary, with 0,575 %. Again, the interviews support the inward FDI as well, because they have mentioned that Slovakia can supply itself and other countries at the same time, which means it doesn't have to import lot of goods or animals.

To sum up this section, we can say that the Revealed Competitive Advantage numbers and the Foreign Direct Investment percentages are parallel with the interviews' answers. The situation is almost the same from 2018, 2019 to 2021. Besides the Visegrad4 countries Slovakia has the greatest power in case of the export and there are lower number in case of the Czech Republic, but we can see that they are almost on the same level. On the other hand, Hungary and Poland are on the same level as well, as their numbers are almost the same. In case of the RCA Poland had a greater number, but just with not a significant number, and we can say the same for the outward FDI, while in the inward FDI Poland had a smaller number, but just with a little drop.

With the previous interview answers a got answers to not just the semi-structured interview question, but also to my research questions. I wanted to get a clear picture about Hungary's situation in the Visegrad4 countries in the export and in case of the agricultural area. Moreover, I wanted to find out what is the nowadays situation of Hungary in case of the export in the agricultural area, and these answers helped me to get a clear picture also in parallel with the other Visegrad4 countries and about the nowadays situation in the export.

15. CONCLUSION

Hungary has a long tradition in agriculture and food industry. However, if we have a closer look at the Hungarian export performance or FDI in this analysed sector, we can see a gradual decline in Hungary's competitiveness. That is why in my thesis I have decided to concentrate on the following research questions:

Question one: What is the situation of Hungary in case of the export, in the agricultural area compared to the other Visegrad4 countries?

Question two: What are the opportunities in Hungary that help exports in the agricultural sector?

Question one: What is the situation of Hungary in case of the export, in the agricultural area compared to the other Visegrad4 countries?

As I have mentioned previously the Visegrad4 countries have similar characteristics in case of their economy. As I have shown in the thesis the main economic measures and the numbers are not significantly different. In case of the GDP per capita Czech Republic has the highest number, while Poland has the lowest. We have discussed the employment in the Visegrad4 countries, and still Czech Republic has the highest employment in percentages, while Poland has the lowest again. In case of the HICP index Hungary has the highest number, while Slovakia has the lowest, except of in 2018 as in that year Poland has the lowest number.

As I have shown in the Analysis chapter the Revealed Comparative Advantage numbers between 2014 and 2018 in respect of the Visegrad4 countries and the numbers were different between Hungary and Slovakia, Hungary and the Czech Republic, Hungary, and Poland. I have compared Hungary with Slovakia and the result was the following, the Revealed Comparative Advantage of Slovakia higher than Hungary's Revealed Comparative Advantage between 2014 and 2018 in the raw agricultural materials, which means that Slovakia is exporting more raw products than Hungary. As I have shown in my thesis Hungary's Comparative Advantage is not that far from the Czech Republic's comparative advantage as it was with Slovakia, but still the Czech Republic has higher numbers in case of the RCA. To summarize the results, Slovakia and Poland have the main Revealed Comparative Advantage over Hungary, while the Czech Republic's Revealed Comparative Advantage was significantly lower than in case of the mentioned other two countries in the agricultural sector.

I have analysed the Foreign Direct Investment, in respect of the Visegrad4 countries in the agricultural sector. First, I have to mention that the numbers were very low in all of the countries as the regulations and laws are very strict in this sector. I have shown the numbers in percentages and in million USD as well to make the numbers crystal clear. While Hungary had more foreign investors based on the OECD data, Slovakia had more investment in abroad. We can say that the RCA index numbers, and the outward FDI percentages show the same. Slovakia is getting better and better in investing abroad and exporting, while Hungary is in the last place in case of investing abroad and exporting in the agricultural area. Still, we have to mention that in case of the inward FDI Hungary was on the first place with high percentage compared to the other countries. The reason behind can be that Hungary's agriculture is favourable for the foreign investors and for other countries.

So, as the figures and numbers showed Hungary does not have the best situation beside the Visegrad4 countries. The export is not that high as Slovakia's export, but on the other hand the number of the inward FDI is higher, which means for the investors Hungary is a favourable place in the agricultural sector. Behind the low export numbers there can be lot of reasons. I have made two semi-structured interviews with two people. One of them has a family business, the other has a limited liability company in the agricultural sector. As I have found out from the interviews Hungary is firstly trying to supply itself with the agricultural products, just secondly other countries. Also, the interviewees mentioned that the export is mainly indirect, so huge companies like COFCO is collecting the seeds and then export it. In case of the animals they have described the same situation. The TÉSZ is collecting the animals from the farmers and then exporting them. So, the reason behind the low export can be also the indirect way of exporting. The questions contained the export incentives as well. The answers were the same, they don't know any of them. It can happen that without incentives they are not interested in exporting that much seeds or animals if the domestic market has high demand. The other reason behind the low export numbers can be the regulations. There are two kinds of regulations in the agricultural sector, mainly the European Union regulations, but also, we have to mention the national regulations as well.

In my opinion Hungary's situation in the agricultural product export between the Visegrad4 countries is not significantly bad, but still Slovakia has higher numbers. As I have mentioned in the previous paragraph there are lot of reasons behind the low numbers in case of the agricultural export in Hungary, but I haven't mentioned the currency, which is euro in Slovakia and for this reason it can happen that the foreign countries prefer hard currencies. Hungary has almost the same situation as Poland has in the export, and the inward FDI was higher for Hungary and for Poland as well. From my perspective these countries has higher number of investors and lower number of exporters, and it could be changed if the export incentives would be accessible for everyone who wants to sell the agricultural products or the animals to foreign countries, who wants to export.

Question two: What are the opportunities in Hungary that help exports in the agricultural sector?

The main help in the export is the Promotion Agencies, there are Investment Promotion Agencies and Export Promotion Agencies as well, in almost every country. The HEPA is operating in lot of sectors, not just in the agricultural sector, but also in the health industry, the mechanical engineering, automotive and so on. As we have seen the Hungarian Export Promotion Agency in the agricultural sector is currently operating in 6 foreign regional partner offices whose main task is to find out the needs of the local market, the opportunities in that market, and promotional activities. These regional partner offices are located all around the world, the cities are Belgrade, Istanbul, Moscow, Toronto, Shanghai, and Tokyo.

The other main support in case of the export in the agricultural area is the subsidy. There are subsidies which are regulated in the Common Agricultural Policy, which is a Policy of the European Union. With the help of the subsidies the farmers can produce more and have enough products and animals to not just supply the country but supply the EU and other

countries as well. So, we can say that the aids support not only the farmers themselves, but also the agricultural sector. It is important to see how crucial these are supports, due to the high-risk factor of the agriculture. The weather and the climate can destroy everything in a minute, but with these aids the people who are working in the agricultural sector feel like they have a security and help if their income would be threatened by external influences.

From my point of view the Export Promotion Agency and the subsidies from the European Union can help to boost the export in the agricultural sector. HEPA can support exports by having sufficient knowledge of the sector and sufficient experience to provide opportunities for Hungarian farmers through market research and other tools if they wish to export. As I have shown previously, they have a wide network of contacts and can be found in 6 regions, thus making it easier to export not only within the European Union, but all over the world. Subsidies can contribute to agricultural exports by creating sufficient capital and opportunities to ensure that production and breeding are carried out at a high level of appropriate quality. In addition, striving to ensure that technology also contributes to quantitative growth at a high level. Once its growth is commensurate with its products and livestock, the country is able to not only supply itself but also export to other countries. We can say the subsidies are the indirect way to help to grow the export in Hungary.

In my opinion, agriculture will be always an important sector and not just for the country, but for other countries as well. If Hungary can supply itself and also can export to anywhere it is not just good for the Hungarian economy but for the Hungarian conscience, as Hungary supplied those who cannot produce enough products and livestock for themselves. I would like to finish my thesis as I have started it, with a quote. The following quote is coming from the Bill & Melinda Gates Foundation: "Investment in agriculture are the best weapons against hunger and poverty, and they have made life better for billions of people."

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APPENDICES

Interview questions

- 1. What kind of economy do you deal with? (Area, livestock)
- 2. How long have you been exporting?
- 3. What are the crops and animals that are exported?
- 4. Where are the given crops and animals exported?
- 5. Which country has the closest export relations?
- 6. How many years has this relationship existed?
- 7. In which year was the most exports? Why?
- 8. In which year was the number of export crops and animals low? Why?

9. Are there subsidies that encourage exports? If so, what are they like? If not, what would you be happy about?

10. How do export prices change? What could be the reason?

11. Are there any export relations with the other 3 countries of Visegrad4?

12. In your opinion, what is the situation of Hungarian exports on the agricultural side?

13. What are the opportunities that you think could increase exports? (e.g. support, networking)

14. Which countries would you like to export? Why is that?

15. Which countries would you not like to export to? Why not?

16. Do you get any support? What most?