

# Factors Affecting the Competitiveness of the Economy in Azerbaijan

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## ABSTRACT

This study has is dedicated to the analysis of the position of Azerbaijan in the global competitiveness index, the theoretical and practical study of the factors defining international economic competitiveness of countries and estimation of current situation in Azerbaijan according to every factor. At the end of the study, suggestions are made for increasing the competitiveness of the economy of Azerbaijan.

**Keywords:** international competitiveness, foreign economic relations, economic growth, economic factors.

## INTRODUCTION

Power of any country is not only in the size of its territory, richness of its natural resources, strength of its army, but also in competitiveness of products and services produced in it. Concepts of competitive economy and international competitiveness of economy have been on the basis of economic development for many decades in the USA and Western European countries and since the end of the 20<sup>th</sup> century in countries which switched to market economy, including Azerbaijan.

Competitiveness of economy is a relative concept and it appears only in comparison with other countries. There are several well-known research centers throughout the world that develop comparative researches of this type. One of such reports is the global competitiveness report of the World Economic Forum, in which Azerbaijan stepped up in 7 steps in comparison to previous years, becoming the 39<sup>th</sup> most competitive economy in the world. This indicator is the highest in the Chartered Institute of Stockbrokers (CIS) and 2<sup>nd</sup> among the post-soviet countries after Estonia (32<sup>nd</sup>). The Report also reflects general competitiveness index of Georgia and Armenia – 72<sup>nd</sup> and 79<sup>th</sup> places, respectively. In the ratio of state budget balance to Gross domestic product (GDP) Azerbaijan holds the 15<sup>th</sup> place in the world, while in

national saving it holds the 10<sup>th</sup> place. Besides, ratio of state debts to GDP allows Azerbaijan to be in the 13<sup>th</sup> place in the world in regard to this indicator, while development of infrastructure and quality of education system indicators are substantially low, 55<sup>th</sup> and 114<sup>th</sup> places, respectively (The Global Competitiveness Report, 2013 to 2014).

Purchase Power Parity (PPP) GDP growth annually, Azerbaijan has strengthened its position in this sphere. According to the report of World Economic Outlook, which the abovementioned report refers to; Azerbaijan held the 69<sup>th</sup> place among 148 countries on the point of GDP (PPP). So, Azerbaijan is among economies with efficiency. It should be mentioned that in 2002 Azerbaijan was in the 123<sup>rd</sup> place in this indicator (<http://www.imf.org/external/pubs/ft/weo/2011/02/weodata/>). But in accordance with the structure of export, which is the second criterion for classification of economies, Azerbaijan is among transition countries between 1<sup>st</sup> and 2<sup>nd</sup> stages (not among effective economies). Thus, high percentage of oil and oil products in total export decreases the importance of high GDP values of Azerbaijan. According to the statistics of the last 5 years, percentage of oil and oil products in total export varies

from 76% to 97%, indicating the high importance of the factor of resources in export. It means that despite increasing rating in the report of the Global Competitiveness Index, factors preventing increase of international economic competitiveness of Azerbaijan are still in force. From this viewpoint, analysis of the current situation of the Azerbaijani economy on the basis of international competitiveness indicators and study of the factors defining the competitiveness are very important.

## METHODOLOGY

In economic theories, factors of international economic competitiveness are grouped in different ways. On the basis of the Diamond (Rhomb) model, which is considered one of the most modern trade theories, M. Porter divides the factors defining a country's competitiveness advantages to four (Porter, 1990): 1. Production factors 2. Situation of demand 3. Development level of providing and connected companies and 4. Strategy of companies and competition. Another theory that tries to explain international competitiveness is the model of 9 factors by Cho. Unlike Porter, Cho mentions external factors and its model combines human capital in 4 main groups (Cho, 1998). There are other theories on international competitiveness and each of them has a different approach to the factors of international competitiveness. By generalizing all of these concepts and considerations, we can divide the factors defining countries' competitiveness to several groups:

1. Existence of production factors in a country: soil, natural resources, workforce and capital. These factors stimulate specialization of a country in various spheres of the world economy.
2. Technical indicators of production and level of labor productivity in a country. It is proved by experience that productivity in macro level directly affects labor productivity in different companies. State support to preparation of qualified personnel, amount of funds allocated to scientific-research purposes, capital invested in development of human resources (education, health, social security and etc.), creation of favorable conditions for involvement of new technologies are the main factors that positively affect increase in productivity.
3. Macro-economic situation in a country. Increase in the amount of GDP per capita, low level of inflation, stability of political and legal system, low level of taxing and customs tariffs, development of infrastructure in regions and a country as a whole, increase of the volume of the domestic market, use efficiency of resources and formation of competitive bank system are the main factors that increase international competitiveness of a country.
4. Development level of human capital. Indices

characterizing development level of human capital are divided to three: a) the index of longevity that is one of the indicators of population health (b) the index of education that indicates the level of literacy of population (the coefficient of entrance to primary, secondary, high and higher schools) (c) the index of GDP per capita that defines the level of income and social security of population.

5. Existing situation of energy efficiency.

6. The ratio between the nominal and real rate of currency exchange and the ratio between the currency rate and the index of purchasing power. Both ratios show that sales of commodity produced in any country is more efficient when sold in the same market. High level of purchasing power index indicates high competitiveness of a country's economy.

7. Revealed comparative advantage of export on the point of different goods and product groups. In this study, the Balassa index on product groups for estimation of revealed comparative advantage of export of Azerbaijan (on the basis of International Standard Trade Classification) was used.

$$RCA = \ln (X_{ij} / X_{it}) / (M_{ij} / M_{it}) * 100 = \ln (X_{ij} / M_{ij}) / (X_{it} / M_{it}) * 100 \quad (1)$$

Where *RCA* is the index of revealed comparative advantage, *X<sub>it</sub>* and *M<sub>it</sub>* indicate total volume of export and import, *X<sub>ij</sub>* and *M<sub>ij</sub>* are the volume of export and import for *i* commodity or commodity group. *RCA*>50 indicates high competitiveness and 50<*RCA*<50 indicates average level of competitiveness, while *RCA*<50 shows low level of competitiveness.

## FINDINGS AND DISCUSSION

This study presents an international competitiveness analysis of the economy of Azerbaijan in regard to the factors mentioned above. The first defining factor of competitiveness is the existence of production factors, the main factor that defines competitiveness level of the economy of Azerbaijan. Thus, today main role of the economy of Azerbaijan in the world economy is measured by its natural resources. According to 2012 data of British Petroleum (BP), discovered oil resources of Azerbaijan consist of 7 billion barrel, making 0.4% of all oil resources discovered in the world. Raw material and its production play the most important role in the export. According to statistic data, 77.33% of all export of Azerbaijan in 2012 consisted of crude petroleum, which made 1.73% of all petroleum export in the world for the same year (Handbook of Statistics, 2012). Another revealed comparative advantage of Azerbaijan is its convenient geographical location. Located between East and West, it has become one of the most convenient

main transportation and communication centers of the world. The Great Silk Way, the Baku-Tbilisi Jeyhan oil pipeline and the Baku-Tbilisi-Erzurum gas pipeline, as well as the Baku Tbilisi-Kars railway have significantly increased the economic and political importance and position of Azerbaijan both in the region and the world.

According to the second group of factors; technical indicators of production and the level of labor productivity, Azerbaijan lags behind other countries. Thus, labor productivity per capita in the country is \$15.18 thousand with current values. For comparison, in the USA it is \$68.3 thousand, in France and Italy \$45.03, in Japan, Russia, Kazakhstan and China \$44.85, \$19.59, \$25.45 and \$15.25 respectively. Main reason of low labor productivity and lack of production in world standards is lack of innovation use. Economic crisis of until 2005 and resulting from its budget deficit did not allow to allocate funds for innovation activities. In following years, allocations for innovation activities increased on the account of increasing investment amounts to the oil industry. However, there has been decrease in this sphere in recent years. According to statistic data, total amount of allocations to technological innovations in 2012 on the amount of all sources was 9.33 million mantas (11.87 million \$USD), which is lower by 5.71 times in comparison to 2005. Main reason of this decrease is minimized amount of allocations to innovations in the mining sphere (total by \$990). Another important reason is lack of interest of recently privatized enterprises to invest serious capital to innovations.

In 2012, on the basis of a questionnaire among industrial enterprises of Azerbaijan, it was defined that main factors preventing allocations to innovation are lack of capital (in 22 enterprises), high prices of innovations (in 13 enterprises), high economic risk (in 9 enterprises), lack of financial aid (in 9 enterprises), low level of demand with purchasing power to new products (in 3 enterprises) and etc. Another problem in this sphere is weak relations between scientific institutions and production enterprises (Industry of Azerbaijan: A Statistic Collection, 2013).

Another problem in the technical level of production and labor productivity is substantially old main funds in production. In 2012 etching of main industrial production funds was as high as 31.8%. It was much lower than the respective indicator of 1998 (56.9%), but the improvement was mainly due to renovation in the spheres of crude oil and gas production, as well as services. Etching of main funds in this sphere decreased from 53.7% in 1998 to 29% in 2012. However, etching of main funds in processing industry is still high with 53.7%.

Third factor defining competitiveness is macro-economic situation and Azerbaijan has achieved significant progress in this sphere. In the period of 2000 to 2012 average annual growth rate of GDP in the economy was 13.2% and GDP per capita increased from \$593.2 in 2000 to \$7490.5 in 2012. Poverty decreased from 49% in

2001 to 6% in 2012. According to competitiveness indicators of the World Economic Forum (2013), in macro-economic situation, Azerbaijan held the 8<sup>th</sup> place among 148 countries, proving that international experts forecasted more economic achievements in Azerbaijan.

One of the main factors defining competitiveness is development of human capital, main characterizing indicator of which is the level of education. Investment in this sphere is important for the state, companies and personnel. World experience proves that 60% of national income growth in developed countries is achieved due to efficient educational system and high literacy of population (Shetiny, 2001). Main role in creation of economic power and competitiveness of any country is attributed to human power. According to a research by the World Bank, 19% of the national wealth of USA consists of production funds (facilities and devices, machinery and equipment's) and 5% consists of natural resources, while human capital represents as far as 76% of the national wealth of USA. In Western Europe these indicators are 23%, 2% and 74%, respectively (Mayburov 2004). In addition, objective laws dictate that every dollar allocated to education provides later income of 5 to 6 dollars. Statistic data from developed countries prove that in the member countries of the Organization for Economic Cooperation and Development (OECD) additional education production per year increases by 3 to 6%. More than a half of GDP per capita growth in these countries in the period of 1994 to 2004 was due to increase in labor productivity, which is directly dependent on education of personnel. If literacy level is higher by 1% in comparison to average world indicator, it results with 2.5% higher labor productivity and 1.5% higher GDP per capita (OECD Indicators, 2006). Human Development Report data show that GDP per capita of countries with higher level of education is many times higher than that of other countries, including the average world index. For instance, in Ireland, where the level of education and human development index are one of the highest in the world, GDP per capital is as far as 39 times higher than Mali, which holds one of the lowest places with its above mentioned indices.

It should be mentioned that in the general development index of education, Azerbaijan lags behind other countries, but it holds one of the highest places due to the high level of population with secondary education. Thus, number of people with secondary and higher education per 1000 is 912 (among people 15 years old and older), which means 91.2% of all population of the mentioned age group. In 2012, number of higher school students was 47.34% higher in comparison to 1995. According to data of 1999, only 0.73% of towns people and 1.36% of rural population (among people 10 years old and older) lack of literacy, which is many times higher than world indicators (Statistic Indicators of Azerbaijan 2013). Serious progress is mentioned in the direction of

increase of standard of life in Azerbaijan, too. According to statistic data, poverty decreased from 49% (2001) to 29.3% (2005) and later to 6% (2012). However, despite to such positive trends, several problems preventing development of human capital still exist in Azerbaijan.

First of all, role of education and health systems in the economy is very weak. According to data of 2012, share of added value of educational institutions in added value of economy was only 3.1%, while in health and social services it was even lower, 1.7%. In 2010, efficiency indicator defined as the ratio of added value to total output was 84.5% in education and 61.7% in health and social services. These numbers are lower in comparison to extractive industry by 8.84% and 31.62%, respectively (Statistic Indicators of Azerbaijan 2013). For comparison, even in the 60s efficiency level of education in the USA was higher than that of other spheres of economy by 10 to 15% (Bekov, 2002).

Another serious problem is the low level of budget allocations to education and health systems. According to data of the 2011 report of the UN on human development situation, in 1991 Azerbaijan allocated 7.7% of its GDP to education, while in 2009 to 2010 this number decreased to 2.8%. For comparison, in Norway average budget allocations to education are 6.8% of GDP and in Denmark and the OECD countries they are 7.8% and 6.02%, respectively (OECD Indicators, 2006). As a result, average monthly salary of academic staff in Azerbaijan is many times lower in comparison to that of other countries. For example, annual salary of primary, secondary and high school teachers with work experience of 15 years vary between \$16,000 (Hungary) and \$90,000 (Luxemburg) in the OECD countries (OECD Indicators, 2006), while in Azerbaijan this indicator is as low as only \$4,400 (in accordance with average salary in the education system). Taking into consideration that GDP per capita in Azerbaijan is many times lower than that of the above mentioned countries; it becomes clear that teachers of Azerbaijan receive 10 times less salary in comparison to their colleagues in Europe and in the world. Allocations to health system even are lower. Thus, in Germany 8% of GDP is allocated to health services. In Norway and France this number is 7.5% and 8.7%, respectively, while in Azerbaijan it is as low as only 1%. So, health care costs per capita in Azerbaijan are lower in comparison to developed countries by 25 to 27 times (<http://hdrstats.undp.org/en/indicators/53906.html>).

One of serious problems of scientific institutions in Azerbaijan is that institutions do not allocate funds for scientific researches and education of their personnel. It is usually associated with financial difficulties; however, the real reason is lack of connection between scientific institutions and production. Another problem in this sphere is low level of vocational education. Experience of developed countries proves that preparation of personnel, who masters new technologies, is one of the

main factors stimulating stable development. In developed countries, 40 to 60% of secondary school graduates continue their education in vocational education institutions, while in Azerbaijan this indicator is as low as 5 to 8%.

Another factor affecting competitiveness of the economy of Azerbaijan is the level of energy efficiency. With its economic growth rate in the last decade Azerbaijan has outstripped all countries of the world and international organizations and independent experts forecast that this trend will continue in the next years. As the basis of this development consists of the energy sector, one of the target issues is reconstruction of energy policy in accordance with existing principles in the world. Energy policy includes 3 main directions: (a) Reliability of energy supply (b) Achievement and maintenance of economic competitiveness (c) protection of environment as one of the principles of stable development.

Azerbaijan has the advantage of more favorable climate in comparison to Russia and most of European countries. With its small territory, it has the ability to provide cheap consumption prices for energy carriers both for production sphere and population. Short winters and low costs of transportation of goods enable Azerbaijan to decrease energy costs of GDP production significantly. According to statistic data, for production of 1\$ of GDP (in current prices), energy equal to 190 grams of oil (nominal equivalent) was consumed in 2011, which is almost the same with the average world indicator, however lagging far behind (2.6 times more) Japan one of the leading countries with high energy efficiency. It should be mentioned that in Azerbaijan a positive trend has been mentioned in this sphere since 2000, as in 2000 1\$ GDP production required 1.2 kg oil equivalent, while in 2005 and 2010 it decreased to 0.404 kg and 0.634 kg, respectively. In industry, added value realized with the use of 1 ton of oil equivalent increased by 3 times in 2010 in comparison to 2005. Despite of all these achievements, production in Azerbaijan still has high energy capacity and there are several problems in regard to the structure of energy production. So, one of the main targets of economic security strategy of Azerbaijan is provision of use efficiency of energy resources. In recent years, Azerbaijan has become a country with high importance in provision of energy security of both the region and Europe. As natural resources exhaust, one of the main issues is to increase use efficiency of energy resources in the country. Increasing GDP of Azerbaijan also requires more energy resources for production and services.

Another factor affecting competitiveness of the economy of Azerbaijan is the ratio between the nominal and real rate of currency exchange and the ratio between the currency rate and the index of purchasing power. Both ratios show that sales of commodity produced in any country is more efficient when sold in the same market.

**Table 1.**Competitiveness of export in 1997-2012 according to International Standard Trade Classification (RCA).

| SN | Product divisions  | 1997 | 2000 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|----|--|------|------|------|------|------|------|------|------|------|------|
| 0  | Food products and livestock  | -198 | -213 | -29  | -75  | -53  | -259 | -133 | -191 | -159 | -135 |
| 1  | Beverages and tobacco  | 145  | -42  | -104 | -126 | -201 | -421 | -358 | -366 | -347 | -338 |
| 2  | Non-food raw material (except fuel)  | 161  | -5.4 | 7    | 10   | -40  | -280 | -208 | -322 | -294 | -230 |
| 3  | Mineral fuel, , lubricating oils, analogical materials                     | 182  | 286  | 187  | 198  | 348  | 411  | 448  | 444  | 470  | 466  |
| 4  | Animal and vegetable oils, fats  | 2.94 | -134 | 38   | 19   | 33   | -152 | -43  | -57  | -44  | -28  |
| 5  | Chemical products and analogical products not included in other categories | -52  | -139 | -85  | -101 | -152 | -312 | -259 | -268 | -227 | -230 |
| 6  | Industrial products classified mainly according to material type           | -167 | -291 | -182 | -183 | -164 | -298 | -270 | -330 | -285 | -289 |
| 7  | Cars and transportation equipment  | -164 | -241 | -185 | -319 | -293 | -487 | -355 | -368 | -543 | -468 |
| 8  | Various industrial products  | -174 | -258 | -298 | -264 | -214 | -502 | -367 | -370 | -364 | -383 |
| 9  | Products not included in other categories of ISTC                          | -86  | -    | -    | -    | -    | -    | -    | -    | -    | -    |

High level of purchasing power index indicates high competitiveness of a country's economy. Usually, in countries with average development level rate of currency exchange is twice lower than purchasing power index and in countries with low income the mentioned rate is even 4 times lower than the index. As the income per capita increases, the rate of currency decreases in comparison to the purchasing power index. In 1995, this ratio was 3.79 in Azerbaijan, which decreased down to 1.41 in 2012.

Increasing competitiveness of produced commodity and services is one of the factors defining international competitiveness of a country. To measure competitiveness of goods and services, as well as revealed comparative advantage of countries in different goods, different empirical indicators are used in the economic literature. Main principle of these principles is based on two main theories; the Ricardo theory and the Hecksher-Olin theory that perfectly describe revealed comparative advantage of countries in the theory of foreign trade. As there are several difficulties in realization of the Ricardo theory and the Hecksher-Olin theory in practice, Balassa (1965) again estimated the revealed comparative advantages (RCA) (Balassa,1965). Our estimation on the basis of international export data of the World Trade Organization and the statistic data of the State Statistics Committee of Azerbaijan shows that among all exported goods of Azerbaijan only mining industry products are economically competitive (Table 1). As seen in the table 1, excluding mineral fuel, lubricating oils and analogical products, exported products in all groups are uncompetitive. Despite the fact that export of Azerbaijan has exceeded its import in recent years, there is a negative balance in the export-import operations of non-oil products. According to data of 2012, there was a positive balance in the total trade turnover in the amount of \$14.255 million. However, if mineral fuel, lubricating oils and analogical products are excluded, a negative balance in the amount of \$7.919 million \$ can be

observed in turnover of other products. In total, despite of a positive balance of total foreign trade turnover of Azerbaijan in the amount of \$98.601.1 million in the period of 2000 to 2012, a negative balance was recorded with the amount of \$50.304.2 million in the non-mining industry.

**CONCLUSION**

Generalizing the factors analyzed above, we can conclude that the main reasons preventing competitiveness of the economy of Azerbaijan are: low scientific-technological level of production; high level of physical and spiritual etching of used equipment; lack of investment allocation to development of national competition advantages and implementation of low-level innovation investment; low development level of institutional structures, lack of effective mechanism for free inter sectorial streaming of capital; weakly developed infrastructure in the sphere of modern information technologies; low efficiency level of state regulative methods; low level of corporative administration and etc. In general, measures to be taken for increasing competitiveness in Azerbaijan can be grouped as:

1. Increasing competitiveness of state administration system is one of the most important issues (state regulation, state service); the state has to determine main priorities of long-term social and technical-economic development. Main issue here is development of state policy for determination of priority spheres with international competitiveness and their development. In order to accelerate social-economic development of regions, state support to local entrepreneurs and innovation has to be realized. Elimination of monopoly in the domestic market and creation of equal conditions for competing enterprises has to be main state policy.
2. Increasing the competitiveness of business and efficiency of production (increasing labor productivity,

efficient use of energy resources), creation of conditions for development of non-oil sector.

3. Expansion of innovation; today, factors connected with scientific-technical progress are substantial for provision of economic growth. It increases competitiveness of produced products and services both in the domestic and international markets. From this viewpoint, stimulation of innovation activities and allocation of funds for development of science, creation of marketing centers and institutions conducting constant monitoring in the world market and realization of state policy for the purpose of protection of intellectual property are issues of high importance, too.

4. Increasing the competitiveness of human capital; formation of an education system in world standards, provision of economy with qualified personnel, development of scientific potential of the country, provision of average literacy level of population and reconstruction of health system, as well as increasing the life standard of population are main factors, which can substantially increase the competitiveness of the country. For solution of all mentioned problems, economic mechanisms for investment in education and health systems should be developed. Another very important issue is efficient use of invested funds. With no structural reforms in health and education system and low efficiency of used funds, budget allocations to the mentioned sectors have no importance. In the modern period, when globalization has influence on every sphere of human life, education and health systems should be in complete coordination with demands of market economy and the world. Demands of the market should be studied and an education system meeting existing demands should be created. According to researches, unemployment problem in the country is connected not only with shortage of workplaces, but also with the fact that vocational education and labor skills of population do not meet the demands of the labor market. From this point of view, there is a need for requalification of population, which is possible through formation of the education system in complete compliance with demands of the modern period.

In order to strengthen the connection between science and production, creation of technological parks is very important. Existence of high technologies and material-technical provision and logistics in the world standards are among the main factors ensuring economic development.

Another very important issue is improvement of social security of population through increasing it closer to the average world indicators. Standard of life of an Azerbaijani scientist (scholar) or engineer lags behind that of their colleagues and this fact makes integration of Azerbaijan to the world economy more difficult. So, increasing the production, capital investment and macro-economic indicators to the level of world indicators should

be accompanied with development of human capital, which is one of the priorities in this sphere.

5. Increasing the energy efficiency. Involvement of modern technologies and realization of researches to develop new methods for efficient use of energy can pave the way for achievement of reduction of energy consumption. Main purpose of economic strategy should be realization of structural changes through reduction of specific weight of extractive industry.

## REFERENCES

- Balassa B, 1965. Trade Liberalisation and 'Revealed' Comparative Advantage. *The Manchester School*. 33:99-123.
- Bekov Kh, 2002. Problems of Russia in regard to the theory of human capital. *EKO*. 7.p.159
- Cho DS (1998). From National Competitiveness to Bloc and Global Competitiveness. *Competitiveness Rev.*, 8 (1):12-15.
- Handbook of Statistics 2012, 2013. United Nations, New York of Geneva.p.605.
- <http://hdrstats.undp.org/en/indicators/53906.html>
- <http://www.imf.org/external/pubs/ft/weo/2011/02/weodata/>
- Industry of Azerbaijan: A Statistic Collection, 2013. State Statistics Committee of Azerbaijan Republic.p.80.
- Mayburov I (2004). Efficiency of Investment in Human Capital in the USA and Russia.. // *World Economy and International Relations*.p.3-13.
- OECD Indicators (Education at a Glance), 2006 Edition. Summary in Russian.p.7.
- Porter M, 1990. *National Competitive Advantage*.p.582.
- Statistic Indicators of Azerbaijan, 2013. State Statistics Committee of Azerbaijan Republic, Baku, Seda.p.804.
- Shetynyn V (2001). Human Capital and Ambiguity of its Interpretation. *World Economy and International Relations*.12.pp.42-49.
- The Global Competitiveness Report, 2013-2014. Full Data Edition, Klaus Schwab, World Economic Forum, p.115.