

Macroeconomic Indicators' Implementation for State Marketing Activity: Azerbaijan Case

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ABSTRACT

This article considers the macroeconomic indicators in different types of state marketing activity of the Azerbaijan Republic in 1991-1999, in 2000-2003, in 2003-2014 and 2014-2018 years by statistic dates. Authors have analysed and gave their expert assessment to state marketing policy of Azerbaijan government too. They also calculated the dependence coefficients among Azerbaijan national economy macroeconomics indications. Authors analysed the interaction of dependence coefficients among the macroeconomic indicators and their effects on state marketing mechanisms have been investigated. In conclusion, authors have suggested some recommendations for state marketing mechanism strengthening, for implementation new state marketing policy instrument for national goods' export in the foreign market too.

Keywords: *State marketing policy, State marketing's development periods, Econometric assessment of investment in Azerbaijan, Econometric assessment of Azerbaijan export.*

1. INTRODUCTION

The dynamic development of the system of global economic relations has been increasing the importance of the issues of state regulation of the economy. The theories of state regulations formed at certain stages of history don't fully meet the requirements of its period of the dynamic development of global economic relations. As we know, marketing is a public institute which dynamically accepts the innovations, quickly adapts to the flexibility of the demand, but couldn't fully solve the problems in society and has other disadvantages. Let's look at the practices of other developed countries. We can see that countries with a strong economy not only have a market system dominated by international competition but also economic functions and regulation mechanisms of the government are actively involved in the rational management of marketing system. Considering all of these, the state intervention in the economy is possible with the support of government marketing.

The state marketing policy of the states is to determine the apparent and potential privileges of the economy, to prepare equally sustainable development strategies and to organise an effective integration of national economy of the country into the world economy. New approaches are required for the regulation of state marketing policy to ensure effective integration.

In the rapidly globalising world economy, the marketing activity is on the agenda as a means of regulating the economic system to build economic relations at the state level, and fully meets the social demands of the society. Because the state marketing serves to increase the development of the whole society, unlike enterprise marketing. If we look at the experience of Turkey, we can see that the state marketing mechanisms have been widely using there to accelerate and expand production and export processes. In the condition of the modern market economy, decision-

making in the regulation of the economy is a complex process without the political activity of state marketing.

That's why the application of political and economic activity of state marketing requires new approaches. First of all, the analysis of the period of change frequencies in the macroeconomic indicators (investments, exports, etc.), then their comprehensive comparison and formulation of the results obtained is essential for the application of the new approaches. This article considers the application of state marketing measures for the Republic of Azerbaijan with the application of new approaches.

2. METHOD

In this article, the period of change frequencies in macroeconomic indicators (GDP, investments, export, education and science expenses, employment, inflation, banking rates) was assessed, comparative analysis and their interaction of correlation coefficient, as well as, their economic assessment was conducted. As a method of economic assessment, simple regression equations were formed by using the method of least squares. Econometric assessments were implemented in Eviews 9 software package. The used data are based on the official data of the State Statistics Committee and Central bank of the Republic of Azerbaijan and 1995-2018 years were taken as a time interval. All the indicators expressed in the monetary unit are considered in the form of millions of USA dollars.

Authors have used to observation and statistical methods in Chapter 3, statistical and expert assessment methods in Chapter 4 and expert assessment method of investigating in Chapter 5 of this article.

3. THE PERIOD OF CHANGE FREQUENCIES OF AZERBAIJAN MACROECONOMICS INDICATIONS IN MARKETING ACTIVITY

Let's look at the history of the formation of state marketing activity. We can see that the first step taken in the framework of state marketing activity after the independence of the Republic of Azerbaijan was the establishment of Entrepreneurship Development Fund in the country to stimulate supply in 1992.

According to the author, the development history of marketing activity in the Republic of Azerbaijan can be divided into 5 stages.

- 1) 1975–1990;
- 2) 1991–1999;
- 3) 2000–2003;
- 4) 2003–2014;
- 5) 2015–2018.

The first stage (1975-1990) is characterised by giving preference for the use of marketing in foreign economic activity in connection with Helsinki Agreement on Security and Cooperation in Europe in August of 1975 around the world. It should be noted that until 1990 in the territory of former USSR, as well as in Azerbaijan, the marketing activity wasn't applied in the national economy fields within the administrative-command system. However, subjects such as "Fundamentals of Demand Forecasting and Trade Conjuncture", "Demand Studies", "Market Studies" were taught in the USSR institutions, including the state economic universities of Azerbaijan, which were the first steps to recognise the implementation issues of commodities in the territory of USSR.

The second stage of the formation and application of marketing activity in the Republic of Azerbaijan covers 1991-1999 years. During this period, especially since 1993, the legal base for the formation of country economic and political relations in the international arena and the implementation of economic and political reforms in the Republic of Azerbaijan began to be created [1].

Table 1. The indicators of 2nd development stage of marketing activity in the Republic of Azerbaijan during 1991-1999 years (USA million dollar) [3]

Years	1991	1995	1996	1997	1998	1999
The non-oil sector in GDP	0.5	2424.8	3177.4	3947.9	4468.3	4603.8
Investments in the non-oil sector	-	362.1	438.0	817.6	925.4	885.4
Export in Non-oil sector	-	307.0	228.0	355.0	242.0	224.0
Education expenditures		85.2	118.3	141.5	150.3	193.0
Employment (thousand person)	3732.0	3613.0	3686.7	3694.1	3701.5	3782.8
Science expenditures	1.1	4.4	5.6	9.0	8.1	9.6
Inflation	-	511.8	119.9	103.7	99.2	91.5
Banks % rates	-	250	120	36	30	30

Table 2. The indicators of 3rd development stage of marketing activity in the Republic of Azerbaijan (USA million dollar) [3]

Years	2000	2001	2002
Non-oil sector in GDP	3433.6	3472.0	3808.1
Investments in the non-oil sector	709.5	617.7	710.4
Export in Non-oil sector	279.0	969.5	1129.4
Education expenditures	203.2	199.9	196.7
Science expenditures	10.4	10.1	11.7
Employment	3855.5	3891.4	3931.1
Inflation	2,2	1.3	2,8
Banks % rates	28-36	28-36	28-36

The economic reforms implemented had a positive impact on achieving the dynamic growth of the non-oil sector in GDP, reducing the interest rates of banks by 8.3 times and stabilising (19.2 times decrease) inflation during 1991-1999 years (table 1). As a result of the political, economic and social reforms, the process of suppressing the foreign investment in the country's economy has started from 1995 to 1990, the investments in the non-oil sector increased 2.5 times. At the same time, the education expenditures in the state budget of the Republic increased 2.1 times from 1995 to 1999. The positive change of dynamics created a basis for future development [2].

The third stage of formation of marketing activity in the Republic of Azerbaijan (2000-2002 years) is characterised by active use of marketing in the activity of large companies (table 2).

The analyses show that the non-oil sector in GDP increased 1.1 times from 2000 to 2002. The growth dynamics of investments in the non-oil sector had a positive impact on 4.1 times increase in exports in the non-oil sector [3].

The fourth stage has begun in 2003 and is characterised by the extensive use of the marketing researches in macroeconomics state regulation, as well as in foreign economic activity (table 3). However, during this period, the use of marketing activity has been limited in small private and public enterprises.

As a result of political, economic, social and technological reforms conducted in the Republic of Azerbaijan since 2003, as well as after the Export and Investment Promotion Fund establishment, it is observed that the non-oil sector in the Republic's GDP increased by 9.4 times, the investments in the non-oil sector increased 16.5 times until 2014, export on the non-oil sector by 1.3 times, the expenditures on education in the state budget by 1.8 times and expenditures on science by 9.4 times [3-4].

The fifth stage has been observed since 2015 (table 4). Considering the sharp decline of the oil products price in the world market, the legal document of "The main directions of Strategical Road Map for the National Economy and the main sectors of the economy", supported by the president of the Republic of Azerbaijan, was created, and the Actions plan until 2025 was approved. The Strategical Road Map covers the measures

Table 3. The indicators of 4th development stage of marketing activity in the Republic of Azerbaijan during 1991-1999 years (USA million dollar) [3]

Years	2003	2011	2012	2013	2014
Non-oil sector in GDP	4538.4	29362.2	34005.6	39135.8	42558.9
Investments in Non-oil sector	1114.8	15975.3	19459.9	20538.5	18354.3
Export in Non-oil sector	1288.0	1522.0	1673.0	1699.0	1633.0
Education expenditures	1114.8	15975.3	19459.9	20538.5	1981.1
Science expenditures	16.9	134.4	148.5	149.1	158.3
Employment (thousand people)	3972.6	4375.2	4445.3	4521.2	4602.9
Inflation %	2.2	7.9	1.1	2.4	1.4
Banks % rates	26-36%	26-36%	26-36%	26-36%	26-36%

Table 4. The indicators of 5th development stage of marketing activity in the Republic of Azerbaijan since 2015 (USA million dollar) [3]

Years	2015	2016	2017	2018
Non-oil sector in GDP (mln manat)	33144.5	22898.8	23536.7	24594.4
Investments in Non-oil sector	10218.4	7245,0	7254,1	8520.6
Export in Non-oil sector	1498.0	1160.0	1473.0	1617.7
Education expenditures	1564.2	1117.5	11025.2	1156.8
Science expenditures	110.3	70.2	64.6	69.3
Employment (thousand people)	4671.6	4759.9	4822.1	4879,3
Inflation %	3.7	12.4	12.9%	2.3%
Banks % rates	22-36%	22-26%	22-26%	22-26%

to strengthen the export potential including strengthening the government support for local entrepreneurs to increase the non-oil export, further improving the investment and business environment, the development of economy including short, medium and long term periods [1].

Since more than 90% of the export are oil products, the inflow of foreign currency into the country decreased and for this reason "the value of Manat" decreased. In 2014 the USA Dollar increased from 0.78 manats to 1.60 manats for 2016. After the Actions plan of "The main directions of the Strategical Road Map for National Economy and the main sectors of the economy" implementation, GDP increased 1.1 times or 6.9% from 2016 to 2018, the investments in the non-oil sector by 1.2% or 15.0%, the export in the non-oil sector increased by 1.4 times or 28.3% [5].

The analysis of change frequencies of Azerbaijan macroeconomic indicators and the development history of marketing activity in Azerbaijan demonstrates the availability of a new approach in state regulation.

4. THE CORRELATION COEFFICIENT OF MACROECONOMIC INDICATORS RELATED TO EACH-OTHER OF AND

THEIR ECONOMIC ASSESSMENT IN AZERBAIJAN

The state marketing policy organises an effective integration of Azerbaijan national economy into the world economy [2]. When we look at the illustration on the graphics of the indicators of non-oil export and total investments in the non-oil sector of Azerbaijan, we can see the positive relationship among these indicators. The same tendency is observed in both graphics. The decline in 2009 is related to the financial crisis in the world (look at figure 1). Although the crisis didn't have a severe impact on the Azerbaijan economy, it is observed with specific effects by export-import channels. At the same time, the declines have been observed in both rows in recent times. The reason is that the national currency was devalued twice in 2015. These declines sharp noticeability is explained by the fact that the rows are expressed in the USA dollar.

Dickey-Fuller's and Phillips Perron's tests have calculated by authors by EvIEWS 9 software package dates for assessment dynamics of export and investment in Azerbaijan. To ensure the stationary, replacing the series known from the experience with the first-order differences method was used. That is, the increase of both series mentioned has been analysed.

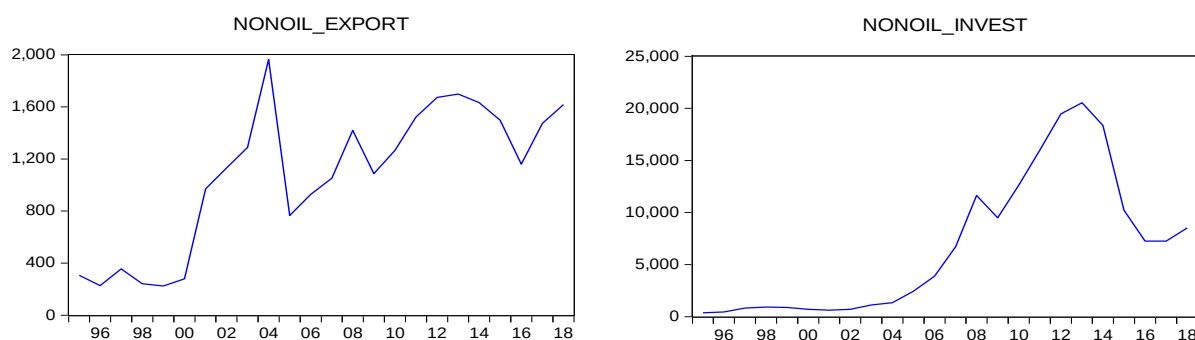


Figure 1 Dynamics of exports and investments in Azerbaijan non-oil sector.

Table 5. The combination of correlation coefficients

	Export in the non-oil sector	Investments in the non-oil sector
Export in the non-oil sector	1	0.6808154076349621
Investments in the non-oil sector	0.6808154076349621	1

In this case, both series met the criteria of stationary. Thus, based on the series obtained, let's first refer to the correlation coefficient table.

The correlation relation in table 5 shows that there is a positive linear relation between these indicators. On this basis, we can build a linear regression model between these indicators mentioned. At the same time, taking into account the problem of autocorrelation in the series, the series was processed. Thus, the problem was solved by identifying the existence of autocorrelation based on Durbin Watson coefficient.

Result of calculating – in this case, if the investments in the non-oil sector increases by 1 unit the export on the Azerbaijan non-oil sector will increase by 0.05 unit (table 6). Also, it should be noted that the coefficients were obtained based on Azerbaijan statistical indicators and were built on the actual prices.

Resume - The coefficient of determination is shown as 0.649; this explains that the real dependence of regression relation is 64.9%. In particular, the Durbin-Watson coefficient was 2.01, which suggests that there is no autocorrelation in the time series. Thus, we can write the regression equation as follows:

Non-oil export = 713.77 + 0.05 * Non-oil investments (1),

Authors also have calculated and compared employment and investment indicators of Azerbaijan in dynamic from 1996 until 2018 (look at figure 2). Another assessment belonged to analyse of the impact of investments in the non-oil sector on the employment in Azerbaijan national economy.

The employment dynamic has changed dramatically in 1996-1998, then increased in the stable form from 1999 until 2018. This graphical description doesn't suggest the specific concrete relationship between these indicators.

According to the regression results, the determination coefficient is not high enough (table 7). Thus, the determination coefficient is equal to 0.587; that is, the explanatory variable can only explain the dependent variable by 58.7%. Durbin-Watson coefficient is low enough that strict deviations can explain it in the series.

Now the regression equation is as below:

$$\text{LOG (EMPLOYMENT)} = 7.96 + 0.05 * \text{LOG (NONOIL_INVEST)} \quad (2)$$

Table 6. Regression model

Dependent variable: *nonoil_export*

Method: ARMA Maximum Likelihood (OPG - BHHH)

Date: 02/03/20 Time: 19:05

Sample: 1995 2018

Included observations: 24

Convergence achieved after 34 iterations

Coefficient covariance computed using the outer product of gradients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NONOIL_INVEST	0.053494	0.061382	0.871491	0.3938
C	713.7716	219.8615	3.246460	0.0040
AR(1)	0.594581	0.125534	4.736418	0.0001
SIGMASQ	100825.2	25066.27	4.022346	0.0007
R-squared	0.649139	Mean dependent var		1074.141
Adjusted Rsquared	0.596510	S.D. dependent var		547.5939
S.E. of regression	347.8366	Akaike info criterion		14.71053
Sum squared resid	2419805.	Schwarz criterion		14.90687
Log-likelihood	-172.5264	Hannan-Quinn criter.		14.76262
F-statistic	12.33420	Durbin-Watson stat		2.010863
Prob(F-statistic)	0.000086			
Inverted AR Roots	.59			

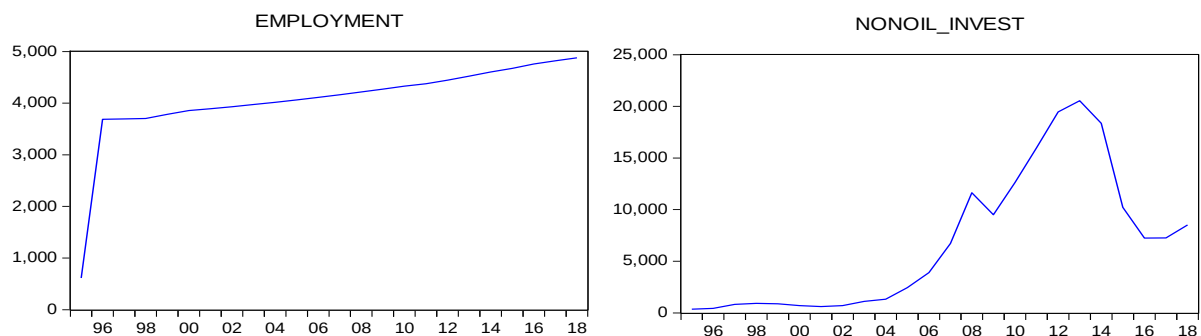


Figure 2 Impact of the investments in the non-oil sector on the number of employed people.

Result - 1% increase in the volume of investments in the Azerbaijan non-oil sector will increase employment in our country by 0.05%.

5. THE ROLE OF IMPLEMENTATION MECHANISMS OF MACROECONOMIC INDICATORS OF AZERBAIJAN IN THE IMPLEMENTATION OF STATE MARKETING POLICY

In the non-oil sector of the Republic of Azerbaijan, the coordination with the econometric assessment of the impacts of investments on export and workplaces is one of the essential conditions. At the same time, a comparative analysis of the Turkish econometric

assessments of Azerbaijan's coordination indicators in the same areas allowed to obtain the following results. If the investments in the non-oil sector in the Republic of Azerbaijan increases by 1 unit, the amount of the export on the non-oil sector may increase by 0.05 unit (table 8). However, this figure in the economy of Turkey is 15 times higher than the indicator of Azerbaijan. If the investments in the economy of Turkey increase by 1%, employment may increase by 0.15%. These indicators show that the marketing mechanism acts as an integral part of management in the state regulation of the economy.

The approval of the Strategic Road Maps for the main sectors of the economy and national economy [8] stimulates the development of entrepreneurial activity in

Table 7. Regression model

Dependent Variable: LOG(EMPLOYMENT)

Method: Least Squares

Date: 02/03/20 Time: 19:23

Sample: 2000 2018

Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(NONOIL_INVEST)	0.047567	0.009673	4.917756	0.0001
C	7.960561	0.083247	95.62529	0.0000
R-squared	0.587222	Mean dependent var		8.366064
Adjusted R-squared	0.562940	S.D. dependent var		0.075457
S.E. of regression	0.049885	Akaike info criterion		-3.058903
Sum squared resid	0.042304	Schwarz criterion		-2.959488
Log-likelihood	31.05958	Hannan-Quinn criter.		-3.042078
F-statistic	24.18432	Durbin-Watson stat		0.135405
Prob(F-statistic)	0.000130			

Table 8. The comparative results analysis of the econometric assessment of the impacts of investments on export and employment in the Republic of Azerbaijan and Turkey [3], [6], [7]

Azerbaijan	Non-oil export = $713.77 + 0.05 * \text{Non-oil investments}$
Turkey	Export = $14185.03 + 0.75 * \text{Investments}$
Azerbaijan	Employed population = $7.96 + 0.05 * \text{LOG (investment in the non-oil sector)}$
Turkey	Employed population = $1.41 + 0.15 * \text{LOG (investments)}$

the Republic of Azerbaijan by expanding state marketing activity per the progressive world practice. To ensure the effective integration of the national economy into the world economy, The Center for Reform Analysis and Communication should expand the enlightenment activities performed in the direction of solving above-mentioned marketing problems [9]. Since the Classic marketing activity is not based on the request of the client [10], the participation of public organisations in the involvement of entrepreneurs to cooperation will allow them to achieve the following goals:

1. The hi-tech products produced by small and medium entrepreneurs will be successfully promoted in local and foreign markets will be carried out;
2. Small and medium enterprises will have the opportunities to have comprehensive periodic data about the local and foreign markets;
3. They will not waste time in the direction of solving problems (technical and legal) in the exportation field;
4. The enterprises will produce hi-tech products which meet international quality standards.
5. There will not be delivery problems (distribution and logistics) in trade.
6. Digitalisation in trade relationships will be accelerated.
7. The direct relations between the government and entrepreneurs will develop in the form of online contacts.
8. The expenditures of entrepreneurs on market researches will be reduced.

6. CONCLUSION

The efficient integration of Azerbaijani economy into the world economy is a tool aimed at foreign policy, which is the main priority of the government. The studies show that marketing activity in state regulation promotes the export and investment for production of the products which aimed at meeting the demands of the society as comprehensive actions system, adapts the production capacity to the needs of society and regulates unemployment problems. In other words, the application of marketing activity in state regulation stimulates the activity of national companies by meeting the demands

of the society, maintenance the macroeconomic equilibrium, forms the competitive development of the economy.

A comparative results analysis of the econometric assessment of the investment impacts on export and employment in the Republics of Azerbaijan and Turkey shows that it plays a unique role in the regulation of macroeconomic indicators, in the direction of the promotion of export and investments. Thus, these measures support the use of foreign practice in the formation of the positive image of the country.

Considering mentioned above, it is necessary to apply the mechanisms of state legal support in the mentioned directions:

- Formation of e-commerce promotion mechanisms in foreign countries;
- Increasing the share of funded export-oriented innovation projects;
- Legislation of the measures of reducing interest rates, increasing terms, softening the conditions when funding export-oriented innovation projects;
- Application of mechanism to support the accreditation of the international laboratories in the country and accelerate to create the private laboratories;
- Supporting the production of "Made in Azerbaijan" brand product in Azerbaijan;
- Establishment of exporting associations;
- Provision of export subsidies to the innovation-based products belonging to the export potential;
- Further enhance the awareness of export.

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