

# Center for Economic & Social Development

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**Evaluation and Modeling of Comparative Advantages in  
Agriculture in Azerbaijan**



**EVALUATION AND MODELING OF COMPARATIVE ADVANTAGES IN  
AGRICULTURE IN AZERBAIJAN**

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## **Introduction**

The short history of transition to the economic model is based on the modern principles of the market and assurance to the trade surplus that was formed by natural resources within external trade. During previous periods in Azerbaijan these ones were considered the main causes for the shape of production and export opportunities according to the principles of comparative advantage. It is not a coincidence that the size of the non-oil sector does not even reach the 10% (7.4% in 2013) of the export. In addition, exports are approximately six times less than imports. Other important issues are the increase of citizen's welfare, the creation of a strong supply of food for the country, and the support of an effective use of a potential export through the use of agriculture, which is an essential part of Azeri employment (37.1% in 2013). Additionally, the agricultural sector needs to be more profitable in Azerbaijan. For the reasons mentioned above, the main aims of this research are to analyze the local characteristics of agriculture, to define the export possibilities and products that have comparative advantages in agriculture, and to research about countries in which there are more suitable market conditions and export opportunities.

Moreover, the dependency of a country's financial stability on raw materials, especially oil and oil products, is going to form an international threat. On the other hand, providing sustainability in the Azerbaijani economy is currently one of the main duties of the government.

## **Purpose of this study**

This research was implemented in order to find out the comparative advantages in the export of agricultural products. If we take in consideration that the main points of globalizing the world economy are to ensure the efficient use of limited resources while at the same time accelerating economic and social integration by carrying out production policies (economic acts), these are based on comparative advantages. In this case, avoiding such global changes does not seem logical for our country. For this reason, the research in this field and the creation of opportunities to fulfill results in the real sector should be appreciated as a requirement of the current era.

Properly assessing a country's agricultural possibilities, such as its suitability for agriculture, human resources related to this sector, contribution to civilians' social welfare by agriculture, effectiveness of government's agricultural policy, regional position, agricultural needs of neighboring countries, and export opportunities to these countries are the main goals of this research.

## **The Importance of this Study**

Research will attract governments; businessmen's and other interest groups' attention because it will define a country's agrarian potential and production opportunities which have comparative advantages in this field. If we take into account that agrarian problems like a lack of specialists, not having enough hi-tech capabilities, not having scientific and practical approaches to agriculture, and low profitability because of these difficulties, the importance of this study becomes very clear.

The other main point, which increases the importance of this study, is that agriculture acts as a guarantor of employment in our country. Unfortunately, we have to note that profits of those who work in this sector are not enough and in many cases, others who are engaged in individual

agriculture and cattle breeding have marginal losses. This means that their profitability is only possible without taking into consideration their toils. Improvements in social development and welfare are possible, taking in consideration the higher profitability in the agricultural sector.

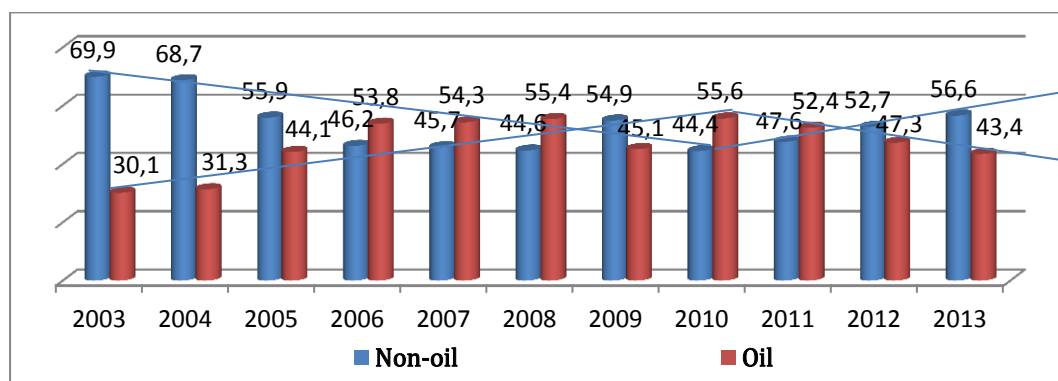
Being a de-facto war condition, the strategic importance of food security is, therefore, also one of essential factors, which makes this research so vital. Although the government generally uses certain activities and implements state programs for preventing agricultural shortages, Azerbaijan can provide only 55% of its food needs; therefore, Azerbaijan’s food security strongly depends on imports. The national market factor for agrarian products of Azerbaijan was affected by the rise of prices of most agrarian harvests in local markets because of the Russian embargo on European agricultural imports to Russian markets in August 2014. Taking these issues into account, decreasing the dependency on imports is an essential task for strengthen not only the economic, but also the political position of Azerbaijan.

### Economy of Azerbaijan

The economy of Azerbaijan has been developed in different ways over the different periods of its history. Although Azerbaijan was known as an agrarian country, since the end of nineteenth century it has attracted the attention of the world with its rich oil and gas resources. As a result, the oil and related chemical industry were established during the last century. Thus, in the second half of the last century the country lost its status as an agrarian nation. The country pushed into deep economic crisis after the collapse of the Soviet Union but also obtained full ownership of its natural resources. Consequently, to support and participation in oil production and its transportation to the world market, the so-called ‘Contract of the Century’ was signed by developed countries including the US and other western nations. This made Azerbaijan to create strategic partnerships in order to reach the entire world market. On the other hand, this agreement helped Azerbaijan to achieve a rapid development between 2005-2010 due to the flow of petroleum dollars into the country. Of course, the past years have been characterized by positive trends as well as negative results in the economy.

The last decade has been a period marked by a rapid growth, the expansion of financial opportunities, and increases in domestic demand for the Azerbaijani economy; however, the oil sector was the basis for all of these factors. On the other hand, the increase of the oil price and oil production led to a flow of currency into the country.

**Graph 1: Oil and Non-Oil GDP share in the total GDP in %**



Source: State Statistics Committee of Azerbaijan Republic, 2014

According to the graphic, there has been a significant increase in the share of the oil sector in Azerbaijan's economy since 2005. The factor of growth was the launch of the BTC and the flow of crude oil to the world market produced from ACG field. The increase in the share of GDP of the oil sector lasted until 2010 when the oil boom ended. As a result of global crises the price of oil dropped, which was a clear message about the risk of resource dependency. Until 2009 the country had been infected with oil euphoria and within 5 years the non-oil share in total GDP decreased from 70% to 45%.

However, the rapid increase in oil revenues had a positive influence on all aspects of the economy. In particular, oil revenues played an important role in the formation of the initial capital of the new market economy of the country. In other words, the underground hydrocarbon resources operated as surface oxygen to the economy.

**Table 1: GDP growth rate, compared to the previous year, in %**

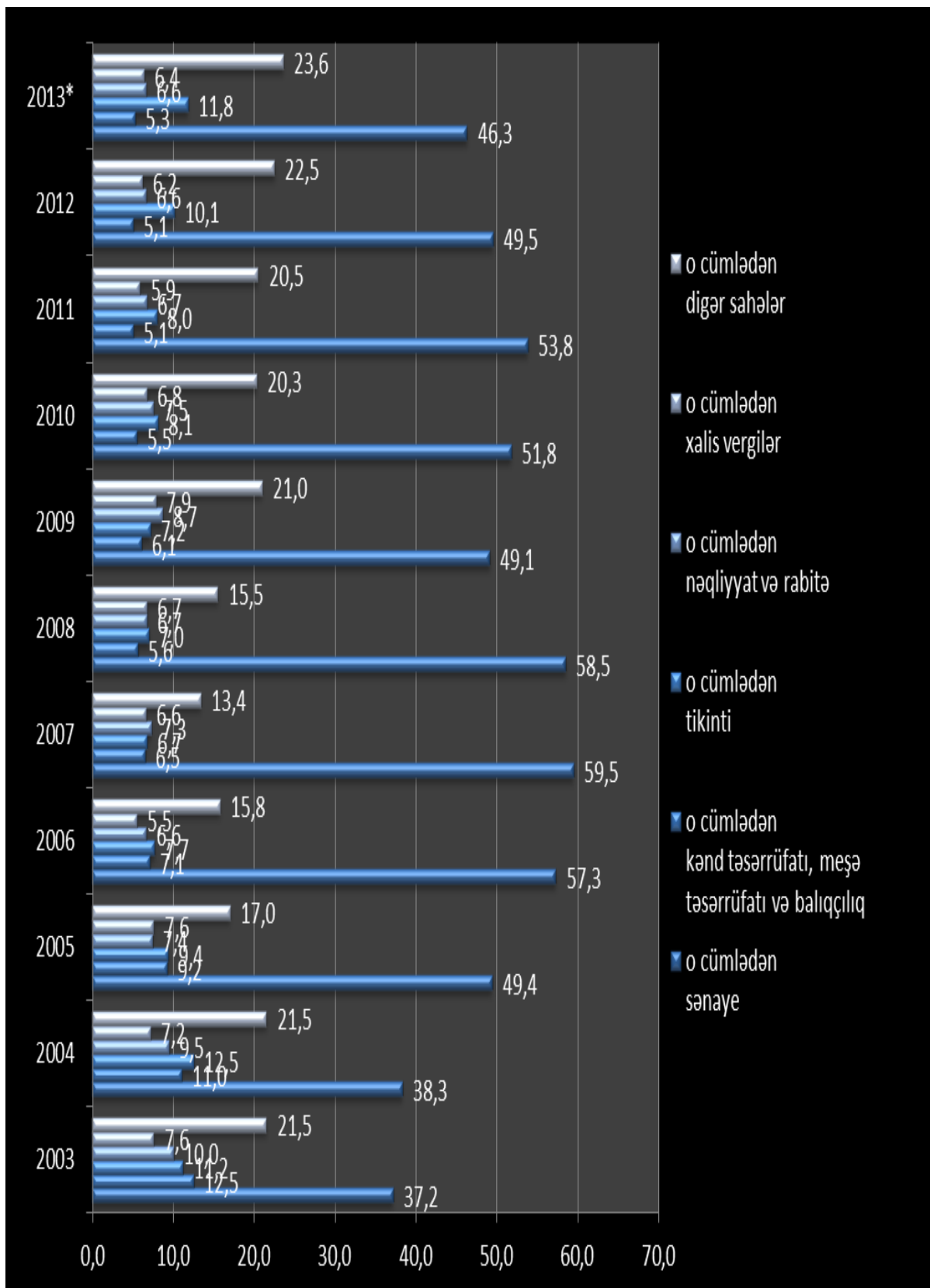
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>Total GDP</b>	111,2	110,2	126,4	134,5	125,0	110,8	109,3	105,0	100,1	102,2	105,8
<b>Shares:</b>											
<b>Oil and Gas sector:</b>	103,9	103,0	166,3	163,2	136,8	106,8	114,0	101,8	90,7	95,0	101,0
<b>Non-oil Sector</b>	114,8	113,6	108,3	111,9	111,4	115,9	103,7	107,9	109,4	109,7	110,0
<b>Net taxes on production and imports:</b>	111,2	110,2	107,9	110,9	111,3	115,6	101,9	108,3	108,2	107	108,4

Source: State Statistics Committee of Azerbaijan Republic, 2014

As we see in the preceding table, there was a steady rate of the growth in the non-oil sector compared to the oil industry. Within this period, not taking in account the year of 2009 (the global recession due to financial crisis in 2008), the non-oil sector grew by a minimum of 2.9% and a maximum of 14.8%. However the annual growth of 66.3% in the oil sector is a response to the non-oil growth that accelerated the economic imbalance.

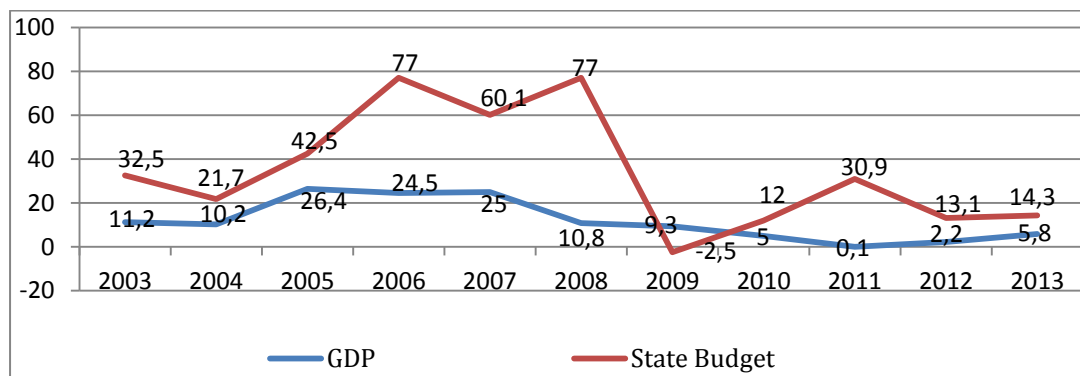
That imbalance affected different sectors of the economy in various ways. The share of industry increased in the economy in recent years. Although the sector's value added share in GDP was 37.2% in 2003, in 2013 this amount increased by 9.1% and reached 46.3% of total GDP. But there was a serious setback in such sectors as well as in agriculture. In general this sector is characterized as the least developed and slowest growing sector. In Azerbaijan the growth rate of the agricultural sector is always less than the growth rate of the economy as a whole. The share of agriculture in total GDP was 12.5% but in 2013 this rate was only 5.3%. Additionally the share of the transportation and communication sectors decreased from 10% to 6.6% in the total GDP. These results should be considered as significant factors affecting changes in the structure of the domestic economy. On the other hand, these analyses prove that the process of diversification of the economy has been delayed.

Figure 1.4. Gross domestic product of individual sectors of the economy, in current prices.



Within the period shown in the previous figure, the oil revenues are considered the main driver of the rapid growth in the state budget. In the last decade the budget expenditures has increased two times, or 16 times in comparison with GDP growth. Therefore, the budget expenses have increased from 1.23 billion AZN in 2003 to 19.15 billion in 2013.

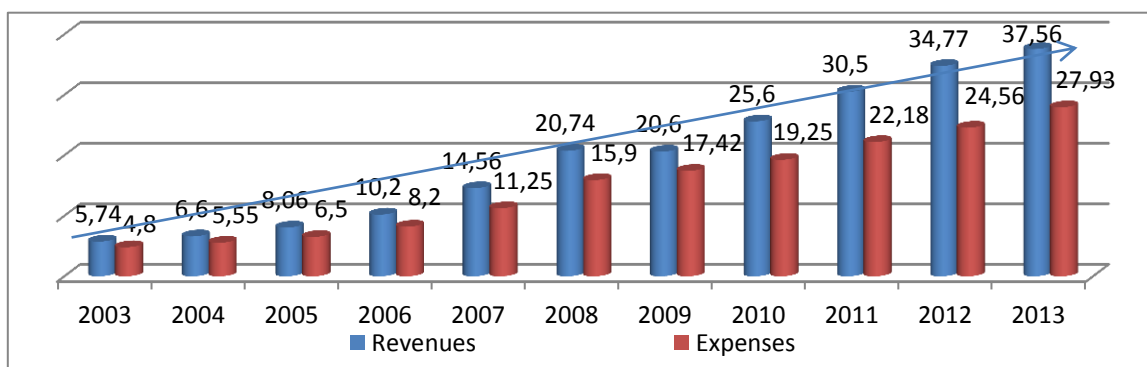
**Graph 1: The dynamics of GDP and the expenditure of the state budget (in percentage)**



Source: Ministry of finance of Azerbaijan and State Statistics Committee of Azerbaijan, 2014

As a result, the state budget has become dependent on oil revenues within this short period of time. Currently, oil revenues generate 67 out of every 100 AZN of the state budget’s revenue. But if we take into account the effect of oil revenues on the growth of the non–oil sector, the dependency of state budget on oil revenues would be 80 out of every 100 AZN. This tendency puts the financial stability of the country at risk. For instance, the rapid decline in oil prices in the world market in 2009 caused the state budget to rapidly decrease by 2.5%. Consequently a number of major public projects were canceled and the growth rate of development and internal demand decreased; then there was a deflation. Additionally the economic growth also led to increased revenues for the people of Azerbaijan. The income per capita was 707 AZN in 2003, which increased 5.7 times and reached 4040 AZN. In addition, people’s income as a whole increased from 5.74 billion manats to 37.6 billion manats and the expenses of the population increased 5.8 times, from 4.8 billion manats to 27.9 manats. The investment by people increased 10 times within this period, from 0.94 billion manats to 9.7 billion manats. However, the growth rate of peoples’ income will decline from the year 2014. This will lead to a decline in the economic growth, while the forecasted decrease in oil production and oil revenues will lead to a decrease in the state budget’s expenses in the coming years. The decline in domestic demand will also cause stagnation in the private sector; thus the decline in revenues will affect all segments of the population.

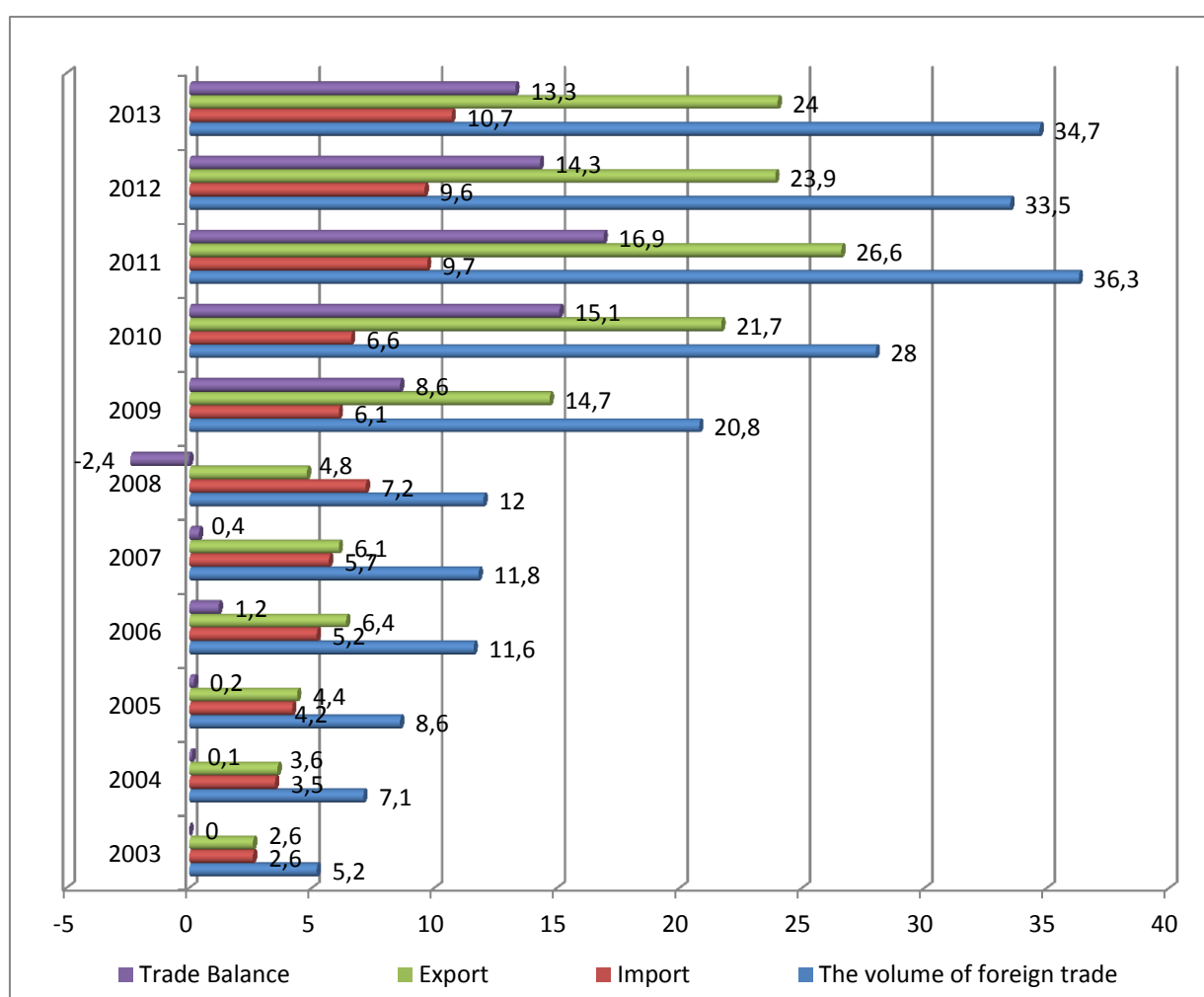
**Chart: The dynamics of income and expenses of Population (billion manat)** Source: The State



Statistical Committee of Azerbaijan, 2014

### The composition and structure of the sectors in export

Currently oil, oil products and gas make the majority of foreign trade in Azerbaijan. Although the trade balance of Azerbaijan was positive last year, the non-oil share in exports was only 8%, which led us to predict a negative foreign trade balance due to declining oil production in the country. As it can be seen, if 2008 is not taken into account, the exports of the country have had a positive trade over the entire period of the chart above. However as we noted before, the decline in oil production caused a decrease in the volume of exports and total foreign trade since 2011. Although imports decreased by 4 times and reached 10.7 billion USD, non-oil exports were only 1.67 billion USD in 2012 and 1.77 billion USD in 2013. In other words, Azerbaijan imports 6 times more than it exports, which leads us to argue that there is uncompetitive economy in the non-oil sector.



Source: State Statistics Committee of Azerbaijan Republic, 2014

It is advisable to pay attention to the following table for the assessment of the country export potential. As it can be appreciated in the table, agriculture and the food industries imports exceed 57% the export and a 0.6 billion manats trade deficit remains. In addition, other sectors of the economy including the chemical industry, light industry, and precious metals industry and related products, the

trade situation is quite serious since imports exceed exports by 11 times in these sectors. In other words, the exports of Azerbaijan equal 9% of imports, which means there is a negative foreign trade balance of 7.16 billion USD. From the current view it is clear that, compared with other sectors, the agriculture and food industries are in a critical position. For this reason we believe that the implementation of comprehensive reforms in the agricultural and food industries can increase the export potential of these sectors.

**Table: In 2013, groups of the import and export goods**

The names of commodity groups	Import, thousand USD	Export, thousand USD
TOTAL:	9652870.6	23907983.7
Live animals and products of animal origin	113791.2	682.3
Herbal Products	500125.7	308055.5
Animal or vegetable fats and oils	107217.3	221766
The finished food products, alcoholic and non-alcoholic drinks, tobacco	721279.1	301703.3
Mineral products	307686.3	22281145.2
Chemical products	662506	174585
Plastics, rubber and articles thereof	427263.5	108989
Unprocessed leather, tanned leather, natural fur and articles thereof	4474.2	14091.7
Cork and articles thereof, wicker products	274864.7	2017.9
The mass of timber, paper and cardboard, Products	114063	12264.1
Textile materials and products	80093.4	52573.6
Footwear, headgear, umbrellas, walking-sticks, feathers, artificial flowers	9380.7	494.7
Stone, plaster, cement, asbestos, mica, ceramic and glass products	235902.2	2691.1
Pearls, precious stones and metals, articles thereof	16068.2	81536.5
Precious metals and articles thereof	1467525.8	218426.3
Machines, machinery, electrical equipment, apparatus	2629257.3	53946.2
Land vehicles, aircraft, vessels vehicles	1414854.2	42380.6
Optical, photographic, measuring, checking, medical instruments and apparatus, watches, musical instruments	344213.8	5641.7
Various industrial goods	212349.2	2327.3
Works of art, collectors' pieces and antiques	239.1	869.4

**Source:** *The State Statistical Committee of Azerbaijan, 2014*

However, this does not mean that the actions should not be taken in other areas. There is considerable potential for the chemical industry as well as light industry. If there is a special focus on these areas it is possible to achieve positive results in a short period of time. In particular, the development of light industry should meet domestic demand, which will decrease imports of these products.

In general, Azerbaijan non-oil exports in 2013 were as it follows: chemical industry products were \$57.17 million USD, Cotton \$31.82 million USD, ferrous metals and related products \$96.37 million USD, aluminum and related products \$82.8 million USD, fruits and vegetables \$250.7 million USD, plant and animal oils \$227.8 million USD, and alcoholic and soft drinks amounted to \$30.9 USD.

The European Union is the main trade partner of Azerbaijan and the EU accounts for 46% of Azerbaijan's foreign trade.

**Table: Geographical structure of Export**

Geographic regions	2010	%	2011	%	20120	%	2013	%
Total	21 360 210,2		26 570 898,3		23907983.7		23 975 416,8	
Europe	12 626 370,6	59.1	18 999 839,4	71.5	12649692.4	52.9	12 933 748,7	54
Asia	6 354 506,9	29.7	5 019 134,1	18.9	9198923.3	38.5	9 573 360,5	39.9
America	2 024 235,6	9.5	2 288 621,2	8.6	1610830.5	6.7	992 851,8	4.1
Africa	328 671,5	1.6	263 141,5	1.0	417244.0	1.8	475 064,9	2.0
Oceania	26 425,6	0.1	162,1	0.0	31293.5	0.1	390,9	0.0

**Source: The State Statistical Committee of Azerbaijan, 2014**

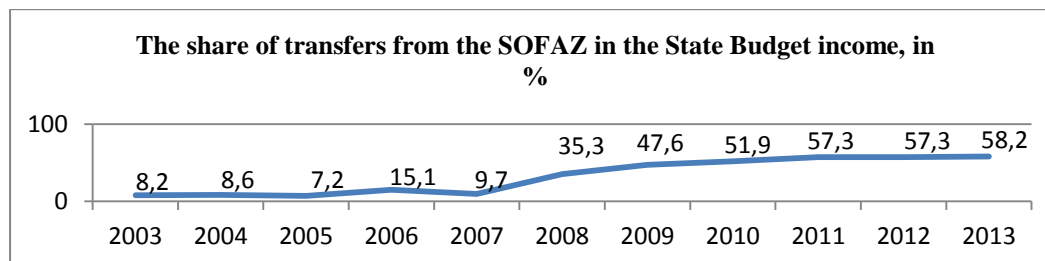
Italy (6 billion USD, 24.98% of the total exports), Indonesia (2.8 billion USD, 11.56% of the total exports), Thailand (1.66 billion USD, 6.95% of the total exports), Germany (1.4 billion USD 5.66% of the total exports), Israel (1.3 billion USD, 5.26% of the total exports), France (1.1 billion USD, 4.72% of the total exports), India (1.1 billion USD 4.58% of the total exports), Russia (1.1 billion USD 4.5% of the total exports), and the USA (1.0 billion USD, 4.13% of the total exports) were the main export partners of Azerbaijan in 2013.

In the recent years there has been a change in the export destinations of the Azerbaijan market. As a result, the European and American share in total exports of Azerbaijan decreased by 10.6%. This decrease was compensated by an increase in the Asian share of the Azerbaijan exports. The reason of this decrease was the decline in exports of oil and oil-related products and the lack of a comparative advantage in non-oil production in the developed regions market.

The dependency of the economy and exports on the funds provided by energy resources was spread in the state budget in the short term. As a result, the economy of Azerbaijan and the expansion of the financial markets became dependent on oil revenues coming out of the state budget. Therefore, the crisis in 2009, a sharp decline in liquidity in the domestic economy had to be considered as a warning of this situation. Unfortunately the state budget high level of dependency on oil has continued. Currently, 65% of the state budget revenues are generated from oil income; this includes direct transfers from the State Oil Fund and tax revenues from the oil sector. In particular, transfers from the State Oil Fund have increased rapidly during the last times which led to an irreversible situation. Although in 2014 the volume of transfers to the state budget was reduced, the transfers have once again increased in the draft of the state budget for 2015. In other words, the government's

commitment to international events for the next few years makes it difficult to reduce budget expenditures.

**Graph 3. SOFAZ contributions to the state budget**



Source: State Statistics Committee of Azerbaijan Republic, 2014

As we can see in the table above, over the last 10 years the share of the state budget funded by transfers from the SOFAZ has increased 7 times. In the frame of these conditions, this rate of transfers will lead to a reduction in the Fund’s resources. Thus, the decline in oil production and prices, as well as achievements in the structural diversification of energy resources in the world, will cause a decline in oil revenues in Azerbaijan, which will have a negative impact on state expenditures. Otherwise, maintaining this rate of expenditures will melt the reserve of the Fund. Another point of concern is that, as we stated earlier, the dependency of Azerbaijan’s economic growth on state budget expenditures. Therefore the economic growth will be at risk under a budget contraction. On the other hand, Azerbaijani gas exports to European markets will happen in 2020 the earliest. Taking into account that gas revenues could never replace the oil revenues, the next 6 years will be more difficult for the country compared to past years. In fact, the sharp depreciation of oil has already caused a decrease in domestic liquidity, which negatively affects all sectors of the economy. The reason is that foreign currency inflows to Azerbaijan are generated from oil sales and a failure to diversify exports has caused a financial failure. Generally it would be more accurate to consider the cases of the resource economy. All these challenges have to be considered as a major cause of the expected long-term decline in the economy of the country.

**Brief information about the oil and gas sector and plans for its further development**

Although energy resources of Azerbaijan have been adequately exploited over the last two centuries, currently the capacity of oil and gas reserves is considered to be 2 billion tones which is equal to 2.55 billion cubic meters. In addition, a decline in oil production has been observed in Azerbaijan since 2010.

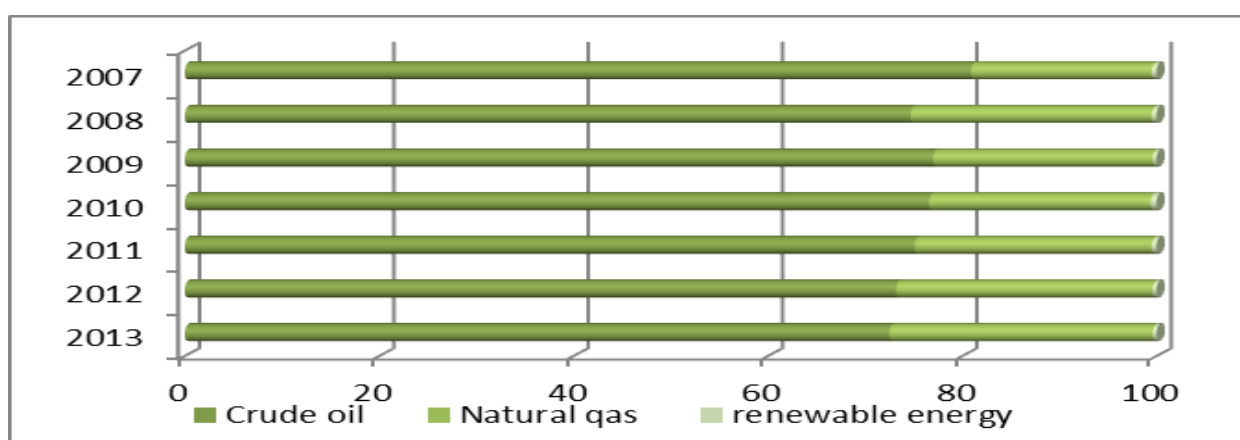
**Table 3. Oil and gas output in Azerbaijan**

By year	2008	2009	2010	2011	2012	2013
Oil production (including gas condensates), 1000 tonnes	44 514	50 416	50 838	45 626	43 375	43 457
Commodity as well	44 395	50 364	50 693	45 375	42982	43163
Gas production, million cubic meters	23 399	23 598	26 312	25 728	26 796	29 245
Commodity as well	16 336	16 325	16 673	16 361	17242	17895

Source: State Oil Company of Azerbaijan Republic, 2014

Oil production has decreased by 7.4 million tons or nearly 15% over the past three years and it is expected that this decline will continue in the coming years. Thus according to official data, in 2015 approximately 40.6 million tons of oil will be produced in the next 4 years. However, serious problems may crop up in order to sustain oil production at a rate of 40 million tons. As soon as the depths of oil wells increase, additional expenses are bound to grow and in most cases the exploitation of new technologies will be required. Needless to say, these issues will lead to difficulties during the periods of sharply slumping oil prices. Additionally, the results of current discussions between the government of Azerbaijan and BP, the operator of AIOC, could influence the volume of oil production over the coming years. Hence, unless an agreement is reached, BP will not be interested in new investments; as a result the production may decrease immediately. Oil production could even decline to 35 million tons by 2018.

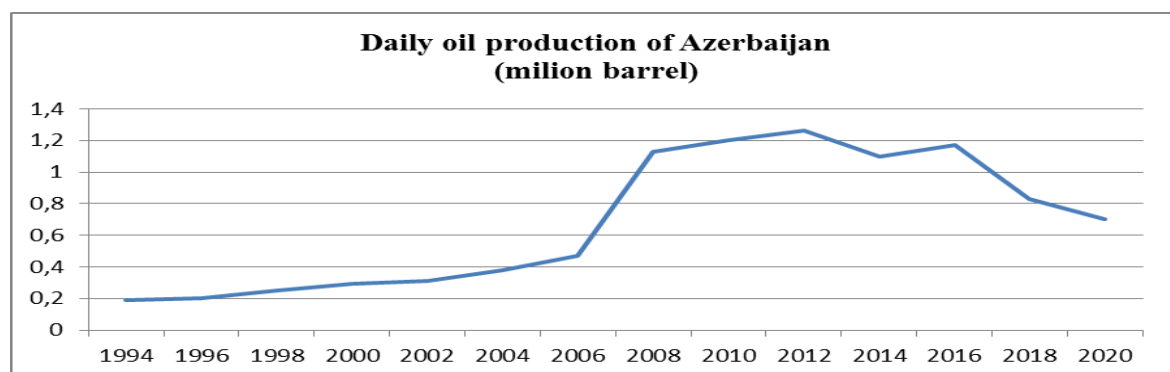
**Graph 4: Annual energy production, percentage**



**Source: State Oil Company of Azerbaijan Republic and State Statistics Committee of Azerbaijan Republic, 2014.**

A domestic demand has been increasing year by year due to the industrialization and expansion of opportunities. Domestic consumption in 2010 was 6.4 million tons and reached 6.8 million tons in 2013, a growth of 6%. Furthermore, the demand for "premium" petrol was met through imports. The production of this kind of motor fuel will recover after oil refinery repairs are completed; consequently, domestic consumption will grow rapidly. Certainly, oil refinery repairs are another factor influencing the decline in oil exports. Currently nearly 750 thousand barrels of oil are produced in Azerbaijan on a daily basis but this figure is 350 thousand barrels less than the IMF's projected figure in 2003. To be precise, oil production in Azerbaijan had decreased earlier.

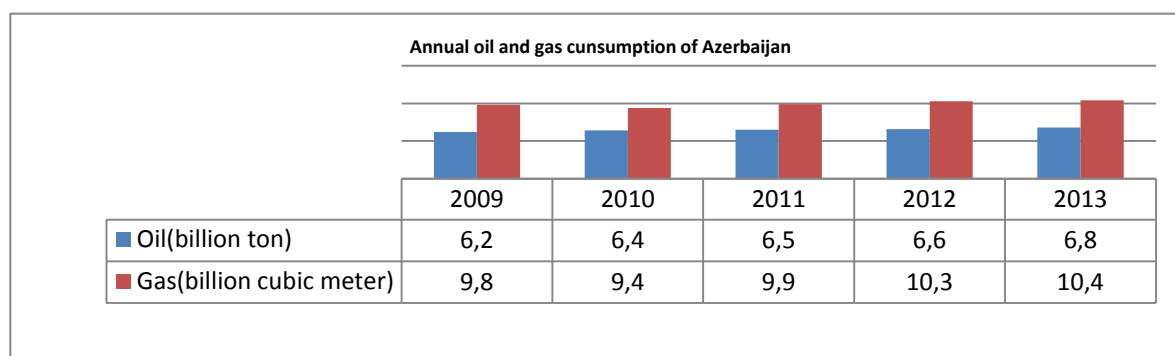
**Graphic 5. Daily oil Production of Azerbaijan**



**Source: International Monetary Fund, 2013**

In the past years gas production has increased against the backdrop of an oil production decline. As a result, gas production increased by 22% in 2013 compared to 2008. Gas production will be around 30 billion cubic meters in the coming 5 years with the exploitation of the TAP and TANAP projects. However the volume of gas production is forecasted to exceed 45 billion cubic meters, owing to the transportation of Azerbaijani gas to European markets. It is worth highlighting that it was initially considered 16.6 billion cubic meters of gas would be exported via the TAP and TANAP. However, the current situation may extend the deadlines for projects implementations to 2020 or later. In addition, gas production will exceed 60-65 billion cubic meters due to the exploitation of the Absheron gas field by 2022. Therefore it is possible that gas production will be boosted by 30 billion cubic meters annually, with the export pipelines. Gas consumption in Azerbaijan was nearly 10.4 billion cubic meters last year, with the largest domestic consumers being power stations. Annual gas consumption in Azerbaijan will be 11 billion cubic meters by 2020. As mentioned above, Azerbaijan has gained financial benefits thanks to oil and gas revenues over the last 10 years. According to government legislation, the State Oil Fund of the Republic of Azerbaijan was established in order to make an effective use of these revenues, ensure the protection of the rights for future generations, and to maintain the fiscal balance. The income of the Fund was 114 billion US dollars by September 2014.

**Table 4. Annual oil and gas consumption of Azerbaijan**



Source: State Oil Company of Azerbaijan Republic, 2014

The 32.7% of the income which is equal to 37.3 billion USD dollars is allocated and current reserves of the fund are established. The main direction of expenses from the fund is to transfer to the state budget. Therefore, the budget is heavily dependent on the oil sector. From the state budget 99.6 billion AZN income, 46.4 billion AZN or 46.6% of the budget comes from the state oil fund in the form of transfers and 15.5 billion AZN or 15.6% thanks to tax revenue from the oil sector. As a result, on average, over the last 10 years, oil revenues have ensured 62.2% of the state budget. In other words, allocations are spent rapidly.

**Shah Deniz 2.**

The Shah Deniz gas field reserves are estimated to be 1.2 trillion cubic meters. The Shah Deniz 2 project is comprised of the following stages: resources to be ready for operation and gas delivery to European markets by 2019. The annual production will reach 25 billion cubic meters, a growth of 16 billion cubic meters as a result of the development of the Shah Deniz field. Six billion cubic meters of gas will be exported to Turkey, while another 10 billion cubic meters will go to Europe through the TANAP (Trans Anatolian Pipeline) and TAP (Trans Adriatic Pipeline). Taking the global situation into account, the cancellation of the South Stream project of Russia will lead to improved export capacities of the TAP and TANAP, ensuring gas supply to Central European countries. According to the initial assessment, the investment requirement for the Shah Deniz 2 project was estimated to be 25 billion US dollars. Later on it was announced that expenses would be 28 billion dollars. The

investment opportunity for Azerbaijan will decrease in the case of a decline in oil revenue, which will extend the exploitation date. As a result, the expenses are expected to exceed 30 billion dollars.

**TANAP**- this pipeline intends to transport Azerbaijani gas to the western borders of Turkey. The cost of project was initially estimated at 7 billion dollars but was increased to 12.5 billion dollars in late 2014. The capacity of the TANAP will be between 16 and 22 billion cubic meters of gas per year. As a result of the pipeline's operation, Turkey will receive approximately 2 times more gas, 12.6 billion cubic meters.

**TAP** – this pipeline is meant to transport Azerbaijani gas to Italy by flowing 791 km to Turkish-Greek border and then to Italy. The cost of the project is evaluated at 2.2 billion dollars. The project is politically and economically significant for Azerbaijan in order to introduce its gas directly to the European market. Current Russian-EU relations have increased the importance of the project. As a result of putting the pipeline into operation, Azerbaijan will diversify its export routes for energy resources and the EU will do the same for its import of energy resources. Initially it is planned to export 10 billion cubic meters of gas, potentially increasing to 21 billion cubic meters later. Therefore, according to the current estimation, Azerbaijan will export 7 billion dollars of gas annually. After expenses were considered, the net profit to Azerbaijan will be approximately 3.6 billion. Certainly, it would be naive to assume that the income from gas will replace oil revenues in the future. But in any case, the introduction of the TAP and TANAP projects will positively influence the financial sustainability of Azerbaijan. After 2022, gas production will grow to 60 billion cubic meters and approximately 48 billion cubic meters of this will be exported, leading to a 10 billion dollar increase in income.

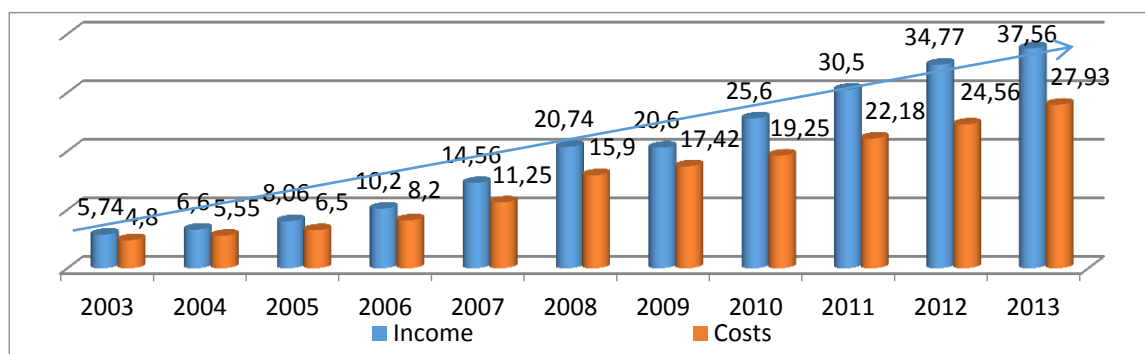
Overall, the TAP and TANAP projects were the messages in accomplishing the NABUCCO legend. The cost of the project, the doubt of supplying countries and unstable condition in the region were key factors that hindered its implementation. As a result, in spite of lower export potential of gas, we can emphasize that Azerbaijan has found a more adequate option. Azerbaijan acts as a main investor in the Shah Deniz 2, TAP and TANAP projects. It will be necessary to make more investments in this field in the coming years. During the periods of slumping oil prices, investment opportunities will decrease. On the other hand, the transportation of compressed gas is improving day after day and it is considered to be more efficient in terms of transportation costs and security. So in the foreseeable future, the long-term commercial significance of TAP and TANAP projects in the energy field will be decreased.

Finally, it should be noted that with the current developments in the world of energy, with the rapid depreciation in parallel with increases in supply, all together bring up a period of difficult economic times over the coming years. However, at the same time, real steps in the non-oil sector and liberalization of economic conditions will have inevitable payoffs. Negative factors associated with the energy sector could lead to the generation of positive initiatives and thereby decreasing the resource dependency of Azerbaijan.

### **Employment and people's income**

The economic growth increases the income of citizens. The income per capita in Azerbaijan, which was 707 AZN in 2003, reached 4040 AZN in 2013, 5.7 times higher. Moreover, during that time the overall level of people income increased from 5.74 billion AZN to 37.6 billion (6.6 times higher) and their costs rose from 4.8 billion AZN to 27.9 billion manats, an increase of 5.8 times. The allocated amount of savings has increased dramatically as a result of income growth exceeding the growth of costs. As a whole, people have been able to save a total of 0.94 billion manats in 2003, this sum rose by 10 times to 9.7 billion manats in 2013.

**Chart: The dynamics of people’s income and costs (billion AZN)**



Source: The State Statistical Committee of The Republic of Azerbaijan, 2014

It should be noted that for 2014 it is predicted that the people’s income will be 40.5 billion manats, while costs will be 29.7 billion and according to the government prognosis, in 2015 the income will be 43.8 billion manats, while costs will be 32 billion manats. Although the figures for the first nine months of 2014 show that incomes will be similar to expectations, the last term of year will be affected by sharply reduced oil prices and decreases in money being sent by Azerbaijanis who live and work in Russia. This will have negative and unavoidable effects on the final budget for 2014. In other words, as of the end of 2014, a reduction in the growth rate of revenue will occur. Decreasing the budget expenditures will parallel a weakening economic growth and the predicted fall of oil prices for the coming years. Furthermore, this factor will diminish domestic demand and thus, economic stagnancy will begin in the private sector, causing income to fall across the whole population.

**Table: The distribution of the population according to their type of economic activities (by per cent)**

Year Economic fields	2005	2008	2009	2010	2011	2012	2013
Agriculture, forestry and fishery	38.7	38.2	38.1	38.2	37.9	37.7	37.1
Mining industry	1.0	1,0	1.0	1.0	0.9	0.9	0.9
Processing industry	4.9	5.0	5.0	4.8	4.8	4.8	5.0
Construction	5.2	5.4	5.4	6.6	7.1	7.2	7.2
Trade; repairing of transport vehicles	15.6	15.9	15.9	14.5	14.5	14.6	14.7
Transport and storage farm	4.3	4.3	4.3	4.1	4.1	4.1	4.1
Accommodation of tourists and public catering	0.6	0.6	0.6	1.1	1.1	1.1	1.1
Information and communication	0.8	0.8	0.8	1.3	1.3	1.3	1.3
Transactions for real estate	2.0	2.0	2.0	1.6	1.6	1.7	1.8
State administration and defence; social security	6.3	6.3	6.3	6.4	6.4	6.3	6.2
Education	8.5	8.4	8.5	8.1	8.0	7.9	8.1
Health and social services for citizens	4.7	4.6	4.7	3.9	3.8	3.7	3.8
Activities in relaxation, entertainment and art areas	1.3	1.3	1.3	1.4	1.4	1.4	1.4
Services in other fields	2.3	2.3	2.3	2.9	3.0	3.1	3.0

In recent years the various dynamics of development in different fields of the economy influenced the structure of employment. The number of people who work in communication and information, accommodation of tourists and public catering, construction, and the banking and insurance sectors increased. In contrast, employment of those who work in the transport vehicle repair sector, trade and agriculture sectors diminished. The preceding table shows that 51.8% of the population works in the agriculture, trade and service for transport vehicles sectors. Considering that that 37.1 per cent of the population are economically active, we can exactly describe the unequal distribution of incomes.

**Table: The average monthly wages by classification of economic activities**

	2010	2011	2012	2013
Economy – overall	331.5	364.2	398.4	425.1
Agriculture, forestry and fishery	160.3	196.4	201.1	217.9
Mining industry	1004.7	1180.4	1402.0	1516.3
Processing industry	320.5	354.5	398.8	439.3
Electricity, gas and steam production, distribution and supply	349.4	413.4	443.7	467.2
Water supply, cleaning and processing of tailings	197.7	231.9	274.8	324.9
Construction	505.8	519.4	587.5	625.5
Trade; repairing of transport vehicles	282.8	335.2	343.7	363.8
Transport and storage farm	395.1	446.8	511.5	536.3
Accommodation of tourists and public catering	333.7	385.0	404.6	444.6
Information and communication	531.3	576.6	621.9	675.4
Financial and insurance activity	990.2	1004.5	1055.5	11264
Transactions for real estate	168.1	228.3	255.6	293.9
Professional, scientific and technical activity	592.2	600.0	620.7	667.1
Administrative and support service activities	526.7	535.1	563.2	583.9
State administration and defense; social security	376.5	402.7	452.6	455.0
Education	271.8	283.4	287.3	293.6
Health and social services for citizens	155.2	164.0	175.1	181.6
Activities in relaxation, entertainment and art areas	208.4	211.0	211.3	220.6
Services in other fields	280.3	331.8	367.6	377.6

As it seems, there are significant differences between sectors. For example, people who work in the oil sector earn more than 7.5 times what those ones who work in the health or agrarian sectors. At the same time, analysis of statistical information shows that 42% of the population makes only 200 manats per month and 30% of the population earns approximately 400 manats. Only 1.6% of citizens have monthly salaries over 1000 manats, while 26.4% of employees have monthly incomes between 400-700 manats. In fact the current situation proves that there are limited employment opportunities in Azerbaijan. In other words, employment for people in low-income sectors of the economy is hurt by a lack of diversification and development in the non-oil sectors. For example, monthly salaries of those who work in the oil fields have increased 50% over three years, while salaries in the trade and service sectors have increased by only 28% and by 35% in the agricultural sector.

As a result of the analysis of employment and income distributions, it is clear that the diversification of real-employment to more fields is needed to provide and maintain impartial income distribution in the economy.

### Macroeconomic view of agriculture

#### The main economic indicators of the sector

The world's population growth and the fast exploitation of natural resources in the recent years will be the reason for global food supply problems. At the moment the maintenance of food supply safety for the population in the world is important. This naturally outstrips the importance of healthy feeding; it means the most important thing is to keep shop windows full. However the intensive development of agriculture, especially guarantying more fertile production conditions and increasing export potential are the most urgent problems in Azerbaijan. At that time the share of the GDP fell 5.3% in the agriculture sector of Azerbaijan. There are some objective and subjective reasons for this reduction but we should note that the condition is not satisfactory because, in the last years, the growth of this sector is slower than other sectors.

**Table: Share of agriculture in GDP**

Years	Million manat	%
	Agriculture, forestry and fishing	Share in GDP
2000	758.9	16.1
2001	788.7	14.9
2002	846.0	14.0
2003	888.0	12.5
2004	937.3	11.0
2005	1145.5	9.2
2006	1329.3	7.1
2007	1854.8	6.5
2008	2236.0	5.6
2009	2179.5	6.1
2010	2344.6	5.5
2011	2643.5	5.1
2012	2813.7	5.1
2013	3057.8	5.3

Table: Major capital directed investments		
Years	Million AZN	%
2003	37.4	1.0
2004	35	0.7
2005	40.7	0.7
2006	58.3	1.0
2007	243.3	3.3
2008	336.5	3.4
2009	266.6	3.5
2010	431	4.4
2011	437.3	3.4
2012	648.8	4.2
2013	574.3	3.2

As it can be observed from the table, the cost related to general interior production created in agriculture (the left-hand column) increased 4 times, but the special cost of GIP was reduced threefold from 2000 to 2013. Regarding the costs-related figures, one part of the growth is based on rising prices, while another part is based on the production development. But as we noted above, the development of the agrarian sector has been slower than the other general economic spheres of Azerbaijan.

The analysis of economic information for the Azerbaijani economy shows that efforts have increased in the agricultural sector in recent years. Since 2007 investments directed towards the agricultural sector have quadrupled and investments to agriculture were 3.2% in 2013. Given the current situation, the learned lesson is that a more effective work in the same direction is unavoidable. Surprisingly, in 2013 the agricultural sector experienced a reduction in the amount of investment directed towards the

main capital. The agrarian sector in Azerbaijan has some of the lowest levels of infrastructure in the economy. Besides this factor, the agrarian sector is one of least attractive one for foreign investment.

In reality, another reason why there is less investment in this sector is that the agrarian sector has less representation in the business community. Thus, the 7% of products produced in the sector belongs to agrarian institutions, while the other 93% belongs to individual ownerships, families, countrymen and household agriculture. The limited financial abilities of these groups make fewer investment opportunities for innovation, infrastructure, and renewing technology.

**Table: Gross agricultural product, current prices (million AZN)**

Years	Total	Gross agricultural product, current prices (million AZN)	
		Individual entrepreneurs, enterprises and households	Agricultural enterprises and other organizations
2003	1450.5	1408.9	41.6
2004	1572.7	1509.5	63.2
2005	1844.8	1776.0	68.8
2006	2115.5	2051.8	63.7
2007	2918.6	2799.0	119.6
2008	3505.9	3319.9	186.0
2009	3805.5	3577.6	227.9
2010	3877.7	3685.1	192.6
2011	4525.2	4289.2	236.0
2012	4844.6	4525.2	319.4
2013	5244.6	4880.7	363.9

Of course, these same conditions influence the growth and productivity in agriculture. The analysis of 10 years of indicators shows that the amount of production in the sector had increased 3.6 times, owing to a 3.4 times increase in production from individual owners, family and household agriculture and a 9 times increase for agricultural institutions. In the results the special price of GDP has increased from 2.8% to 7% during this 10-year period. It is known that in order to achieve effective development in the agrarian sector, there should be open and formalized institutions. At the same time the government should create suitable conditions while giving long-term easy credits to create suitable conditions for agricultural development according to levels of production. Policies should be adopted to save former cooperative agriculture because currently the main problem for producers in agriculture is selling their products at a very low price. The origin of this issue is that producers have no opportunities to sell their products in retail markets. As a result we find expensive market prices but lower prices and lower profitability for producers.

**Table: Agricultural sector production stakeholders share (percentage)**

Years	Total	All economic categories		Total	Agricultural enterprises and other organizations		Total	Individual entrepreneurs, enterprises and households	
		plant products	livestock products		plant products	livestock products		plant products	livestock products
2003	100	55.6	44.4	100	24.8	75.2	100	56.5	43.5
2004	100	55.6	44.4	100	20.6	79.4	100	57.1	42.9
2005	100	53.6	46.4	100	20.2	79.8	100	54.9	45.1
2006	100	53.2	46.8	100	25.1	74.9	100	54.0	46.0
2007	100	59.2	40.8	100	19.4	80.6	100	60.9	39.1
2008	100	59.5	40.5	100	22.0	78.0	100	61.6	38.4
2009	100	55.3	44.7	100	30.7	69.3	100	56.9	43.1
2010	100	51.6	48.4	100	31.2	68.8	100	52.6	47.4
2011	100	51.7	48.3	100	34.8	65.2	100	52.6	47.4
2012	100	50.7	49.3	100	30.5	69.5	100	52.2	47.8
2013	100	50.1	49.9	100	33.1	66.9	100	51.4	48.6

Source: State Statistics Committee of the Republic of Azerbaijan, 2014

During the analysis of agricultural sub-sectors it is clear that agricultural institutions in Azerbaijan are more specialized in cattle breeding, but in the last years the focus has changed in the direction of plant growing. As a result, plant growing by institutions as a share of general production has increased from 8.3% to 33.1%, though individual and household agriculture still shoulders the responsibility of supplying most of the food for Azerbaijan. This means that the creation of big agricultural institutions in addition to the development of agriculture is necessary. As mentioned previously, this type of agriculture will require financial and scientific support to be successful. Over a short period of time these sub-sectors should become a part of a cooperative agriculture, which should guarantee more profitable labour. Additionally, the state should assist this sector by ensuring production process, thereby determining the minimum limit on the number of products to be purchased in the future which could reduce the psychological pressure on producers.

### Food Balance

As we mentioned earlier, agriculture is very important in the sense that it satisfies the food security of Azerbaijan. Even if the population growth rate is decreasing, it is important that attention is still focused on this topic.

The food balance determines the dependence of a country's food supply on imports and the weakest rings and supporting development in this direction.

**Table: Balance indicators for some goods in 2013, tons**

	Surplus for the begging of the year	Production	Import	Total of reserves	Total internal consumption and loss	Export	Surplus for the end of the year
Rice	8251	4833	28485	41569	32387	13	9169
Flour	465004	1437699	99750	2002453	1 513 251	5373	483829
Liquid vegetable oils	16488	63252	107441	187181	135 036	36987	15158
Margarine	3856	24505	123	28484	24 392	-	4092
Fruit and vegetable juices	13313	33785	5296	52394	29 280	9827	13287
Canned fruits and vegetables	39124	127354	21373	187851	139 461	8878	39512
Sugar	49474	427843	71289	548606	233 704	256312	58590
Tea	2388	7486	13775	23649	14 283	7586	1780

Source: The State Statistical Committee of the Republic of Azerbaijan, 2014

As we can see in the table, the internal demand is satisfied by the import of certain goods (liquid vegetable oils and rice) and by domestic production of other goods (flour, margarine, fruit and vegetable juices, canned fruits and vegetables, sugar, and tea). The table shows that some goods are also exported in great quantities. For instance, the volume of the sugar produced is twice as big as the domestic demand for sugar, so more than 50% of it is exported.

The government of Azerbaijan has a state program for the "**Reliable supply of population with food in Azerbaijan Republic from 2008 to 2015**" that is being undertaken to satisfy food security for the population of the country with higher quality products and to create reserves of consumer goods. The state program has defined the following goals for 2015: to increase the plantation crops to 900 thousand hectares, oil crops to 135 thousand hectares and productivity to 32 quintals per hectare, general production to 2.8 million tons, sugar beets to 20 thousand hectares, potato production to 1.12 million tons, vegetables and other plantation herbs to 1.72 million tons, fruit production to 800 thousand tons, tea leaves production to 3 thousand tons, meat production to 340 thousand tons, milk and dairy products to 2.4 million tons, industrial poultry production to 80 thousand tons, and egg production to 1.3 billion pieces. It is very interesting to see how these goals have been followed as there is only a year left until the end of the program. For instance, the total crop area in 2013 was 1074 thousand hectares, which is 174 thousand exceeded the goal. Meanwhile, in 2007, 2004.4 thousand tons of agricultural products were produced in Azerbaijan, which increased by 50% by 2013 to 2955.3 thousand tons. However, it was not possible to increase the productivity by 27.5 quintals per hectare. In other words there was extensive development. The area extension of plantations increased 24% more than had been planned; as a result the dependence on imports in this sector decreased by 7% to 36.1% from 2007. We come across a different situation when we look at the balance for potato production. Although there was a planned increase in potato production from 1037.3 to 1120 thousand

tons by 2015, the opposite actually occurred and in 2013 output had dropped to 992.8 thousand tons. In addition, potato exports fell and the dependence on imports remained the same at around 8% of the demand.

The situation with dairy products is also paradoxical; the goal was to increase the production by 80% to 2400 thousand tons from 2007 to 2015, however the production increased by just 36%, which was less than the growth of internal demand. As a result, demand for these products in Azerbaijan rose from 12.5% in 2007 to 24% in 2013.

The balance for meat products has changed in a slightly different way. Over the last 6 years the dependence on imports of beef and mutton rose from 5.3% to 14.6% and from 0.2% to 2.2% respectively, but fell from 25.5% to 3.8% for poultry. Although the planned annual production of poultry was 80 thousand tons, the sector achieved a total of 88 thousand tons by 2013, which is 10% more than the goal for 2015. Eggs production followed the same trend. It was 46% higher in 2013 compared to 2007 year and reached 1.4 billion pieces despite the planned output being 1.3 billion pieces; however the demand of eggs also increased and the dependence on imports actually rose from 2% to 3.3%.

In order to get a good understanding of how production suits the internal demand, it is important to look at the tables shown below. As we can see, although there is still a dependence on imports in crops and legumes, the opposite occurs with potatoes, grapes, vegetables and other plantation herbs. The production of fruits and berries, besides satisfying internal demand, also has a good export potential. However, there has been a drop in the growth rate of fruit and berry production. While it was possible to export 38% of those products in 2007, by 2013 only was possible to export the 21.8%.

**Table: Self-satisfaction level by plantation goods, in %**

	2007	2008	2009	2010	2011	2012	2013
<b>Total of crops</b>	<b>57.0</b>	<b>63.3</b>	<b>74.0</b>	<b>56.5</b>	<b>64.8</b>	<b>64.3</b>	<b>64.0</b>
wheat	48.0	55.7	69.2	48.9	57.7	56.8	56.0
barley	99.2	97.2	98.7	87.7	93.7	95.1	97.8
corn	76.4	68.1	67.2	64.5	68.0	67.3	60.0
oats	68.2	88.6	94.5	80.6	82.8	84.4	89.3
Other crops	10.0	4.4	0.4	1.0	4.0	8.7	2.3
<b>Legume</b>	<b>76.4</b>	<b>77.7</b>	<b>68.9</b>	<b>65.8</b>	<b>70.4</b>	<b>71.6</b>	<b>76.6</b>
<b>Potato</b>	<b>98.0</b>	<b>103.6</b>	<b>104.7</b>	<b>100.5</b>	<b>101.6</b>	<b>98.2</b>	<b>97.6</b>
<b>All types of vegetables</b>	<b>98.8</b>	<b>104.6</b>	<b>101.2</b>	<b>97.6</b>	<b>95.7</b>	<b>98.9</b>	<b>102.3</b>
<b>Plantation goods</b>	<b>100.1</b>	<b>100.2</b>	<b>100.2</b>	<b>100.0</b>	<b>100.2</b>	<b>100.1</b>	<b>100.0</b>
<b>Fruits and berries</b>	<b>138.1</b>	<b>161.4</b>	<b>136.0</b>	<b>107.9</b>	<b>116.8</b>	<b>125.7</b>	<b>121.8</b>
Grape	93.7	93.3	90.7	90.4	89.9	94.3	95.0

Source: The State Statistical Committee of the Republic of Azerbaijan, 2014

**Table: Self-satisfaction level by cattle products, in %**

	2007	2008	2009	2010	2011	2012	2013
<b>All types of cattle products</b>	<b>88.4</b>	<b>89.3</b>	<b>84.2</b>	<b>88.0</b>	<b>87.6</b>	<b>92.1</b>	<b>92.0</b>
<b>Beef and beef products</b>	<b>95.7</b>	<b>95.3</b>	<b>95.8</b>	<b>95.5</b>	<b>88.1</b>	<b>92.6</b>	<b>86.5</b>
<b>Mutton and mutton products</b>	<b>99.8</b>	<b>99.9</b>	<b>98.7</b>	<b>99.7</b>	<b>99.8</b>	<b>98.7</b>	<b>97.8</b>
<b>pork and pork products</b>	<b>26.0</b>	<b>24.4</b>	<b>13.9</b>	<b>19.7</b>	<b>14.7</b>	<b>25.7</b>	<b>36.0</b>
<b>Poultry and poultry products</b>	<b>74.6</b>	<b>77.3</b>	<b>66.2</b>	<b>71.5</b>	<b>80.6</b>	<b>88.2</b>	<b>96.2</b>
<b>Milk and dairy products</b>	<b>87.8</b>	<b>89.5</b>	<b>70.1</b>	<b>70.4</b>	<b>71.3</b>	<b>72.8</b>	<b>76.2</b>
<b>Egg</b>	<b>98.1</b>	<b>98.9</b>	<b>98.4</b>	<b>97.9</b>	<b>77.4</b>	<b>96.2</b>	<b>96.8</b>
<b>Fish and fish products</b>	<b>72.6</b>	<b>62.5</b>	<b>77.6</b>	<b>76.6</b>	<b>72.4</b>	<b>72.1</b>	<b>71.7</b>

Source: The State Statistical Committee of the Republic of Azerbaijan, 2014

The internal demand of fish, pork and dairy products is not satisfied by domestic production, especially in untraditional pork production, where only the 36% of internal demand is met. Though Azerbaijan still does not have an export potential with cattle products, it may be possible to satisfy in the future the internal demand and generate export potential in cattle products. Because Azerbaijan is suitable for small livestock, traditional industry gives the country a comparative advantage in this sector. At the same time, attracting investment and reconstructing infrastructure in Azerbaijan makes possible to develop the poultry industry. Thus, it is possible to generate more productivity and strengthen the export potential of Azerbaijan in both sectors with little effort and capital.

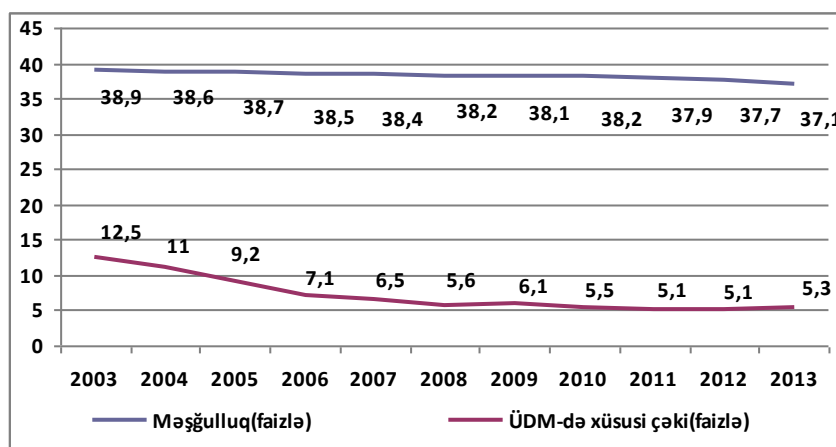
As we can see, Azerbaijan is more or less dependent on imports for most of its products, which could be considered a serious danger for the country's food supply. Making substantial reforms in the agricultural sector is a big issue for the government, especially when we consider that oil income is likely to drop significantly in the coming years and it is this income that is used to purchase goods from foreign markets. Notably, the situation in neighbouring Russia is a factor that makes the food supply to become a problem for Azerbaijan a very hot issue as a result of embargos.

### **Employment rate and social implications**

As it was mentioned before, the significance of agriculture in Azerbaijan's economy is that it is closely linked with employment. The 375% of the total population of Azerbaijan is employed in the agriculture sector; therefore employment rates are heavily dependent on agriculture. The main reasons for this issue are as it follows: the registration of economically active citizens who own land as employed by calculation with current methodology and the lack of intensive development over the years. Agriculture is the most labor-intensive sector in the economy, having said that, like in other countries with extensive agriculture, Azerbaijan's problem is that the value added by the agriculturally employed population (37% of total employed population) is only 5.3 per cent. We must also note that that the high profitability and high salaries are out of question. As a result, the average monthly salaries in this sector are 220 AZN. The vast majority of those employees in agriculture live in rural areas and hence experts evaluate this employment as an advantage in these regions. However, as soon as the living standards are compared with the rest of the population, it becomes obvious that the rural population suffers poverty. Many people living rural areas are unable to meet their basic needs.

Recently, the share of agriculture in GDP experienced a sharp decline, but there has been no significant decrease in the employment rate in agriculture across Azerbaijan.

Consequently, the recent rise in overall wellbeing does not apply to the portion of the population employed in agriculture. Thus, a huge discrepancy has emerged between the living standards of the rural and urban population. In other words, the mere improvement of agriculture has brought about stratification in Azerbaijan.



On the other hand, low profitability in agriculture causes urbanization, which has been a recent issue for the country, especially for young people who abandon their villages in order to find employment opportunities in the cities. As a result, the capital city has become overcrowded and the provisions of employment have been reduced. According to the following table the salaries for 56 percent of the population employed in agriculture are between 105-150 AZN.

**Table: Salary distribution of the employed population in agriculture for 2013**

Salary distribution of the employed population in agriculture for 2013														
	Whole employees worked for whole month	Salary range of employees												
		Minimum salary less than 105 AZN	105-150	151-200	201-300	301-400	401-500	501-600	601-700	701-800	801-900	901-1000	1001-1100	1101-1200
Across country	100	2.9	29.6	16.8	16.7	10.6	7.8	4.4	2.8	1.7	1.3	0.9	0.7	0.7
Agriculture, forestry, fishing	100	3.0	56.1	15.5	8.6	5.0	5.7	2.6	1.5	1.3	0.3	0.1	0.1	0.1

Source: State Statistical Committee of Azerbaijan, 2014

Generally, the income of 71.6 percent of the employed population in agriculture stays between 105 and 200 AZN, which is 2.2 times lower than national average monthly salary. Obviously a small proportion of employees earn more than average monthly salary, but this is only for professionals and employees of governance structured institutions.

Overall it reveals that the elimination of poverty, promotion of welfare, and the solution for urbanization problems depend on the transforming agriculture into a more profitable sector. Because of the weak financial background of family-run farms, the aforementioned problems can only be addressed with government support and strategic planning.

### Promoting the Agrarian Sector-International Experience

There is also a need of more activities and incentives addressed by the government in Azerbaijan as learned from the experience of other countries around the world where situations of low agricultural profitability, lack of infrastructure, lack of potential investments and other issues occur. First of all, increasing production in the agriculture sector is only possible with expanded markets. In other words, a demand with changes in the growth gives more efficient results than all kinds of concessions. Developing the production process, transitioning to intensive modes of production and getting products, which are competitive, which require several times more opportunities than the internal sector provides.

In international practice the government activities directed towards helping the development of the agrarian sector include the following:

- *Tax concessions*
- *Subsidies*
  - *According to the planting area*
  - *According to the production volume*
  - *According to the export volume*
- *Low rate credits*
- *Creating a demand by government*
- *Improving the infrastructure*
- *Ensuring scientific and technical support*
- *Limiting import volume and etc.*

Despite of the insufficient results in Azerbaijan, there are several initiatives for each of the preceding strategies. On the 27<sup>th</sup> November 2001 the law of Azerbaijan Republic about “Giving tax concessions to manufactures of agricultural products” was approved and was implemented in January 2002. According to the requirements of the law, legal entities engaging in production of agricultural output (including industrial methods) are free to pay taxes identified by Tax Code including income tax, Value Added Tax, simplified tax and property tax charged on possessions used in the production process. Additionally, individuals are free to pay property taxes charged from possessions used in production processes as well as income tax identified by the Tax Code. But this law is not concerned with land taxes for entrepreneurs of this group. Concessions are temporary and the agrarian sector of Azerbaijan will take advantage of the current concessions until 1<sup>st</sup> January 2019. In spite of it, in many situations, this law increases the discrimination between taxpayers and has a negative impact on the taxation culture. On the other hand, these incentives are inevitable due to the strategic priorities of the country since agriculture is the least profitable sector. In addition, experts propose that special and strict tax conditions should be applied to unused land reserves in order to attract productive use of land. As a result of this tax, the volume of unused land will decline dramatically.

Forty manats per hectare are paid from the government budget to fuel and motor oil used by legal entities, physical persons and mineral fertilizers sold by “Aqrolizing” OJSC or other members of the market with a 50% discounted price where half is paid by the government. Besides subsidies, according to the plantation size, the government is considering promotions for converting unused land for use. In developed agricultural countries the subject of subsidies is based on the volume of output. This method also causes an increase in productivity, creates opportunities for innovation and in the

end it leads to an intensive growth. On the other hand, in some countries subsidies are applied according to the level of production and area used for agriculture. In this case classification is conducted according to products; for example, in Poland this mechanism has played a crucial role in the rapid growth witnessed over the last decade.

Another way to stimulate exports in agriculture is by applying an “export subsidy regime”. The application of this regime at the final stage can cause rapid development of export sectors and money can inflow to the country. Governments can also promote production while at the same time ensuring export diversification and motivating exports. For example, the implementation of an export subsidy program at the beginning of 80s caused short-run growth in the agrarian sector in Azerbaijan. Currently the agrarian sector in Turkey is undergoing a period of intensive growth for this reason.

Given the current situation, the quantity is more important than qualitative and the productivity decreases because Azerbaijani entrepreneurs only think about subsidies for the size of planting areas, therefore profitability decreases. It would be better if the subsidizing mechanism were applied according to the planting area, production and exports. All in all, the maximum use of natural opportunities and technological development in the production and diversification of exports will grow in parallel. Azerbaijan has not moved in that direction but there is enough time to expand the government support and development of the sector since Azerbaijan is not yet a member of the WTO (World Trade Organization). If we accept that in the short run the global environment will transform the membership process of Azerbaijan to the WTO, then a complex approach should be considered without delay to create a competitive and productive environment in the agricultural sector. Otherwise, as a member of the WTO, Azerbaijan’s local production will be able to endure the imported goods, which will make the situation worse in the future.

The development of agriculture directly depends on the volume of investment. Long-term low-profitability means limited investment opportunities for parties in this sector. Currently the National Foundation of Support to Enterprise has filled the role of providing investment. The foundation has given discounted loans of 443 million AZN to entities processing and producing agricultural products during 2010-2013; this crediting went to more than 9,300 entrepreneurs and entities. On the other hand, if we take into consideration that a number of agricultural enterprises have been founded over last two decades but that the main portion of agricultural production belongs to the households, then the difficulty for households to get loans shows that the amount of investment is not enough. Ensuring access to the discounted loans system for household farmers could be more efficient than it is at the moment. In addition, these loan conditions are not usually suitable for perennial crops, since the process of gaining profits takes much longer, which creates problems for entrepreneurs who have to pay loan annuities that are usually averaged per month. This is a major obstacle in the development of tea and grape planting. International experiences show that loans are more efficient when they have low interest rates, long-term periods and when additional time is given to pay back the principal amount. In most cases government entities are the main supplier of loans directed to these sectors.

Another way of supporting the agrarian sector is the storage of goods by the government. In many countries the purchasing of goods by the government is organised. In this situation the volume and minimum price of the products to be purchased are announced. As a result, suppliers have less trouble selling goods and there is no danger of selling goods at a low price derived from the market situation. The disadvantage of this method is that sometimes the government is forced to resell the goods at a

lower price than at which it purchased them from the producers, which creates a loss. In any case this method has a positive impact on production growth and creating an intensive model.

For example, the Azerbaijan State Grain Foundation is responsible for storing government reserves according to grain products. However, at the end of the year producers face crucial problems since the foundation does not inform them about the volume and minimum price of grain. Sometimes either the price is not suitable or the supply volume is not relevant to the production volume. These cases are in contrast with the interests of producers and cause reduced motivation to produce.

Infrastructure has been always considered one of the main criteria in the development of agriculture. Building roads, ensuring water supply to the planting areas, constructing storage containers (fridges) and other frameworks cannot be fulfilled without the support of the government. In recent years, projects in Azerbaijan have varied; roads, storage containers and water supply systems have been constructed in certain regions of the country. Nevertheless, commercial activities require payments in order to store outputs, which can cause difficult situations for producers. Currently, the main financier of the construction of storage containers is the National Support Foundation to Entrepreneurship. In order to fulfil this purpose the Foundation gives discounted loans. Usually paying back the loan can cause high rental prices for containers. On the other hand, a lack of these institutions creates a non-competitive environment and prices exceed the actual costs. It would be better if these types of storage containers were constructed by the government and serviced for free in order to be available for small and households entities. If the storage capacity was provided it would promote the production and sustainable food security. At the same time, producers would not make unprofitable sales transaction as a result of an abundance of outputs; this would increase the profitability of the sector.

One of the inherent characteristics of the development experience is the organisation of operative consulting. For instance, learning from the experience of the Ministry of Development and the Ministry of Agriculture in Turkey would be helpful. These institutions do crucial research about the sector and provide new consulting services based on scientific reasons. At the end they organise the efficient use of limited resources of Turkey with the main target of maximizing profitability. In Azerbaijan, AZPROMO is engaged to provide information and promotional activities in a similar way; however, there is still a lack of transitional activities in the agrarian sector. For example, in 2013 in Goychay region the area size of grain crops was 4 times bigger than the field area of pomegranate plantations and grain productivity is 5 quintals less than the average level of the country, while pomegranate productivity is 67 quintals or 75% more than the average. Additionally, the wholesale price of pomegranates is 5.5 times more than the grain.

So it is interesting that most of the land in Goychay has been allocated to the grain production rather than pomegranates. In fact the government should research about the reasons of this event and should have policies in place to ensure a more effective use of these agricultural areas. First, the advantage of pomegranates in comparison to grain should be explained and then other technical problems should be solved. For example, if the lands are used for grain planting only due to aridity, then the water supply should be improved. Also it should be considered if farmers or entrepreneurs lack the necessary financial resources for planting pomegranates until the end of the harvest cycle (3-4 years). Since pomegranates are a perennial plant, then a mechanism for ensuring long-term, low interest rate loans should be created. It is clear that if we want to achieve an intensive development in agriculture we should create economic methods focused on the natural environment and individuals.

Another method of promoting local production can be solved with the intervention of the government and determining quotas. In fact at the moment, institutions (WTO) are supporting global integration and theories (the theory of comparative advantages) promoting the liberalisation of imports; on the other hand Azerbaijan can use from these methods since it has no relevant responsibility. The main two methods for supporting agrarian growth and local customs policies are using:

- i) The application of restrictions on the import of goods.
- ii) The protection of competitiveness of local production by applying high taxes and duties, in this situation the main goal is insuring local producers against potential risks.

Currently in Azerbaijan there is demand to ensure the transition from extensive to intensive methods and support for diversification in the government's agrarian policy.

### **Commonwealth of Independent States (CIS)**

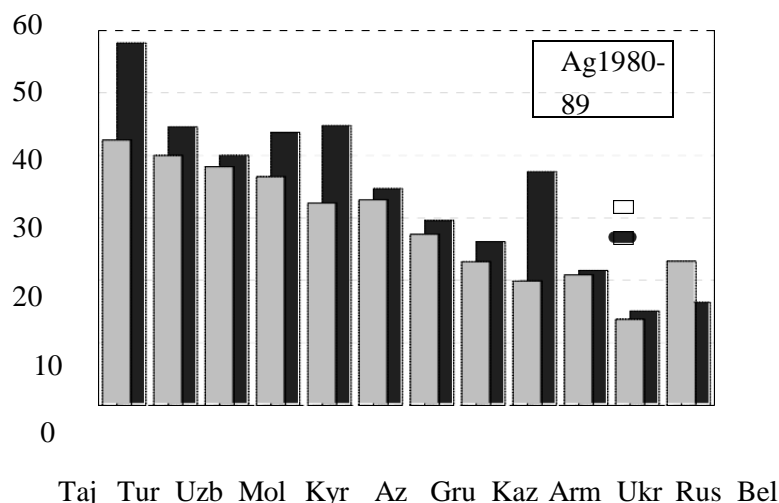
The agricultural sector of CIS countries has changed dramatically since the collapse of the Soviet Union. Considering this factor we can observe a recovery of the agricultural sector in most CIS states in the decades. While the agricultural sector was based on the principle of facilitating the private sector in Western countries, CIS countries relied heavily on public sector, thus their system was called GOST (gosudarstvennyy standart, or "state standard"). The major requirement of GOST was to support an extensive institutional structure. The GOST-based system standards created a difficult situation for the CIS countries. They made strenuous efforts trying to be integrated in the world economy and hence the CIS states benefited less from global markets and trade. Since the late 1990s CIS countries have endeavoured to become fully-fledged members of international trade. Since 1998 three of them have joined the World Trade Organization (WTO)-Armenia, Kyrgyzstan and Moldova. Except Turkmenistan, the remaining countries have all applied for membership and they are in process of accession.

Newly joined member countries need to comply with the WTO rules, therefore, members have made some modifications to their framework laws to make them generally compliant with the generic WTO principles. For instance the Russian Federation, Ukraine, and Kazakhstan have also passed new laws on technical regulations to meet the WTO requirements.

When it comes to the significance of agriculture, obviously it plays a pivotal role across CIS states. The added value from agriculture accounts for nearly 5-10% of the gross domestic product (GDP) for all CIS countries except Kazakhstan and the Russian Federation. Estonia, from Baltic States, has received the reputation of producing high quality goods. Almost 25% of the drainage area around the Baltic Sea is used for farming.

The employment rate in agriculture is significantly high in almost every country. The percentages are as it follows: 40-50% of the total population in Armenia, Turkmenistan, Tajikistan, Uzbekistan, Moldova, and Kyrgyzstan are employed in the agricultural sector. The *Figure 1* provides statistical data on agriculture in terms of the share of the population employed in this sector over the 25-year period beginning in 1980. <sup>(1)</sup>

**Figure 1. Share of population employed in agriculture across CIS**  
% of all employed



**Source: CIS Statistics Committee, 2014**

It is clear that as a member state of the Soviet Union, Central Asian countries (Tajikistan, Turkmenistan and Uzbekistan) and Azerbaijan from the South Caucasus had been an agricultural hub until independence was gained. However, since the collapse of the Soviet Union the situation has changed somewhat. Tajikistan, Kyrgyzstan, and Moldova became popular because they created up to 40-60 per cent of total employment rate. The reason behind the decline in the portion of the population employed in agriculture is related to several factors. High levels of emigration, rapid economic growth, and increased job opportunities offered by other sectors lead to a decrease of the employment rate.

CIS states vary from each other in terms of agricultural products. The agricultural diversity stems from agro climatic conditions and culture as well as historical background and traditions. The main agricultural crops in Russia, Ukraine and Belarus are grains, potatoes, meat and dairy products, which make up a large proportion of production. Moldova and Transcaucasia (Armenia, Azerbaijan, and Georgia) have favourable conditions for growing vegetables, fruits, and grains. Unfortunately, nowadays South Caucasian republics cannot improve the quality of grain production due to a lack of new technological tools. The highly valued product of the region is wine thanks to climate and viticulture. Regarding to Central Asian countries, the major agro-food products include cotton, wheat, sugar, fruits, and vegetables. The CIS region maintains its dominance as the destination for the food exports of all CIS countries, but the level of concentration varies. The largest exporters and importers are the Russian Federation, Kazakhstan, Ukraine and Belarus.

All other countries are net importers of agro-food products with a few rare exceptions. Belarus stands out as the main exporting country; approximately 90 per cent of its food exports go to other CIS countries, while Azerbaijan and Kazakhstan also export over 80 per cent of their food exports to CIS markets. Moldova is less concentrated in CIS markets, exporting a higher share of their food products to the European Union, largely beverages, vegetables, and fruits. According to Interstate Statistical Committee of the CIS, the volume of agricultural output in the countries, except Moldova and Armenia, increased by 2-3 per cent in 2013 compared with the previous years.

According to the FAO, horticulture in CIS states has managed to cultivate 5.7 million tons of coarse grain and 28 million tons of wheat per year. <sup>(2)</sup> In Azerbaijan the price of wheat flour has continued to increase marginally in December, mainly reflecting increased transportation costs following a rise in fuel prices at the beginning of the month, which also led to higher potato prices. However, prices of wheat and wheat products remained at the same level as in December 2012 as a result of adequate supplies from the 2013 wheat harvest and high imports during the season. Taking the current situation and agribusiness potential of the countries into account, it is concluded that foreign direct investment could provide an incentive for a rapid development, while technological advances could also accelerate the process of modernisation.

## **Kazakhstan**

Rich with land resources; Kazakhstan is considered one of the leading countries in agriculture throughout the CIS region. According to the Agency of the Republic of Kazakhstan on Statistics, in 2013 over 70% of the total territory is suitable for agro production, 5.5% of GDP comes from this sector and 26% of the population is employed in agriculture. Kazakhstan embarked on privatization and restructuring programs in 1993. Kazakhstan's agriculture is heavily based on wheat and flour production, which it produces at a high quality.

In 2011 the country netted a record crop of nearly 27 million tonnes. Its annual production average is nearly 13 million tons, but its output is highly dependent on weather condition. Between 2 and 8 million tons of agriculture production are exported each year, mainly to European markets (including Russia and Ukraine), northern Africa, and Central Asia. Kazakhstan also exports large quantities of cotton, leather, wool, barley, corn, rice, potatoes, soybeans, sugar beet, cotton, tobacco, sunflower, flax and mustard, with cotton being the most significant crop grown in southern Kazakhstan. The livestock sector remains behind in comparison with other agricultural sectors. During 2011-2013, the output of meat rose by 3%, egg production went up 12.6% and milk output increased by 1.4%.

Trade policy instruments are defined by the framework of the Customs Union of Belarus, Kazakhstan, and Russia. Kazakhstan applied for WTO membership in 1996, but has yet to be accepted, though restrictions on trading rights have been lifted by Kazakhstan. Everyone, either a natural or a legal person, is free to conduct foreign trade business. All items are free to be imported into Kazakhstan with the exception of narcotics and drug paraphernalia, weapons, ammunition, explosives and explosive devices, historic works, artistic and archaeological items, and goods or substances of environmental or health hazard, which are still restricted from import.

In relation to import commodities and market policy, according to Food and Agricultural Organization, the main import commodities of Kazakhstan are the following: food preparation ingredients, confectionary sugar, vegetables, tea etc. Imported goods from non-Customs Union countries are charged with import duties, while from the countries that are the subject of mutual trade agreements or treatments are fully or partially exempt from duties.

Import duties from the CIS can be up to 80 per cent of the customs value, while on other goods the import duties range from 0 to 20 per cent. Hazelnuts, apples, and confectionary sugar are the main elements of agro-trade exports from Azerbaijan to Kazakhstan. The export figure for hazelnuts from Azerbaijan is growing day by day. Despite the advantages between member states of the CU, Azerbaijan has huge potential to maintain and strengthen its economic relationship with Kazakhstan.

## Ukraine

The dissolution of the Soviet Union caused several fundamental changes. The collapse of the planned economic system led to privatization under the slogan of “Land for those who work it”. In the recent years, Ukraine has gained a reputation for the creation of agro-holdings. The largest of them, UkrLandFarming, operates across the country making it the world’s eighth biggest agricultural holding. Currently the Ukraine agriculture sector has grabbed the attention of the biggest oligarchs thanks to its sufficiently lucrative income. It has been recognized that agriculture could offer greater profit-making opportunities than Ukraine’s heavy industry and metallurgy - the two pillars of their business operations, which are currently suffering from the effects of the recession. It is not a wonder that agriculture has been an integral part of Ukraine for many years. Agriculture accounts for almost 8-10% of GDP and according to FAOSTAT, 16% of the population is employed in this sector. The largest area of farmland in Europe belongs to Ukraine, with a total of 41.5 million hectares of agricultural land encompassing four-fifths of the total land area of the country. Owing to a favorable climate, soil called "chernozem" (black earth) and traditional cultivation, Ukraine benefits from high production. Ukraine is the leading producer and exporter of barley, wheat, sunflower seeds, sunflower oil, and food preparation nes.

**Table 3: Ukraine’s main agricultural export products, average value in 2013**

	Export value Million US\$	Share in agro exports %
Wheat	1,482	36.1
Food prep nes.	1,229	7.7
Soy beans	910	6.0
Palm oil	370	5.1
Maize	1,096	4.5
Wine	1,038	3.1
Beverages	421	2.0
Coffee	678	1.8
Total agricultural exports	9 billion	100.0

Source: State Statistics Committee of Ukraine, 2014

Twenty per cent of Ukraine agricultural exports go to Russia, while the countries of the European Union purchase up to 17% of the total volume.<sup>1</sup> China, Turkey and the United States of America receive 7%, 6% and 4% of Ukraine’s food exports respectively. Agriculture has been a majorly profitable sector preceded by the steel industry in terms of revenue. The export of agricultural products increased by 300 per cent since the beginning of the second millennium, while in the previous market year (July 2012 - June 2013) Ukraine exported about 23 million tons of grain.

Agricultural support is determined on the basis of the Law on State Support to Agriculture, adopted in 2005. It provides a set of long-term goals for sector development (including food security and competitiveness of the agricultural sector) and the State Targeted Program for Development of the Ukrainian Countryside that is valid until 2015. The program establishes priority areas for state support and the financing requirements, but does not contain firm budget commitments.

<sup>1</sup> <http://www.stat.gov.az/source/trade/>

**Table 4: Ukraine's main agricultural import products, average value in 2013**

	Import value Million US\$	Share in agro Imports %
Tobacco	331	6.4
Food Prep Nes	313	5.8
Coffee Extracts	269	5.7
Palm oil	236	5.2
Beverage. Dist.Alc	216	4.0
Chocolate Prsnes	169	3.0
Maize	166	2.8
Bananas	152	2.5
Total agricultural imports	4 billion	100.0

Source: State Statistics Committee of Ukraine, 2014

To reap the full benefits of the WTO accession, Ukraine will also need to place an importance on food safety and quality and implement certification systems to document compliance with internationally accepted standards since 2008. The top imported products of Ukraine are meat, fruits, sugar and honey, and tobacco. In relation to Azerbaijan-Ukraine trade turnover, Azerbaijan mainly exports persimmon and different kinds of fruits, hazelnuts, and tropical fruit juices. As far as persimmon is concerned, the annual export figure is over 5 million USD dollars, thus there is huge potential for growth. <sup>(3)</sup> Furthermore, due to Ukrainian sophisticated confectionary market, the demand for hazelnuts has increased annually. Though the Ukraine mainly imports its hazelnuts from Turkey, Azerbaijan also has a chance to boost exports.

The government of Ukraine hopes that growth in agricultural production and booming exports will become a driving force for sustained economic growth, while helping the country overcome the recession, which has been ongoing since 2012. However, the success of this plan is questionable due to several factors: the situation in Ukraine's export markets, a better investment climate inside the country, as well as future government policy. It is planned to be "the breadbasket" of the world once its export capacity reaches 40 billion USD dollars.

## Belarus

The importance of agriculture is irrefutable in the Belarusian trade and daily life. Almost half of the land area (precisely 43%) is used for farming with highly sophisticated cultivation and production. Agriculture represents almost the 8% of GDP and the National Statistics Committee reported that in July 2014 the GDP grew up 1.6% thanks to agriculture.

A cool climate and dense-fertile soil, especially in the river valleys, are very suitable to fodder crops, which support herds of cattle and pigs, and wheat, barley, oats, potatoes, flax, and sugar beets. The main crops of Belarus include: potatoes (world's eighth biggest producer) and cereals –which represents the 55% of the output, while vegetables, fruits, meat, dairy products, and livestock (cows, pigs and fowl) make the 45%.

Russia takes the top spot in trade turnover and is the leader in terms of imports from Belarus. Formerly, as a member state of the Soviet Union, the agriculture of Belarus was based on state-run

collectives; in contrast, today many of the farms have been privatized thanks to global market principles. Free trade contributes to foreign investment and therefore, nowadays, the food and drink sector benefits the most from various investment opportunities. The Belarusian domestic market is on a par with its European counterparts (Greece, Hungary, Czech Republic) in terms of drink productions with large-scale exports to CIS countries of 300 million people. While the beer industry grew from 5 to 8% in 2013, the soft drink industry remains equally commercial. The 85% of the market is monopolised by local private operators. The Belarusian trade in agricultural food products is highly dependent on CIS countries – and on Russia in particular.

The CIS as a whole is the destination for 44% of Belarusian exports and the source of 66% of Belarusian imports. As a main economic partner of Belarus, Azerbaijan has been increasing its exports of hazelnuts, tropical fruit juice, and fruits. According to the State Statistic Committee of Azerbaijan, in 2013 a total of 45 tons of hazelnuts and 540 tons of tropical fruit juices were exported to Belarus with a value of 300 thousand and 832 thousand US dollars respectively.

The Chernobyl disaster of 1986 endures as a main hindrance, where long-term radiation affects 18% of Belarus most productive farmland and 20% of its forests. Belarus simple-average MFN applied tariff rate (including add-valorem equivalents) was 13.8% in agriculture in 2008 compared to 10.7% for non-agricultural goods. These figures show that Belarus's agriculture sector benefits from external trade protection more so than do the non-agricultural sectors. Belarus introduced the unified agricultural tax – for agricultural producers who opt for this tax scheme in 2000.

## **RUSSIA**

The foreign trade policy of Azerbaijan is a part of the economic security of the country and it should be based on the formation and development of competitive advantages. The latest political events show that the general situation was formed as the result of processes occurring in our world and can be beneficial to Azerbaijan. Thus, the political disturbance between Russia and European Union has taken a severe form and led to the corruption of economic relations; Russia and Europe have implemented mutual barriers, embargoes, and economic sanctions which have resulted in restrictions to foreign trade.

As a result to these problems, CIS countries, including Azerbaijan, obtained a great opportunity to take a greater part in the overall trade turnover of Russia. In this respect, diversification of foreign trade in Azerbaijan is one of the most important issues, especially exports of agricultural products to Russia, which is a sufficiently a crucial issue. High-level exports of agricultural products from Azerbaijan will provide a positive trade turnover and will stimulate the production of agricultural products. First, let's take a look at the trade turnover figures between Azerbaijan and Russia as well as CIS countries.

**Table 1. Turnover volume between Russia and CIS countries (thousand, USA dollars)**

Countries	2009	2010	2011	2012	2013
<b>CIS countries - Total</b>	<b>2 964 573,1</b>	<b>4 034 980,5</b>	<b>5 477 900,0</b>	<b>3 630 005,0</b>	<b>4 062 880,9</b>
<b>Including:</b>					
Belarus	141 928,0	119 760,4	731 310,8	79 719,4	102 031,4
Kazakhstan	205 771,8	338 144,3	275 589,3	393 427,4	370 997,6
Kyrgyzstan	5 310,1	41 547,7	22 074,7	28 917,6	14 528,0
The Republic of Moldova	6 656,1	6 102,1	8 119,5	9 037,6	4 205,7
Uzbekistan	18 135,1	32 634,1	72 436,8	19 550,8	21 447,9
<b>Russian Federation</b>	<b>1 818 498,5</b>	<b>1 918 560,5</b>	<b>2 828 452,0</b>	<b>2 338 254,6</b>	<b>2 583 022,8</b>
Tajikistan	8 837,1	9 437,2	15 985,6	44 149, 7	13 805, 9
Turkmenistan	63 649,8	214 596,4	56 835,2	91 629, 8	88 152, 9
Ukraine	695 786,6	1 354 197,8	1 467 096,1	625 318, 1	864 689, 2

Source: State Statistical Committee of Azerbaijan Republic, 2014

As the table above describes, there has been an increase in the trade turnover between Azerbaijan and CIS countries; trade turnover has risen from 2.9 billion to 4 billion US dollars. However, Azerbaijan has formed a bigger trade relationship with Russia compared to other countries. From this point of view, the Russian market could be more important for Azerbaijan. It should also be highlighted that there are several issues in the formation of a trade turnover between Azerbaijan and CIS countries and there are several reasons why Azerbaijan has weaker trade relationships with CIS countries compared to other countries.

- Firstly, the biggest part of Azerbaijan's exports consists of oil and gas resources, so trade partners are oil importing countries (for example: Europe, USA, other markets which are industrially developed);
- Most of CIS countries economies have not been diversified or other industries production. The capabilities are weaker and at the same time are built on oil the industry (for instance, Russia, Kazakhstan and so on), therefore there is a lack of import sectors for Azerbaijan.
- Many of the economic regimes of neighboring countries are based on protectionist or non-free-market principles. Instability of the domestic industry, which does not meet the demands of modern markets.

We can look at the comparative analysis of trade relationships between Azerbaijan, Russia and CIS countries in the following table.

**Table 2: Import and Export figures of Azerbaijan to and from Russia and CIS countries:**

**Foreign Trade Export to Russia and CIS countries**

Countries	2009	2010	2011	2012	2013
<b>CIS countries</b> (thousand, Dollars USA)	1137441.2	1983871.2	2924444.4	1251985.6	1509637.9
<b>Belarus</b> (thousand, Dollars USA)	5170.5	7210.5	666770.7	11691.1	14696.6
<b>Kazakhstan</b> (thousand, Dollars USA)	142148.8	44591.4	58281.5	52870.3	64234.3
<b>Kyrgyzstan</b> (thousand, Dollars USA)	4558.5	40541.2	21151.3	26676.9	12760.9
<b>Moldova</b> (thousand, Dollars USA)	3745.5	177.8	2542.7	251.7	190.2
<b>Uzbekistan</b> (thousand, Dollars USA)	5769.3	20301.4	21881.7	11523.4	10678.5
<b>Russia</b> (thousand, Dollars USA)	746426.3	773551.8	1187357.2	959838.1	1077844.4
<b>Tajikistan</b> (thousand, Dollars USA)	8094.2	8181.1	13212.1	43990.1	13763.0
<b>Turkmenistan</b> (thousand, Dollars USA)	37477.5	200678.0	43921.6	58915.6	39852.1
<b>Ukraine</b> (thousand, Dollars USA)	184042.6	888638.0	909325.7	86228.4	275617.9

**Foreign Trade Import from CIS countries**

Countries	2009	2010	2011	2012	2013
<b>CIS countries</b> (thousand, Dollars USA)	1827131.9	2051109.3	2553455.6	2378019.4	2553243.0
<b>Belarus</b> (thousand, Dollars USA)	136757.5	112549.9	64540.1	68028.3	87334.8
<b>Kazakhstan</b> (thousand, Dollars USA)	63617.7	293552.9	217307.9	340557.1	306763.3
<b>Kyrgyzstan</b> (thousand, Dollars USA)	751.6	1006.5	923.4	2240.7	1767.1
<b>Moldova</b> (thousand, Dollars USA)	2910.6	5924.3	5576.6	8785.9	4015.5
<b>Uzbekistan</b> (thousand, Dollars USA)	12365.8	12332.7	50555.1	8027.4	10769.4
<b>Russia</b> (thousand, Dollars USA)	1072072.2	1145008.7	1641094.8	1378416.5	1505178.4
<b>Tajikistan</b> (thousand, Dollars USA)	742.9	1256.1	2773.5	159.6	42.9
<b>Turkmenistan</b> (thousand, Dollars USA)	26172.3	13918.4	12913.6	32714.2	48300.3
<b>Ukraine</b> (thousand, Dollars USA)	511741.3	465559.8	557770.3	539089.7	589071.3

**Source: State Statistical Committee of Azerbaijan Republic, 2014**

If we look at the import and export trade turnover between Azerbaijan and Russia, we can observe a constant non-regular result. It should be noted that, generally, there has been instability in the trade turnover.

The greatest growth was recorded between 2010 and 2011. The turnover dramatically increased from 1.9 billion to 2.8 billion (Table 1). In 2011 exports from Azerbaijan to Russia were 1.1187 billion dollars and imports from Russia were 1.6411 billion dollars (Table 2). In 2012 the capacity of the trade turnover of Russia with the Republic of Azerbaijan was 2.3383 billion US dollars, including imports of 378.4 million American dollars, while the capacity of the exports was 959.8 million American dollars (Table 1). In 2012 the share of the Russian Federation in the external trade turnover of the Republic of Azerbaijan was 6.97%, including imports of 14.28% and the exports of 4.01%.

In 2013 the capacity of trade turnover of the Republic of Azerbaijan with the Russian Federation was 2.583 billion US dollars, including an import capacity of 1.505 billion US dollars and an export capacity of 1.079 billion American dollars. In 2013 the share of the Russian Federation in external trade turnover of the Republic of Azerbaijan was 7.45 %, including 14.05% in imports and 4.50% in exports. In comparison with 2012, in 2013 the trade turnover with the Russian Federation increased 10.33%, 12.29 % in exports and 8.97 % in imports.

Between January and September 2014 the capacity of trade turnover of the Republic of Azerbaijan with the Russian Federation was 1.368 billion American dollars, including 897.79 million American dollars in imports and 470.26 million American dollars in exports. Between January and September 2014 the share of the trade turnover of the Russian Federation was 5.73% including 2.71 % in export. At the end of 2014 in comparison with the past years, the formation of a high trade overturn was once again predicted.

It is obvious that Azerbaijan has formed a more serious trade turnover with Russia. It must be mentioned that 90% of Russian exports consist of deep manufactured products. These exports are predominantly machines, equipment, transportation, food, tree and pulp paper goods, chemical industry products, electrical energy, iron and non-ferrous metals and widespread metals.

The emerging trade turnover of Russia with other countries is predominantly meat and meat-related products, poultry products, grain, sugar, and fresh fruits as imported products. The basis of the export structure of Azerbaijan to Russia consists of mineral products, foodstuffs and farming products. The products included in foodstuffs and raw agriculture materials are grease and butter and their factions, white sugar and clean sucrose, hazelnuts, fermented black tea, fresh fruit and vegetables, wine and cognac products.

If we look at the structure of Azerbaijani exports by goods, we can notice that herb sourced and ready food products together make a large portion of the agricultural goods group. The schedule below shows the goods structure of agricultural products.

**Table 3: The structure of exports by goods (thousand US dollars)**

Goods group	2009	2010	2011	2012	2013
<b>Overall</b>	<b>398 039,1</b>	<b>404540,1</b>	<b>542666,3</b>	<b>609758,8</b>	<b>648522</b>
<b>Herb sourced products</b>	<b>227 607,9</b>	<b>190 337,2</b>	<b>268 816,9</b>	<b>308 055,5</b>	<b>301 706,8</b>
Fresh trees and other plants, cut flowers	123,9	-	36,2	14,2	25,8
Vegetables, roots and tubers	51 464,4	42 344,5	78 307,3	55 968,6	77 263,8
Edible fruits and nut-hazelnut, citrus plants	142 298,0	112 484,3	152 965,2	207 986,1	173 508,1
Coffee, tea, liquid and spices	27 314,5	33 360,8	32 444,2	37 493,0	44 381,7
Crops	117,7	174,7	34,5	24,5	10,6
Milling and cereal industry products, yeast, starch	3 494,8	28,5	28,4	33,5	1 119,3
Fat seed and fruits, other seed, herbals	2 708,3	1 846,8	4 835,6	6 413,0	5 274,6
Herbal mixture and extract	-	-	-	-	29,3
Herbal other products	86,3	85,9	165,5	122,6	93,6
<b>Food preparation products, alcoholic and soft drinks, vinegar, tobacco</b>	<b>170 431,2</b>	<b>214 202,9</b>	<b>273 849,4</b>	<b>301 703,3</b>	<b>346 815,2</b>
Prepared products from meat and fish	13 272,8	7 515,4	7 231,5	12 394,2	10 380,1
Sugar and pastries prepared from sugar	102 714,6	146 451,9	199 185,0	214 911,2	243 840,2
Cocoa and products made from cocoa	1 819,0	3 156,9	7 923,9	11 942,0	16 268,1
Prepared products from grain, flour or milk, pastry products made from flour	3 057,4	3 951,3	3 908,6	4 480,2	3 462,3
Vegetable, fruit, nut-hazelnut and other conversion products of the other parts of plants	21 406,9	21 518,2	21 366,4	18 694,4	21 964,9
Other various food products	1 159,0	992,6	1 402,9	1 776,1	1 801,9
Alcoholic and soft drinks, vinegar	11 326,6	15 142,2	15 727,0	21 040,6	30 946,5
The remnants and garbage of food industry	10 433,2	8 644,4	7 796,9	7 800,3	7 393,8
Tobacco and industrial substitution of tobacco	5 241,7	6 830,0	9 307,0	8 664,3	10 757,4

Source: State Statistical Committee of Azerbaijan Republic, 2014

We can observe in the table that there has been an increase in the volume of herbal and prepared products exported by Azerbaijan. These exports improved 1.5 times between 2009 and 2013. We can analyse the agricultural products that have comparative advantages in the goods structure of exports by following the table below:

**Table 4: The part of the agricultural products and prepared foods in the goods structure of the export (thousand American dollars)**

Name of the goods					
	2009	2010	2011	2012	2013
Potato	23322,9	16237,5	29746,2	20167,6	21510,0
Fresh vegetable	27749,9	25657,1	48420,9	35620,2	55595,2
Fresh fruit	142032,5	112272,6	152561,2	207735,3	173311,6
Tea	26947,3	32987,4	32284,2	37431,1	44343,0
Sugar beet	933,4	792,6	2416,8	3151,6	5215,2
Vegetable oil	118,9	687,3	1809,7	2781,6	---
Sugar	102051,9	145947,9	198390,0	214163,8	263642,5
Fruit and vegetable preserve	4208,5	5140,4	7664,8	9880,8	12033,3
Fruit and vegetable juices	17198,4	16377,8	13701,6	8814,4	9931,7
Vegetable oils	49214,7	67293,5	63461,7	106153,6	110009,4
Hydrogenated grease and oil	54421,9	87563,2	77266,3	74665,8	72811,9
Wine	2445,0	4034,0	5963,3	7135,4	6895,1

Source: State Statistical Committee of Azerbaijan Republic, 2014

According to the table, among the agricultural goods that have comparative advantages, the export of vegetables, fresh fruits and sugar is more beneficial. Between 2009 and 2013 there was an increase in exports and in 2013 exports of fresh vegetables were worth 55 million dollars, fresh fruits were worth 173 million dollars, and sugar was worth 263 million dollar. Among the fruit goods, the share of dates exported was the most notable. In 2013 the overall value of exported dates from Azerbaijan was worth 77 million dollars; out of it, 71 million dollars were exported to Russia. This fact shows that Azerbaijan has more opportunities to export dates to the Russian market. The table below summarizes these findings and shows other comparatively advantageous goods that Azerbaijan exports to Russia.

**Table 5: The overall indicator of goods exported in the years 2011-2013 to Russia and its comparative advantages 2011-2013 (thousands USD):**

Name of the goods	The goods that exported from Azerbaijan to Russia		
	2011	2012	2013
Hulled hazelnut	31,311	34,943	12,948
Tomato, fresh or cooled	31,769	19,162	40,623
persimmon, fresh	0	80,086	71,293
Apple, fresh	18,222	25,663	17,464
White sugar and chemically clean other sucrose	62,243	25	79
Potato	29,579	20,072	21,482

Source: State Statistical Committee of Azerbaijan Republic, 2014

According to the table, we can see that the link leak of Azerbaijan to Russia trade for the forenamed products seems more realistic. Besides persimmon, to increase the overall level of the hazelnut, tomato and sugar product exports seems realistic. This result demands another question: Is there any demand for the products that Azerbaijan has the ability to export to Russia? To determine this we will look at the content of the agricultural products that are imported to the Russian trade circulation.

It is clear that Russia has a broad impact on global trade turnover, but as a result of recent events, we can predict a decrease in the Russian trade circulation. Especially the trade with European Union countries, which import Russian agricultural products, has been significant in previous years. As a result of the current situation there will be a demand of Russia to the agricultural products for long term.

First of all, using the following table, we can analyse the Russian trade circulation:

**Table 6: The external trade circulation of Russia (Billion USD):**

**EXTERNAL TRADE OF THE RUSSIAN FEDERATION**  
(according to Balance of Payments methodology)

	2000	2005	2008	2009	2010	2011	2012	2013
	<b>Billion USD</b>							
<b>External trade turnover</b>	<b>149.9</b>	<b>363.9</b>	<b>755.0</b>	<b>481.1</b>	<b>638.4</b>	<b>834.0</b>	<b>863.7</b>	<b>867.6</b>
Exports	105.0	240.0	466.3	297.2	392.7	515.4	528.0	523.3
Imports	44.9	123.8	288.7	183.9	245.7	318.6	335.7	344.3
Trade balance	60.1	116.2	177.6	113.2	147.0	196.9	192.3	179.0
Including:								
<b>With other countries</b>								
Exports	90.8	207.3	397.7	252.0	333.6	436.7	444.4	444.9
Imports	31.4	104.3	253.8	162.7	213.2	273.8	288.5	294.7
Trade balance	59.3	103.0	143.8	89.3	120.4	162.9	155.9	150.3
<b>With CIS countries</b>								
Exports	14.3	32.7	68.6	45.1	59.0	78.7	83.6	78.4
Imports	13.4	19.5	34.8	21.3	32.4	44.7	47.2	49.6
Trade balance	0.8	13.2	33.8	23.9	26.6	34.0	36.4	28.8

Source: website gks.ru (Federal State Statistics Service)

According to the table and taking into consideration the full time period, the Russian trade turnover had a surplus; while, over the same period, there was a considerable increase in export and import figures. In 2013, the trade turnover was 867 billion US dollars. The total value of the exported goods was 523 billion dollars, while the total value of import operations was 344 billion dollars. This result leads to a positive balance of 179 billion. If we consider the trade turnover with CIS countries, we can see that the value of exported goods to CIS countries from Russia was always higher than the amount imported from CIS countries. The surplus was sustained throughout the given period:

**Table 7: Trade turnover of Russia with CIS countries on import of essential goods (billion USA dollars):**

**MAIN IMPORT GOODS TO THE RUSSIAN FEDERATION FROM THE CIS COUNTRIES**

	2000	2005	2008	2009	2010	2011	2012	2013
<b>Imports – total, million US dollars</b>	<b>11604</b>	<b>18996</b>	<b>36607</b>	<b>21818</b>	<b>31728</b>	<b>44841</b>	<b>44899</b>	<b>41309</b>
Fresh and frozen meat (excluding poultry), thousand tons	178	137	110	147	180	179	74.8	114
Fresh and frozen poultry meat thousand tons	16.7	10.5	5.8	20.9	38.3	79.4	87.5	119
Frozen and fresh fish, thousand tons	22.8	23.8	18.4	19.0	7.5	7.7	6.3	11.8
Butter and other milk fats, thousand tons	49.0	71.4	56.0	64.0	55.9	60.0	41.1	44.4
Citrus fruit, fresh or dried, thousand tons	34.3	50.7	21.0	12.8	10.5	1.3	3.4	9.4
Coffee, thousand tons	0.3	0.4	0.5	0.5	0.5	0.6	0.8	1.5
Grains, thousand tons	2807	826	583	154	111	150	398	942
Sunflower, safflower or cottonseed oil and fractions thereof, thousand tons	94.6	116	109	42.3	114	92.9	16.5	16.9
Prepared or preserved products of meat, thousand tons	15.5	20.1	14.3	10.2	12.8	18.4	10.7	12.5
Raw sugar, thousand tons	0.0	0.0	0.0	0.0	0.02	0.1	0.9	0.3
Refined sugar, thousand tons	197	551	100	200	219	194	4.2	26.0

Source: website gks.ru (Federal State Statistics Service)

According to the table, there was an increase in the types of goods imported by Russia from CIS countries. Between 2000 and 2013 the overall amount of imported goods has increased four times. In 2011 the amount of imports reached more than 4 billion US dollars. Among the imported goods, grain, meat and meat products, bird meat products, sugar, oil and oil products, and milk represented the biggest share of the list. The table below indicates the list of the most imported agricultural products to Russia and their value:

**Table 8: The most imported agricultural products to Russia and their total value, (thousand USA dollars)**

Product label	Imported value in 2011	Share on Import, %	Imported value in 2012	Share on Import, %	Imported value in 2013	Share on Import, %
All products	306,091,490		316,192,918		314,945,095	
Dairy products, eggs, honey, edible animal products	2,172,715	0.70%	3,278,360	1.03%	4,407,646	1.39%
Edible vegetables and certain roots and tubers	3,039,948	0.99%	2,485,448	0.78%	2,881,787	0.91%
Edible fruit, nuts, peel of citrus fruit, melons	6,204,617	2.02%	6,279,814	1.98%	6,401,898	2.03%
Oil seed, oleagic fruits, grain, seed, fruit, etc, nes	1,142,462	0.37%	1,122,166	0.35%	1,356,564	0.43%
Animal, vegetable fats and oils, cleavage products, etc	1,571,893	0.51%	1,302,712	0.41%	1,236,004	0.39%
Sugars and sugar confectionery	2,075,502	0.67%	667,248	0.21%	656,673	0.20%
Vegetable, fruit, nut, etc food preparations	1,516,507	0.49%	1,553,948	0.49%	1,600,492	0.50%

Source: Trademap.org

As seen in the table, over the last 3 years daily products of fruits, hazelnut, and sugar have a greater share in the overall amount of imported products. These products are indicators that there is more demand in the Russian Federation for products which Azerbaijan have a comparative advantage in producing. If Azerbaijan could increase the production of these agricultural products, it would be able to export more products to Russia than in previous years. On the other side, the amount of these products that Russia imports has increased through the period of 2011 to 2013.

To sum it up, we can conclude that exports of agricultural products from Azerbaijan to Russia can be considered achievable in the upcoming years. According to recent events, it is expected that Russian imports will increase, though in the short-term there hasn't been a noticeable rise. It is forecasted that there will be a serious increase in the import of agricultural products. It is predicted that persimmon,

hazelnuts, and tomatoes will take a serious part in the list of agricultural products exported from Azerbaijan.

Azerbaijan foreign trade partners and its volume of trade have increased in the last years. Currently, the number of trade partners of Azerbaijan is 141 countries. In 1997 there were only 84 partner countries and in 1999 there were 121. According to the data of the State Customs Committee, the overall volume of foreign trade was valued \$23.8789 million for the period of January-September 2014, while the volume of exports was \$17.3568 million for this period and the foreign trade balance was \$10.8378 million. In previous years CIS countries were the main trade partners of Azerbaijan, but now this has been taken over by countries of the European Union.

The geographical structure of the foreign trade of Azerbaijan is shown below, for the last five years (million US dollars).

		<b>Europe</b>	<b>Asia</b>
<b>2009</b>	<b>Import</b>	<b>3 459, 35</b>	<b>2 172, 82</b>
<b>2009</b>	Export	7 636, 22	4 510, 84
<b>2010</b>	<b>Import</b>	<b>3 507, 70</b>	<b>2 585, 18</b>
<b>2010</b>	Export	12 626, 37	6 354, 51
<b>2011</b>	<b>Import</b>	<b>5 645, 08</b>	<b>3 182, 14</b>
<b>2011</b>	Export	18 999, 84	5 019, 14
<b>2012</b>	<b>Import</b>	<b>4 797, 77</b>	<b>3 790, 73</b>
<b>2012</b>	Export	12 649,70	9 198, 93
<b>2013</b>	<b>Import</b>	<b>6 103, 55</b>	<b>3 673, 39</b>
<b>2013</b>	Export	12 933, 75	9 573, 36

Source: State Customs Committee of Azerbaijan, 2014

It is obvious from the preceding table that the foreign trade turnover has increased in the last five years. In addition, the overall export volume has increased to European countries relative to Asian countries. Exports peaked in 2011, but have decreased in the 2011-2013 period. It should be noted that as the Azerbaijani economy is oil dependent, the main part of exports is oil and oil products, that's why exports is peaked in 2011 and were 1.5 times higher compared to 2010. At the same time, other industrial and agricultural products have a very small portion of the total exports of Azerbaijan. Before the oil boom and increase in exports, foreign trade had a more balanced weight and it was more diversified. The top five European partners are Italy, Germany, France, Spain and the Czech Republic. Italy is a main export partner of Azerbaijan from the EU, the overall export volume to Italy was \$4 030,74 million for the period of January-September 2014. The majority of the export products are oil and oil products. As in the domestic market, diversification of the economy is a core issue; this goes the same for foreign trade. According to the website *www.azerbaijans.com*, the types of export goods were 2018 in the year 2003, but this number increased to 2082 in 2011. These good include oil and oil products, food, less valuable metals and products made from them, plastic mass, caoutchouc, chemical industry products, pearls, precious stones, textile materials and others.<sup>2</sup> Although the types of export products are diversified, the number or volume of the products is very low and the dominance of oil in the export market is an issue for Azerbaijani foreign trade.

<sup>2</sup> [http://www.azerbaijans.com/content\\_1679\\_az.html](http://www.azerbaijans.com/content_1679_az.html)

As discussed above, the European market has a significant role in the foreign trade of Azerbaijan. The main agriculture products are unshelled hazelnuts, which are exported to all of Azerbaijan top partner countries in the EU including Italy, Germany, France, and Spain etc.

The export of Azeri hazelnuts to the European Union in 2013 (in thousand US dollars):

#### Unshelled hazelnuts

<b>Germany</b>	<b>2012</b>	7317,2
	<b>2013</b>	10718,9
<b>Italy</b>	<b>2012</b>	269,5
	<b>2013</b>	9227,3
<b>France</b>	<b>2012</b>	281,7
	<b>2013</b>	984
<b>Spain</b>	<b>2012</b>	376,4
	<b>2013</b>	--

Other agricultural products exported to the EU include edible fruits, nuts, the peels of citrus fruits, melons (the total volume is \$22,076) vegetables, fruits, nuts, food preparations (total volume is \$6,750), beverages, spirits and vinegar (total volume is \$4,234), cotton – \$395, cocoa and cocoa preparations – \$312, oil seeds, oleaginous fruits, grain, seeds, and fruit etc. - \$148. As we can understand from the table, the overall volume of agricultural products is very small compared to oil products. The main foreign trade from Azerbaijan to EU countries is based on oil trade, while other agricultural and industrial products are so small in volume that they cannot even be mentioned as export products. The overall volume of these products is less than US\$1,000,000 and these products do not have a competitive advantage in Azerbaijani exports.

### The methodology

In order to perform this research, our team used quantitative models in order to get more accurate results about the products. To be more precise, two models were used (the Balassa and Bowen indexes). The data was collected mainly via online resources.

The revealed comparative advantage indexes of Bella Balassa are well known. Note that herein, for the sake of simplicity, only the index involving exports is shown. The index can be represented as follows:

$$BI = \frac{\text{Share of Industry } j \text{ in country } A \text{ exports}}{\text{share of industry } j \text{ in country reference country exports}}$$

The formula show that If  $BI > 1$ , country A is considered to have a revealed comparative advantage in industry j, which consequently suggests that country A should put more focus on exporting products of industry j.

Balassa (1965. p. 105) justified his index by stating that: "It is suggested here that the "revealed" comparative advantage can be indicated by the trade performance of countries with regard to manufactured products in the sense that the commodity pattern of trade reflects relative costs as well as differences in non-price factors".

However, Bowen (1983) maintained that the revealed comparative advantage is a net trade concept. He suggested that if only exports are used for Balassa's index, then it should be noted that it is "comparative export advantage". In fact, if it was assumed that no country exports all of its goods, there would not be any theoretical basis to conclude that Balassa's index indicates a comparative advantage or disadvantage in producing any given product. In general terms, Bowen suggested two indexes for revealing a comparative advantage: the "net trade intensity index" and the "production intensity index".

Theoretically, these two indexes were based on the Heckscher-Ohlin-Vanek (HOV) model, according to this model:

$$T = Q - C$$

This means that the output from production is directed either to exports or to consumption. T, Q and C are respectively: net trade, production and consumption of a certain commodity in a certain country. To obtain his new indices, Bowen divides the aforementioned expression by C, which gives

$$T/C = Q/C - 1$$

We can then define  $T/C=NTI$  and  $Q/C=PI$ , which are "net trade intensity index" and "production intensity index" as named by Bowen. Moreover, the relationship between these two indices can be rewritten as follows:

$$NTI = PI - 1$$

The production intensity index (PI) only takes on positive values and equals 1 when there is neither a comparative advantage nor disadvantage. When  $PI>1$  the respective country has a comparative advantage in producing the particular product; if  $PI<1$  then the respective country has a comparative disadvantage in producing this product.

The net trade intensity index (NTI) takes positive values when there is a comparative advantage and negative values when there is a comparative disadvantage. Alternatively, when  $NTI=0$  the situation is neutral, there is no comparative advantage or disadvantage.

## The results

To begin, some European countries (Spain, Italy, France and Germany) were compared with Azerbaijan with regard to products such as hazelnuts, tropical fruit juice and apple juice in terms of the Balassa index for the years 2011, 2012 and 2013 (Note: you can find the relevant data through the appendix down below).

- a) Italy and Azerbaijan (Hazelnuts, 2011): If we put Azerbaijan in the above-mentioned formula as the numerator: we would get 0.55, which means Azerbaijan did not have a comparative advantage in terms of hazelnuts in 2011.
- b) Doing the same calculation for Italy and Azerbaijan (Hazelnuts, 2012): 0.44-no comparative advantage for Azerbaijan
- c) Italy and Azerbaijan (Hazelnuts, 2013): 0.39- no comparative advantage for Azerbaijan.

We continued with the same calculations for other countries, products, and years:

- a) Germany and Azerbaijan (Hazelnuts, 2011): 1.47-comparative advantage for Azerbaijan.
  - b) Germany and Azerbaijan (Hazelnuts, 2012): 1.25-comparative advantage for Azerbaijan.
  - c) Germany and Azerbaijan (Hazelnuts, 2013): 1.13-comparative advantage for Azerbaijan.
- 
- a) Spain and Azerbaijan (Hazelnuts, 2011): 3.04-comparative advantage for Azerbaijan.
  - b) Spain and Azerbaijan (Hazelnuts, 2012): 2.86-comparative advantage for Azerbaijan.
  - c) Spain and Azerbaijan (Hazelnuts, 2013): 2.99-comparative advantage for Azerbaijan.
- 
- a) France and Azerbaijan (Hazelnuts, 2011): 10.35-comparative advantage for Azerbaijan.
  - b) France and Azerbaijan (Hazelnuts, 2012): 6.41-comparative advantage for Azerbaijan.
  - c) France and Azerbaijan (Hazelnuts, 2013): 6.5-comparative advantage for Azerbaijan.
- 
- a) Italy and Azerbaijan (Tropical fruit juice, 2011): 0.003-no comparative advantage for Azerbaijan.
  - b) Italy and Azerbaijan (Tropical fruit juice, 2012): 0.008-no comparative advantage for Azerbaijan.
  - c) Italy and Azerbaijan (Tropical fruit juice, 2013): 0.011-no comparative advantage for Azerbaijan.
- 
- a) Germany and Azerbaijan (Tropical fruit juice, 2011): 0.08-no comparative advantage for Azerbaijan.
  - b) Germany and Azerbaijan (Tropical fruit juice, 2012): 0.15-no comparative advantage for Azerbaijan.
  - c) Germany and Azerbaijan (Tropical fruit juice, 2013): 0.1-no comparative advantage for Azerbaijan.
- 
- a) Spain and Azerbaijan (Tropical fruit juice, 2011): 0.003-no comparative advantage for Azerbaijan.

- b) Spain and Azerbaijan (Tropical fruit juice, 2012): 0.006-no comparative advantage for Azerbaijan.
- c) Spain and Azerbaijan (Tropical fruit juice, 2013): 0.008-no comparative advantage for Azerbaijan.
  
- a) France and Azerbaijan (Tropical fruit juice, 2011): 0.09-no comparative advantage for Azerbaijan.
- b) France and Azerbaijan (Tropical fruit juice, 2012): 0.17-no comparative advantage for Azerbaijan.
- d) France and Azerbaijan (Tropical fruit juice, 2013): 0.22-no comparative advantage for Azerbaijan.
  
- a) Italy and Azerbaijan (Apple juice, 2011): 0.01-no comparative advantage for Azerbaijan.
- b) Italy and Azerbaijan (Apple juice, 2012): 0.003-no comparative advantage for Azerbaijan.
- c) Italy and Azerbaijan (Apple juice, 2013): 0.003-no comparative advantage for Azerbaijan.
  
- a) Germany and Azerbaijan (Apple juice, 2011): 0.001-no comparative advantage for Azerbaijan.
- b) Germany and Azerbaijan (Apple juice, 2012): 0.0005-no comparative advantage for Azerbaijan.
- c) Germany and Azerbaijan (Apple juice, 2013): 0.0007-no comparative advantage for Azerbaijan.
  
- a) Spain and Azerbaijan (Apple juice, 2011): 0.017-no comparative advantage for Azerbaijan.
- b) Spain and Azerbaijan (Apple juice, 2012): 0.006-no comparative advantage for Azerbaijan.
- c) Spain and Azerbaijan (Apple juice, 2013): 0.013-no comparative advantage for Azerbaijan.
  
- a) France and Azerbaijan (Apple juice, 2011): 0.015-no comparative advantage for Azerbaijan.
- b) France and Azerbaijan (Apple juice, 2012): 0.004-no comparative advantage for Azerbaijan.
- c) France and Azerbaijan (Apple juice, 2013): 0.007-no comparative advantage for Azerbaijan.

Having finished with the European countries, we proceed with some CIS (Commonwealth of Independent States) countries:

- a) Belarus and Azerbaijan (Hazelnuts, 2011): 57,179-comparative advantage for Azerbaijan.
  - b) Belarus and Azerbaijan (Hazelnuts, 2012): 158.4-comparative advantage for Azerbaijan.
  - c) Belarus and Azerbaijan (Hazelnuts, 2013): 40.5-comparative advantage for Azerbaijan.
- 
- a) Kazakhstan and Azerbaijan (Hazelnuts, 2011): Kazakhstan did not export any hazelnuts so clearly Azerbaijan had the advantage.
  - b) Kazakhstan and Azerbaijan (Hazelnuts, 2012): 190.7-comparative advantage for Azerbaijan.
  - c) Kazakhstan and Azerbaijan (Hazelnuts, 2013): 114.9-comparative advantage for Azerbaijan.
- 
- a) Ukraine and Azerbaijan (Hazelnuts, 2011): 529.4-comparative advantage for Azerbaijan.
  - b) Ukraine and Azerbaijan (Hazelnuts, 2012): 357.7-comparative advantage for Azerbaijan.
  - c) Ukraine and Azerbaijan (Hazelnuts, 2013): 222.4-comparative advantage for Azerbaijan.
- 
- a) Belarus and Azerbaijan (White sugar, 2011): 0.59-no comparative advantage for Azerbaijan.
  - b) Belarus and Azerbaijan (White sugar, 2012): 0.69-no comparative advantage for Azerbaijan.
  - c) Belarus and Azerbaijan (White sugar, 2013): 0.7-no comparative advantage for Azerbaijan.
- 
- a) Kazakhstan and Azerbaijan (White sugar, 2011): 6.19-comparative advantage for Azerbaijan.
  - b) Kazakhstan and Azerbaijan (White sugar, 2012): 7.11-comparative advantage for Azerbaijan.
  - c) Kazakhstan and Azerbaijan (White sugar, 2013): 5.75-comparative advantage for Azerbaijan.
- 
- a) Ukraine and Azerbaijan (White sugar, 2011): 0.82-no comparative advantage for Azerbaijan.
  - b) Ukraine and Azerbaijan (White sugar, 2012): 0.63-no comparative advantage for Azerbaijan.
  - c) Ukraine and Azerbaijan (White sugar, 2013): 0.94-no comparative advantage for Azerbaijan.
- 
- a) Belarus and Azerbaijan (Apple, 2011): 0.7-no comparative advantage for Azerbaijan.
  - b) Belarus and Azerbaijan (Apple, 2012): 0.72-no comparative advantage for Azerbaijan.
  - c) Belarus and Azerbaijan (Apple, 2013): 0.37-no comparative advantage for Azerbaijan.
- 
- a) Kazakhstan and Azerbaijan (Apple, 2011): 877-comparative advantage for Azerbaijan.
  - b) Kazakhstan and Azerbaijan (Apple, 2012): 388.7-comparative advantage for Azerbaijan.
  - c) Kazakhstan and Azerbaijan (Apple, 2013): 291.2-comparative advantage for Azerbaijan.
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- a) Ukraine and Azerbaijan (Apple, 2011): 1.76-comparative advantage for Azerbaijan.

- b) Ukraine and Azerbaijan (Apple, 2012): 4.36-comparative advantage for Azerbaijan.
- c) Ukraine and Azerbaijan (Apple, 2013): 5.27-comparative advantage for Azerbaijan.
  
- a) Belarus and Azerbaijan (Persimmon, 2011): Belarus did not export so Azerbaijan had a comparative advantage.
- b) Belarus and Azerbaijan (Persimmon, 2012): 65.4-comparative advantage for Azerbaijan.
- c) Belarus and Azerbaijan (Persimmon, 2013): 21.7-comparative advantage for Azerbaijan.
  
- a) Kazakhstan and Azerbaijan (Persimmon, 2011): Kazakhstan did not export so Azerbaijan had a comparative advantage.
- b) Kazakhstan and Azerbaijan (Persimmon, 2012): 98.92-comparative advantage for Azerbaijan.
- c) Kazakhstan and Azerbaijan (Persimmon, 2013): 257.9-comparative advantage for Azerbaijan.
  
- a) Ukraine and Azerbaijan (Persimmon, 2011/2012/2013): Since Ukraine did not export anything for three consecutive years Azerbaijan had a comparative advantage.

Indices for Russia are given in a very brief form in order of years:

- a) Russia and Azerbaijan (Hazelnuts, 2011/ 2012/ 2013): 28589.5, 897.6, 329.5-Azerbaijan had a comparative advantage for three years.
- b) Russia and Azerbaijan (White Sugar, 2011/2012/2013): 1.02, 0.77, 0.89 -Azerbaijan had a comparative advantage only for 2011.
- c) Russia and Azerbaijan (Persimmon, 2011/2012/2013): in 2011, Russia did not export so Azerbaijan had a comparative advantage, 42834.35, 1928.07 (Also for 2012 and 2013 Azerbaijan had a comparative advantage)
- d) Russia and Azerbaijan (Apple, 2011/2012/2013): 27.48, 34.15, 22.91-Azerbaijan had a comparative advantage.

Now that Balassa's index has been utilized, it's time to turn to Bowen's index, which is analyzed only for Azerbaijan.

<b>Apple</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Production	100380.5	106659	112076
Imports	823.5	769.2	0
Exports	25769.6	27596.5	18929.5
Consumption	75434.4	79831.7	93146.5
Net Trade	-24946.1	-26827.3	-18929.5

Net Trade Index	-0.330699257	-0.336048211	-0.20322288
Production Intensity Index	1.330699257	1.336048211	1.20322288
<b>Persimmon</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Production	111023.8	110664.8	116031.8
Imports	0	15.9	0
Exports	84683.5	85668.7	77122.8
Consumption	195707.3	196317.6	193154.6
Net Trade	-84683.5	-85652.8	-77122.8
Net Trade Index	-0.432704861	-0.436297102	-0.399280162
Production Intensity Index	0.567295139	0.563702898	0.600719838
<b>Hazelnuts</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Production	137943.2	124420.8	135269.4
Imports	326.5	461.4	273.5
Exports	44962.5	45781.5	45151.5
Consumption	182579.2	169740.9	180147.4
Net Trade	-44636	-45320.1	-44878
Net Trade Index	-0.244474727	-0.266995756	-0.249118222
Production Intensity Index	0.755525273	0.733004244	0.750881778
<b>White sugar</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Production	300160.1	334640.3	413279
Imports	863.3	425.7	609.8
Exports	196472.5	214070.1	243566.8

Consumption	495769.3	548284.7	656236
Net Trade	-195609.2	-213644.4	-242957
Net Trade Index	-0.394556904	-0.389659606	-0.370228089
Production Intensity Index	0.605443096	0.610340394	0.629771911
<b>Apple juice</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Production	4498.7	5071.9	5860
Imports	783.5	541.8	489.1
Exports	811.7	941	1503.5
Consumption	4526.9	5471.1	6874.4
Net Trade	-28.2	-399.2	-1014.4
Net Trade Index	-0.006229429	-0.072965217	-0.147561969
Production Intensity Index	0.993770571	0.927034783	0.852438031
<b>Tropical fruit juice</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Production	<b>14481.3</b>	<b>14381.5</b>	<b>16407</b>
Imports	1204.1	1348.2	1011.9
Exports	7561.8	7136.9	8129.7
Consumption	20839	20170.2	23524.8
Net Trade	-6357.7	-5788.7	-7117.8
Net Trade Index	-0.305086616	-0.286992692	-0.302565803
Production Intensity Index	0.694913384	0.713007308	0.697434197

Now we will analyse the indices for each product.

Apples:

During the years 2011, 2012 and 2013 the Production Intensity Index (PI) is greater than 1, which means that Azerbaijan had a comparative advantage. When it comes to Net Trade Intensity Index (NTI), for 2011 and 2012 it is positive but for 2013 it is negative, which causes some discrepancies, indicating that Azerbaijan had a disadvantage in 2013.

Persimmon:

Both indices are positive and PI is less than 1 indicating that Azerbaijan had a comparative disadvantage for all three years.

Hazelnuts:

Both indices are positive and PI is less than 1 indicating that Azerbaijan had a comparative disadvantage for all three years.

White sugar:

Both indices are positive and PI is less than 1 indicating that Azerbaijan had a comparative disadvantage for all three years.

Apple juice:

Both indices are positive and PI is less than 1 indicating that Azerbaijan had a comparative disadvantage for all three years.

Tropical fruit juice:

Both indices are positive and PI is less than 1 indicating that Azerbaijan had a comparative disadvantage for all three years.

### **Results and recommendations**

It is clear from the research study that agriculture is not a big portion of the Azerbaijani economy, but it is important for the social sphere. Thus development of the sector is important in terms of:

- Employment;
- Food security;
- Diversification of production and exports.

On the other hand, this research shows that a number of state programs were implemented in order to increase the development of the sector. However, these were not serious steps in terms of increasing productivity and the application of innovation and this has been an obstacle to the establishment of an intensive agricultural system. Even the state subsidies that are directed to the enlargement of agricultural fields and thereby increasing productivity are minimal.

The lack of professionals and consulting services from both the government and the private sector make difficult to use natural resources productively, that is why the unproductive use of land has become more common.

There is also a need to establish corporative farming households. By putting in practice this action there will be cooperation between the main actors of the sector, peasant-family farms. Peasant-family farms are a key indicator of forming relevant infrastructure; however, a lack of modern techniques and low-interest loans limits more of them from being created.

Although the state program on “Azerbaijani citizens’ reliable food provision for 2008-2015” is currently being implemented, until now not all of the goals have been achieved and the previously mentioned reasons are key elements to this not occurring.

Cereal croplands were 1074 thousand hectares in 2013; this is 174 thousand hectares more than the intended crop size. Although cropland was increased by 24 percent, dependency on imports has only decreased by 7 percent to 36.1 percent since 2007. The same picture is relevant for the balance analysis of potato production. Thus, although the production of potatoes was intended to be 1037.3 thousand tons, actual production was only 992.8 thousand tons and potato exports decreased in parallel with intended production. The dependency level was 8 percent as previous year.

The same situation is true for the production of milk and milk products. The state program intended for milk production to be increased by 80 per cent to 2400 thousand tons in 2015 compared to 2007. But till now production has only increased by 36 per cent, which is less than the overall development of the domestic economy. As a result, dependency from milk was 12.5 per cent in 2007 and increased by 24 per cent in 2013.

The balance for all meat products was a little bit different from other products. Over the last six years the dependency from beef and mutton increased from 5.3 per cent to 14.6 per cent and 0.2 per cent to 2.2 per cent respectively. However, the same indicator for poultry decreased from 25.5 per cent to 3.8 per cent. The state program intended for poultry production to be increased to 80 thousand tons, but this indicator was 88 thousand tons in 2013, which is 10 per cent more than the intended production for the next two years.

It is clear from the research study that agricultural products including apples, persimmon, hazelnuts, sugar, and fruit juices have a more competitive advantage as compared to agriculturally based industrial products. In order to define the export potential of agricultural products and evaluate their competitive advantage with major trade partners, this paper used the Balassa and Bowen methods. The model runs have the following results:

Products having a relative comparative advantage for Azerbaijan according to Balassa’s index.

- d) Germany and Azerbaijan (Hazelnuts, 2011): 1.47-comparative advantage for Azerbaijan.
- e) Germany and Azerbaijan (Hazelnuts, 2012): 1.25-comparative advantage for Azerbaijan.
- f) Germany and Azerbaijan (Hazelnuts, 2013): 1.13-comparative advantage for Azerbaijan.
  
- d) Spain and Azerbaijan (Hazelnuts, 2011): 3.04-comparative advantage for Azerbaijan.
- e) Spain and Azerbaijan (Hazelnuts, 2012): 2.86-comparative advantage for Azerbaijan.
- f) Spain and Azerbaijan (Hazelnuts, 2013): 2.99-comparative advantage for Azerbaijan.
  
- d) France and Azerbaijan (Hazelnuts, 2011): 10.35-comparative advantage for Azerbaijan.
- e) France and Azerbaijan (Hazelnuts, 2012): 6.41-comparative advantage for Azerbaijan.
- f) France and Azerbaijan (Hazelnuts, 2013): 6.5-comparative advantage for Azerbaijan.
  
- d) Belarus and Azerbaijan (Hazelnuts, 2011): 57,179-comparative advantage for Azerbaijan.

- e) Belarus and Azerbaijan (Hazelnuts, 2012): 158.4-comparative advantage for Azerbaijan.
- f) Belarus and Azerbaijan (Hazelnuts, 2013): 40.5-comparative advantage for Azerbaijan.
  
- d) Kazakhstan and Azerbaijan (Hazelnuts, 2011): Kazakhstan did not export any hazelnuts so clearly Azerbaijan had a comparative advantage.
- e) Kazakhstan and Azerbaijan (Hazelnuts, 2012): 190.7-comparative advantage for Azerbaijan.
- f) Kazakhstan and Azerbaijan (Hazelnuts, 2013): 114.9-comparative advantage for Azerbaijan.
  
- d) Ukraine and Azerbaijan (Hazelnuts, 2011): 529.4-comparative advantage for Azerbaijan.
- e) Ukraine and Azerbaijan (Hazelnuts, 2012): 357.7-comparative advantage for Azerbaijan.
- f) Ukraine and Azerbaijan (Hazelnuts, 2013): 222.4-comparative advantage for Azerbaijan.
- d) Kazakhstan and Azerbaijan (White sugar, 2011): 6.19-comparative advantage for Azerbaijan.
- e) Kazakhstan and Azerbaijan (White sugar, 2012): 7.11-comparative advantage for Azerbaijan.
- f) Kazakhstan and Azerbaijan (White sugar, 2013): 5.75-comparative advantage for Azerbaijan
  
- d) Ukraine and Azerbaijan (Apple, 2011): 1.76-comparative advantage for Azerbaijan.
- e) Ukraine and Azerbaijan (Apple, 2012): 4.36-comparative advantage for Azerbaijan.
- f) Ukraine and Azerbaijan (Apple, 2013): 5.27-comparative advantage for Azerbaijan.
  
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Indices for Russia are given in a very brief form in order of years:

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- h) Russia and Azerbaijan (Apple, 2011/2012/2013): 27.48, 34.15, 22.91-Azerbaijan had a comparative advantage.

The general condition of the agriculture sector in the CIS countries and the export potential of Azerbaijani agricultural products to these countries are evaluated and the results of the econometric model are below:

- Ukraine, Kazakhstan, Belarus generally have strong comparative advantages in agriculture, particularly in certain food products. Azerbaijan has bilateral relations with CIS countries including the aforementioned countries.
- The old inspection and monitoring programs need to be replaced with new ones based on new regulations, take for example the WTO.
- GOST system has collapsed, privatization is underway, but huge steps still lie ahead.
- Most food companies in CIS countries use old facilities inherited from the Soviet era that do not meet modern requirements.
- Foreign direct investments could be remedied to support current procedures.

***The research team suggests the following recommendations:***

1) An intensive development model has to be provided in the agricultural sector as soon as possible:

- Agricultural production regions need to be modeled for each type of agriculture
- Land foundations of the country have to be characterized again and detailed recommendation booklets about the productive agricultural areas have to be prepared for enterprises
- Professional production subjects need to be formed by organizing academic and practical courses for farm subjects in order to ensure a transition from traditional production methods to modern methodologies
- In order to accelerate the application of technological innovations in farming, the government should prepare a large-scale program to facilitate the availability of technologies

2) New funding mechanisms should be prepared by the government:

- The scope of low-interest loans needs to be broadened.
- Preferential loan mechanisms, which are directed to the peasant-family farms, have to be created.
- Long-term-preferential loans for production subjects (who are growing perennial plants) need to be provided.
- Loans directed towards the agriculture sector need to be released from the annuity payment schedule, while payment timings need to consider harvest times.

3) Subsidy mechanisms need to be improved:

- Cropland;
- Productivity;
- The transition to these subsidy mechanisms has to be ensured with the relevance of the export volume.

4) The formation of proposed infrastructure has to be accelerated:

- In order to ensure the use of natural resources, land, road and water problems have to be solved in those regions.
- Free storage cells have to be built and used.

5) The potential production of agricultural products, including persimmon (fresh), apples, hazelnuts, white sugar, tropic fruit juices, apple juices etcetera, should be evaluated again, while exports of these products to the EU and the CIS countries have to be increased. Subsidies and long-term loan mechanisms have to be created with relevance to the export volume of these products.

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Dilarə Əliyeva, 115

Bakı, Azərbaycan

Tel: (99412) 4975684/5970691

Fax: (99412) 4975684

E-mail: [info@cesd.az](mailto:info@cesd.az)

<http://www.cesd.az>

115, Dilara Aliyeva str

Baku, Azerbaijan

Tel: (99412)  
4975684/5970691

Fax: (99412) 4975684

E-mail: [info@cesd.az](mailto:info@cesd.az)

<http://www.cesd.az>