

THE REPUBLIC OF AZERBAIJAN

On the rights of manuscript

ABSTRACT

of the dissertation for the degree of Doctor of Philosophy

**ASSESSMENT OF THE ECONOMIC GROWTH IMPACT OF
THE FEASIBILITY OF THE BUSINESS ENVIRONMENT**

Speciality: 5307.01 – Economic theory
Science field: 53 - Economic sciences
Plaintiff: **Nurana Mahmud gizi Islamova**

Baku-2024

The dissertation work was performed at the Department of Economics of Baku State University.

Scientific leader: doctor of sciences in economics,
associate professor
Hasanova Pari Amirahmed gizi

Official opponents: doctor of sciences in economics, professor
Shakaraliyev Arif Shakarali oghlu

PhD in economics, associate professor
Abdurahmanova Sadagat Ayyub gizi

PhD in economics, associate professor
Gurbanov Tariyel Musallim oghlu

ED 2.10 Dissertation Council operating under the Azerbaijan State University of Economics of the Higher Attestation Commission under the President of the Republic of Azerbaijan

Chairman of the
Dissertation council.



Doctor of economic sciences, professor
Yashar Atakishi oghlu Kalbiyev

Scientific secretary of the
Dissertation council.

Doctor of philosophy in economics
Sugra Ingilab qizi Humbatova

Chairman of the
scientific seminar.

Doctor of economic sciences, professor
Gabil Nadir oglu Manafov

INTRODUCTION

Relevance of the topic and degree of its development. In recent decades, scientific and theoretical discussions on the drivers of economic development have been ongoing at various levels. The main question is what underlies economic growth. Even the figurative expression of this question has become the main subject of economic science for several hundred years: Why are some countries rich and some countries poor? The comparative analysis of theories related to economic growth suggests that it is possible to divide the answers to this question into three groups. According to the first group of approaches, which countries have more savings and investments, the growth in that country is higher and they have more opportunities to become richer. Proponents of such an approach are more commonly known as "new Keynesians". Technological development is at the heart of the second group approach. So, in which country the technological development is higher, those countries are richer. Proponents of such an approach are known as "neoclassicists" in economic literature. According to the approach of the third group, human capital is the basis of technological development. Countries with high human capital are able to produce new products through new inventions and the application of such inventions, thereby taking on market competition. These theoretical views on economic growth, which are essentially different from each other, actually complement each other and ensure the development of various drivers of economic growth. Thus, although savings and investment are drivers of economic growth, they cannot be created by themselves. On the other hand, technological development can be easily transferred from one country to another, crossing borders. If technology were the only driver of economic growth, then the most backward country could be easily raised to the level of a developed country in a short period of time. Such counterarguments can also be attributed to the third group of approaches. Thus, growth cannot be ensured if savings and investments do not increase the fixed capital, create financial resources for research and work, as well as for the development of human capital, if highly developed human capital is not transformed into innovative

products through inventions and discoveries, and if new technology is not created. Thus, three seemingly different approaches to economic growth are actually aspects of a single process. However, none of these aspects can be realized as a driver of economic growth if there are no effectively functioning institutions. Such counterarguments can also be attributed to the third group of approaches. Thus, growth cannot be ensured if savings and investments do not increase the fixed capital, create financial resources for research and development, as well as for the development of human capital, if highly developed human capital is not transformed into innovative products through inventions and discoveries, and if new technology is not created. Thus, three seemingly different approaches to economic growth are actually aspects of a single process. However, none of these aspects can be realized as a driver of economic growth if there are no effectively functioning institutions. Such counterarguments can also be attributed to the third group of approaches. Thus, growth cannot be ensured if savings and investments do not increase the fixed capital, create financial resources for research and work, as well as for the development of human capital, if highly developed human capital is not transformed into innovative products through inventions and discoveries, and if new technology is not created. Thus, three seemingly different approaches to economic growth are actually aspects of a single process. However, none of these aspects can be realized as a driver of economic growth if there are no effectively functioning institutions. growth cannot be ensured if highly developed human capital is not transformed into innovative products with inventions and discoveries, if new technology is not created. Thus, three seemingly different approaches to economic growth are actually aspects of a single process. However, none of these aspects can be realized as a driver of economic growth if there are no effectively functioning institutions. growth cannot be ensured if highly developed human capital is not transformed into innovative products with inventions and discoveries, if new technology is not created. Thus, three seemingly different approaches to economic growth are actually aspects of a single process. However, none of these aspects can be

realized as a driver of economic growth if there are no effectively functioning institutions.

Studies devoted to the study of the effects of various aspects of the business environment on economic growth from both a theoretical and an empirical point of view are often found in the economic literature in the last ten years. An important part of such theoretical studies is based on the endogenous growth theory approach. During the empirical investigation of this problem, the effects of various institutional aspects of the business environment on economic growth are focused on. For example, the effects of corruption by Gaviria, the effects of the legal system by Beck, Demirguch-Kunt, Maksimovic, Cumming, Johan and Zhang, as well as Gauvel, the effects of political instability by Rajan, Zingales, Uurgler, Galindo Ayyagari, the effects of the tax system by Fisman and Svensson, the effects of business regulation Klapper Laeven, by, the effects of employment regulation Botero,

It should be noted that the influence of various aspects of the business environment in Azerbaijan on economic growth has attracted attention as a scientific subject only in the last decade. Business activity, market economy, competitiveness, liberality in foreign trade activities and other problems separately were studied by A.Sh. Shakaraliyev, T.N.Aliyev, G.N.Manafov, V.T.Novruzov, A.Q.Alirzayev, R.T.Aliyev, Y.A.Kalbiyev, S.I.Humbatova, U.G.Aliyev, V.A.Gasimli, A.A.Guliyev, M.A.Ahmadov, P.G.Rzayev, Sh.M.Rzayeva, A.F.Musayev and other researchers. Some aspects of the state intervention in the economy studied by M.G.Gulaliyev, S.A.Abasova etc. Appreciating the scientific and practical importance of the results we have listed and those obtained by other researchers, it should be noted that the quantitative assessment of the impact of the business environment, as a whole or its individual aspects, on economic growth was performed for the first time as a scientific subject.

The goals and objectives of the dissertation work. The main goal of the dissertation work is to quantitatively assess the effects of some institutional mechanisms related to the business environment in Azerbaijan on economic growth.

In order to achieve the goal set in the research, the following tasks are planned:

- Determining the main determinants of the business environment as an institutional mechanism;
- Uncovering the nature of business environment favorability and justifying its dual character;
- Selection of methods of quantitative assessment of the main indicators of the business environment;
- Selection of methods of determining and evaluating the mechanism of influence of the business environment on economic growth
- Analysis and evaluation of the current state of the business environment in Azerbaijan
- Implementation of the effects of the favorable business environment on economic growth in developing countries by the panel analysis method;
- Evaluation of the effect of the favorable business environment on economic growth in Azerbaijan using econometric methods;
- Evaluation of the effects of some institutional mechanisms related to the business environment, such as foreign trade freedom and income tax rate, on economic growth with econometric methods;

The object of the study. The institutional mechanisms of Azerbaijan's economy were taken as the object of the study.

The subject of the study. The existence of a mutual or one-way relationship between the favorable business environment and economic growth in Azerbaijan is the main subject of the research.

As the theoretical and methodological basis of the research were used neokeynesian theory, neoclassical theory, endogenous and institutional theories about economic growth. Special attention was paid to the institutional theory in the study. The business environment or its individual aspects have been treated as an institutional mechanism. Econometric methods were used as a methodology. Here, the single and multiple regression relationship was used with the application of the OLS method. To ensure the adequacy of the models, t-statistics, Durbin-Watson test, heteroscedasticity, stationarity, panel analysis, cointegration and others were used. Legislative framework

affecting the favorable business environment in Azerbaijan, Decrees and Orders of the President of the Republic of Azerbaijan, Strategic Road Maps, Decisions of Cabinet of Ministers and other official documents were used as a theoretical basis in the dissertation work. .

Data and empirical base of research. Empirical data for the study were obtained from the official statistical database of the Heritage Foundation, the Fraser Institute, as well as the World Bank. Statistical information on some aspects of the business environment in Azerbaijan was obtained from the official website of state statistics committee of AR.

The main provisions defended:

➤ The acceleration of globalization processes and the expansion of domestic liberalization have led to the improvement of the business environment in countries distributed across all income levels. The average indicator characterizing the favorable business environment is continuously increasing;

➤ In almost all countries, regardless of the income level, there is a relationship between the GDP volume and the level of economic growth and the integral indicator of the favorable business environment;

➤ GDP in the non-oil sector in Azerbaijan and economic growth in this sector do not depend on the tax burden. The main reason for the absence of such a relationship is the high tax burden and the fact that this burden has not changed significantly in recent decades;

➤ The regression relationship between the volume of GDP per capita in the total economy of Azerbaijan and the logarithm of the volume of added value per capita in the non-oil sector and total tax rates is strong and negative;

➤ Restricting the freedom of foreign trade, which is an important aspect of the business environment, slows down economic development;

➤ Another indicator that characterizes the favorable business environment - the assessment of the effects of the income tax rate on economic growth and GDP per capita in different countries, including Azerbaijan, suggests that these effects vary from country to country and depend on the country's economic situation. In order to increase

the positive effects of the income tax rate on economic growth in each country, it is necessary to find its optimal limit;

➤ Minimum wage has a negative effect on the logarithm of p.c. GDP volume. The number of salaried workers has no effect on the GDP volume or its logarithm. Favorable business environment and social protection of wage workers conflict in a number of cases in the short term. Therefore, the favorable business environment for the long term should be a priority;

Scientific novelty of the dissertation work: The main innovations of the dissertation can be grouped as follows:

➤ As an institutional mechanism of the business environment, channels of influence on economic growth have been identified;

➤ The nature of the contradiction between the business environment and the social protection of wage workers is revealed and the dual nature of the favorable business environment is justified;

➤ The current state of the business environment in Azerbaijan was assessed;

➤ The effects of the favorable business environment on economic growth in developing countries were assessed using the panel analysis method;

➤ In Azerbaijan, a model of the influence of the favorable business environment on economic growth has been established;

➤ Econometric models of the effects of business environment, foreign trade freedom and income tax rate on economic growth have been established;

The theoretical importance of the dissertation work: The important theoretical importance of the dissertation work is that, taking into account the contradictions between the favorability of the business environment and the social protection of wage workers, the determination of the optimal limit in the international ranking of the favorability of the business environment was put forward as a theoretical research subject. On the other hand, considering the business environment as an institutional mechanism, the need for a deeper study of its channel of influence on economic growth is justified. Some aspects of the business environment, for example, in the policy of liberalization of foreign trade and the determination of

the tax burden for business structures, have created a basis for proposing optimal conditions.

Practical significance of the study:The results obtained in the dissertation work can be used in the decision-making process on any aspect of the business environment. If the decisions made are based on the quantitative results regarding the macroeconomic effects of the business environment, it is possible to mitigate the conflict between the favorable business environment and the social protection of wage workers.

Approval of work.The main results of the dissertation were reflected in 5 articles published in scientific journals recommended by the Higher Attestation Commission under the President of the Republic of Azerbaijan, 1 article included in the SCOPUS database, 3 important national conference, 2 international conferences.

Name of the organization where the dissertation work was performed:The dissertation work was performed at the Department of Economics of Baku State University.

The structure and scope of the research work. The dissertation consists of 151 pages with a total of 253454 marks, including three chapters and 10 paragraphs, introduction, conclusion and propositions. The first chapter has 47 pages, the second chapter has 44 pages, and the third chapter has 36 pages. The volume of the dissertation work (excluding the bibliography of 20 tables, 51 graphs, and 131 references) consists of 211051 characters.

The main content of the dissertation:

1. The acceleration of globalization processes and the expansion of domestic liberalization have led to the improvement of the business environment in countries distributed across all income levels. The average indicator characterizing the favorable business environment is constantly increasing.

The expansion of globalization and the development of the world economic system have given a serious boost to the development of small and medium-sized businesses in every country. Liberalization of foreign economic relations gives business subjects the opportunity to enter the world market and even become employees of transnational companies.

A favorable business environment is necessary not only for the development of small and medium-sized businesses, but also for the development of large businesses and transnational businesses. However, large business structures and multinational companies usually have a greater ability to influence the country's legislation and public administration structures, and such business structures are more likely to become monopolists. In most cases, the existence of monopolistic companies affects the formation of any aspect of the business environment. Therefore, when talking about the favorable business environment in the country, it is necessary to understand the favorable business environment for small and medium business structures. For this purpose, the state takes the necessary steps to 1) create an institutional mechanism for business development and 2) form a legal framework necessary for business to be carried out under favorable conditions. If the government policy that includes these two steps creates conditions for reducing costs and increasing profits of small and medium-sized businesses, we consider such conditions as a favorable business environment.

The higher the freedom of foreign trade, the greater the threat to the domestic market. Just as an increase in the tax burden creates problems for business, a decrease of a certain threshold can also create problems for budget revenues. The fact that these sub-indices prepared by Doing Business are essentially different and their impact on economic growth is not clear is reflected in the fact that the integral index does not change

significantly depending on income. For example, in the dynamics of the integral index for high-income countries from 2016 to 2020, this index changed from 53.1 to 87.2. Among the developed countries, there is a country whose integral index was equal to 53.7 in 2020. This level is much lower than even some less developed countries.

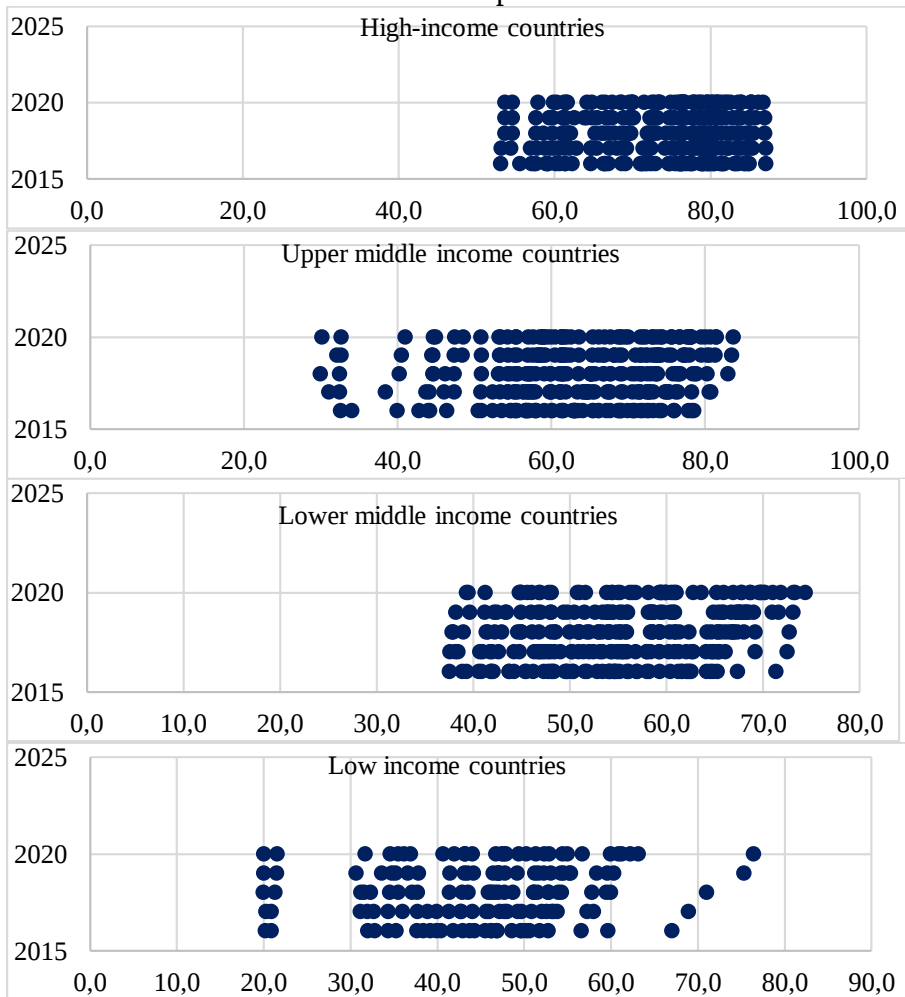
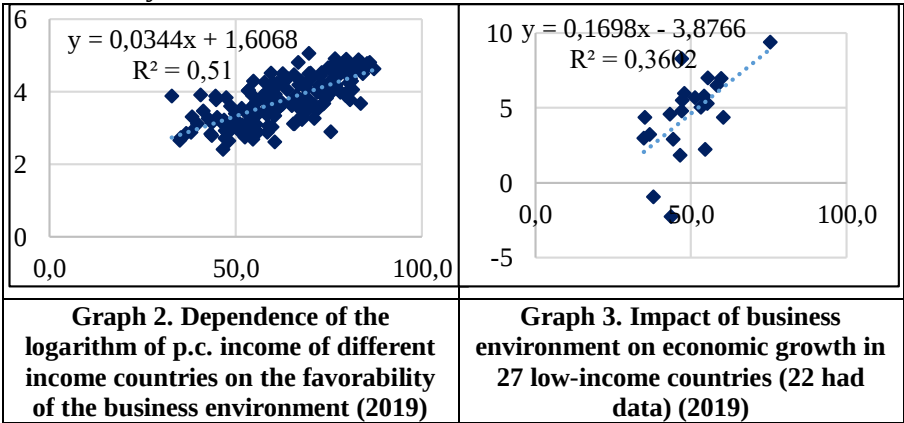
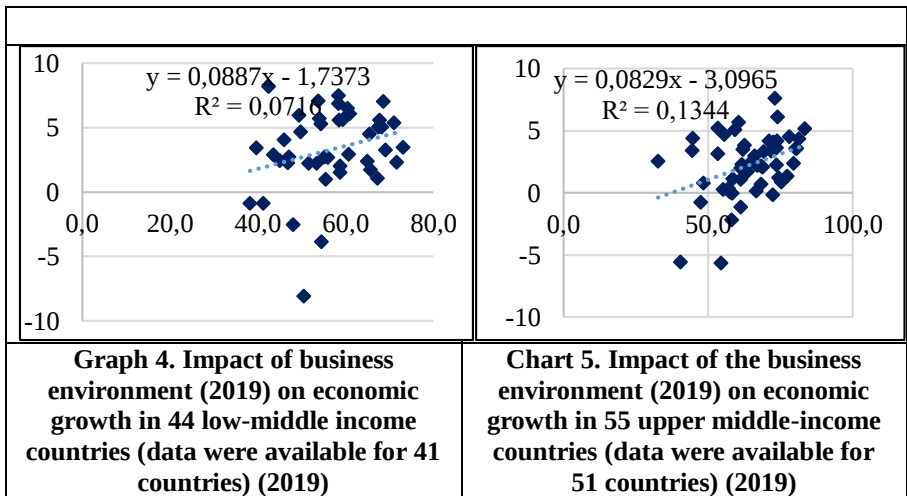


Chart 1. Dynamics of the WB integral index for different income countries (2016-2020)

Depending on the incomes, the level of the business environment is not only different, but also has an upward trend from year to year. Especially in low- and middle-low-income countries, the level of business environment favorability changes from year to year in the direction of improvement. High-income countries have almost reached "saturation" according to this indicator, and in the last decade, no significant changes in the direction of the favorable business environment have been felt in these countries.

2. Regardless of the level of income, there is a positive relationship between GDP volume and level of economic growth in almost all countries, and the integral indicator of the favorable business environment. Calculations show that the level of the business environment calculated according to the WB methodology is higher than 50, necessary for economic development, but not sufficient. There are many low-income countries that have a high WB rating but are included in the low-income group (e.g. Rwanda). It can be assumed that the ambiguity of the relationship between the country's income and the WB integral indicator may be more related to the reason mentioned above. Because according to the WB methodology, the indicators of payment of taxes and freedom of foreign trade were considered to be the same as other sub-indicators, and the lower the tax burden or the freer the foreign trade regime, the more favorable the business environment in the country was considered.





However, the less these indicators have a positive effect on business, the more it has a negative effect on the socio-economic sphere and the well-being of the population, as well as on the domestic market, and therefore on economic development. Therefore, as we mentioned above, this approach is not correct.

Despite the fact that some indicators characterizing the favorable business environment are bipolar, with an integral indicator p.c. The relationship between GDP has a positive trend (graph 2). However, such a conclusion cannot be said about the effects of the favorable business environment on economic growth for individual income groups (graph 3-5).

According to our accepted hypothesis, regardless of the income level, economic growth for all countries, as well as for individual income groups, can have a linear regression relationship with such indicators that characterize the business environment, so that these indicators are not bipolar. In this case, the improvement of the business environment according to such indicators can have a positive effect on economic growth. However, if the indicator characterizing the business environment is bipolar, then the positive dependence of economic growth on such an indicator occurs when the change of this indicator brings it closer to the optimal interval. Otherwise, the relationship will be negative.

3. Non-oil GDP in Azerbaijan and economic growth in this sector do not depend on the tax burden.

In the study, we tried not to consider the oil factor in the economy in order to evaluate the effects of the business environment on economic growth. Of course, although the direct effect of oil is not taken into account, it is impossible to completely eliminate its indirect effects. Because oil revenues enter the state budget through various channels, and from there to households, and are used for various purposes, including investment in new business areas. That is, even if we do not take into account the added value created in the oil and gas sector in terms of GDP, it is impossible not to fully consider the impact of the income from this sector on the added value created in other sectors. Nevertheless, as a preliminary approach, we have considered that the contracts signed in the oil and gas sector are of a special nature and the business environment in the country does not have a significant impact on the activity in this sector. Therefore, the volume of GDP calculated in two variants was used during the research. As we mentioned above, first the effects on the volume of GDP per capita were taken into account, and then the effects on the added value created in the non-oil sector.

The main part of the added value created in the non-oil sector of Azerbaijan is created in the non-oil processing industry, agriculture, service, electricity production and other areas. The dynamics of the volume of GDP in the non-oil sector is also very similar to the dynamics of the volume of GDP for the country. The study included the development dynamics of added value created in this sector between 2000 and 2020. The research shows that the development trend in this sector was continuously increasing until the 2015 devaluation. As a result of devaluation, the volume of added value in the non-oil sector decreased sharply in 2015 and 2016. Starting from 2017, growth is again felt in this sector. It should be noted that the share of the non-oil sector in the GDP volume of Azerbaijan is increasing.

The expansion of liberalization means further improvement of the level of business environment. Taking into account the importance of tax among the determinants used to assess the favorable business

environment, we used the "tax burden" indicator and its change in our calculations. Using the method of least squares, pairwise and multivariate regression analysis 1) GDP volume per capita; 2) annual absolute economic growth per person; 3) per capita annual economic growth rate; 4) absolute annual economic growth rate per person; 5) annual absolute growth of GDP per capita compared to the base year of 1990; 6) annual growth rate of GDP per capita compared to the base year of 1990; 7) the relationship between the annual absolute growth rate indicators of GDP per capita relative to the base year of 1990 and the "tax burden" component of the business environment and its 2-year change was analyzed. The obtained results suggest that GDP and economic growth in Azerbaijan do not depend on the tax burden. We assume that the main reason for this is related to the oil economy. Thus, dependent variables directly depend on oil revenues.

Carrying out similar calculations on the non-oil sector also gives grounds for coming to approximately the same conclusion. Thus, non-oil GDP in Azerbaijan and economic growth in this sector do not depend on the tax burden. In fact, since the main part of the non-oil sector is related to private entrepreneurship, the amount of added value created in this sector should have depended heavily on the tax burden. However, the main reason for the lack of such a relationship can be explained by the high tax burden and the fact that it has not changed significantly in the last 10 years.

4. The regression relationship between the volume of GDP per capita in the aggregate economy and the logarithm of the volume of added value per capita in the non-oil sector and the tax burden is strong and negative.

There is no connection between GDP and its changes in the overall economy of Azerbaijan and the tax burden. However, calculations show that the logarithm of the volume of GDP per capita, as well as the logarithm of the volume of GDP per capita in the non-oil sector, are significantly dependent on the tax burden (table 1).

Table 1

The results of the regression relationship between GDP volume per capita and the logarithm of the volume of value added in the non-oil sector and the tax burden

On the aggregate economy				
	coefficients	Standard error	t-statistics	P-value
b_0	13.97373	1.420171	9.839472	0.0000
b_1	-0.13305	0.034817	-3.82144	0.0021
$R^2 = 0.529043$				
$F = 14.60337$				
On the non-oil sector				
b_0	18.19225	1.434896	12.67844	0.0000
b_1	-0.19901	0.035178	-5.65722	0.0000
$R^2 = 0.711138$				
$F = 32.00416$				

Note: calculated by the author

From table 1, it can be seen that the regression relationship between the volume of GDP per capita in Azerbaijan and the logarithm of the volume of added value in the non-oil sector and the tax burden is significant, and based on the relationship between these indicators, it can be confirmed that the reduction of the tax burden in Azerbaijan stimulates economic development. The relationship between these indicators

$$\begin{aligned} \text{Ln}(\widehat{GDPPC})_t = & 13.97373 - 0.13305 * TB_t \\ & (1.420171) \quad (0.034817) \end{aligned} \quad (1)$$

$$\begin{aligned} \text{Ln}(\widehat{GDPNOL})_t = & 18.19225 - 0.19901 * TB_t \\ & (1.434896) \quad (0.035178) \end{aligned} \quad (2)$$

We can observe a similar dependence between budget revenues and tax burden. This shows that the relationship between budget revenues and tax burden in Azerbaijan in the last 15 years corresponds to the second half of the Laffer curve.

Taking into account the continuity of this relationship, it can be confidently asserted that the annual reduction of the tax burden in Azerbaijan can play an important role in stimulating economic development. However, it is impossible to continue such reduction to the level of "0". There is such a characteristic level for Azerbaijan that

it is the optimal level, and further reductions from this level can have a negative impact on the economy.

5. Cross-country panel analysis shows that one of the important aspects of the business environment, the effects of foreign trade tariffs on economic growth are negative. The negative relationship between these indicators is typical for the economy of Azerbaijan.

The use of tariffs by the world's most developed and highly competitive countries in the world market once again suggests that the complete abolition of tariffs is still supported by small economies in terms of protecting the internal market. Therefore, each country should determine the optimal rate for tariffs based on the uniqueness of its economy, the volume of production factors, and the level of comparative advantage in the region or the world market. Therefore, the effects of existing tariffs on economic development and welfare should be evaluated on behalf of each country.

In the case of Azerbaijan, the double regression equation (3) and the VAR model (4) were used to assess the effects of foreign trade tariffs on economic growth:

$$GDP_t = \beta_1 + \beta_2 * \tau_t + \varepsilon_t \quad (3)$$

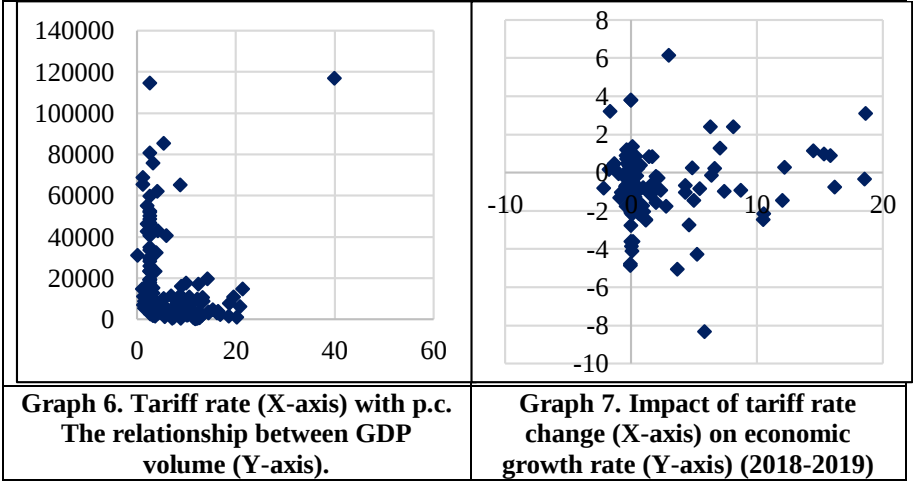
$$y_t = \beta_0 + \sum_{j=1}^n \beta_j * y_{t-j} + \sum_{k=0}^m \gamma_k * x_{t-k} + \varepsilon_t \quad (4)$$

The main reason for using the VAR model is that foreign trade tariffs have a shock effect on economic growth and other macroeconomic indicators. In the VAR model (economic growth), the dependence on its own (tn) prices (and on the prices of tariffs (tm) affecting it) will be sought. During cross-country research, VAR model (5) variant will be used.

$$y_t^i = \beta_0^i + \sum_{j=1}^n \beta_j^i * y_{t-j}^i + \sum_{k=0}^m \gamma_k^i * x_{t-k}^i + \varepsilon_t^i \quad (5)$$

It should be noted that there are no developed countries among the countries with high tariffs. Almost all countries with per capita GDP above 20,000 US dollars have import tariffs below 10%. The only exception here is Bermuda. GDP per capita in this country is close to 120,000 US dollars, but tariff rates are around 40%. However, the effects of tariff changes on the rate of GDP growth vary from country to country (Graph 6). In some countries, the increase in tariffs coincides with an increase in the rate of economic growth, and in some countries, on the contrary, a decrease. Given that there are many other

factors affecting the rate of economic growth, it cannot be argued that such changes are related to tariffs. In order to assess the extent of this relationship, it would be more correct to evaluate the impact of taxes on individual groups of goods on the example of each country, even within the country, on the volume of production for those groups of goods.



The main difficulty in calculating the impact of tariff rates on the aggregate economy is the difference in tariffs applied to different groups of goods, as well as the wide application of non-tariff restrictions along with tariffs. Since the non-tariff restrictions differ from the tariff rates, it is difficult to collect them together and determine the total tariff rates. That is why the Heritage Foundation offers a special methodology for comparative evaluation of non-tariff restrictions.

Panel analysis of the dependence of the volume of GDP per capita on the level of foreign trade tariffs for 54 countries suggests that there is a negative relationship between these indicators (table 2).

Dependence of the volume of GDP per capita on the tariff rate

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	40606.70	1042.573	38.94855	0.0000
TARIFFS	-2857.287	157.4833	-18.14343	0.0000
Root MSE	20850.66	R-squared		0.253378
Mean dependent var	26106.00	Adjusted R-squared		0.252608
S.D. dependent var	24143.09	S.E. of regression		20872.15
Akaike info criterion	22.73227	Sum squared resid		4.23E+11
Schwarz criterion	22.74231	Lug likelihood		-11045.89
Hannan-Quinn criter.	22.73610	F-statistic		329.1840
Durbin-Watson stat.	0.041932	Prob(F-statistic)		0.000000

In recent years, extensive reforms have been carried out in the direction of liberalization of foreign trade in Azerbaijan. However, despite this, the average tariff rate on imports is still high. According to the estimates of the World Bank, in 2019, Azerbaijan is among the top 20 in terms of the level of import tariffs.

Based on the VAR model, the assessment of the response of the GDP volume in Azerbaijan to the tariffs is given in table 3.

Vector Autoregression Estimates			R-squared		
Date: 12/01/21 Time: 12:48			Adj. R-squared		
Sample (adjusted): 2009 2017			Sum sq. resids		
Included observations: 9 after adjustments			S.E. equation		
Standard errors in () and t-statistics in []			F-statistic		
	GDP P C	TARIFFS			
GDP P C (-1)	0.782712 (0.44716) [1.75041]	-0.000494 (0.00026) [-1.90478]	Log likelihood	-72.21233	-5.142901
GDP P C (-2)	-0.328154 (0.37169) [-0.88288]	0.000392 (0.00022) [1.81631]	Akaike AIC	17.15829	2.253978
TARIFFS(-1)	-1008.572 (630.791) [-1.59890]	0.157869 (0.36598) [0.43136]	Schwarz SC	17.26786	2.363547
TARIFFS(-2)	-209.9655 (769.341) [-0.27292]	-0.843504 (0.44636) [-1.88973]	Mean dependent	6086.114	3.995556
C	8018.886 (5070.31) [1.58154]	7.256027 (2.94173) [2.46658]	S.D. dependent	1580.492	0.699627
			Determinant resid covariance (dof adj.)		463936.1
			Determinant resid covariance		91641.70
			Log likelihood		-76.95628
			Akaike information criterion		19.32362
			Schwarz criterion		19.54276
			Number of coefficients		10

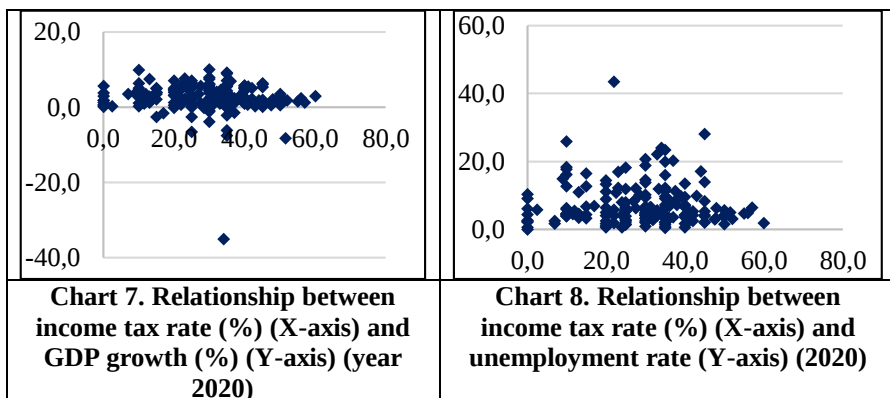
The obtained results suggest that the volume of GDP is affected by its volume in (t-1) year ($\text{laq}=1$), the level of tariffs in that year ($\text{laq}=1$),

as well as its level in (t-1) year ($laq=1$). However, we must note that the reaction of the GDP volume to the change in tariffs is not very serious, even if it exists. There are mainly two reasons for this. The first reason is related to the structure of imports. Due to the fact that the volume of technical and food goods has the main weight in the structure of imports in Azerbaijan, its relative stability has been ensured. A relatively small change in tariffs does not have a serious impact on the stability of imported goods and, consequently, on the volume of GDP. The second reason is related to the dominance of oil revenues in GDP. Changes in import tariffs do not affect oil and gas exports, and thus changes in tariffs do not have a strong impact on GDP.

6. The effects of income tax on economic growth vary across countries' income groups and are not universal.

Income tax varies from country to country and its rate is more related to the economic policy of the state in developed or developing countries. There is a developed country where the amount of income tax is more than 40%, and there is a country where it is close to "0". For example, in developed countries such as Denmark, the Netherlands and Austria, the income tax rate is even more than 50%.

We have tried to evaluate the effects of the income tax rate on economic growth with both panel analysis and time series analysis. In the first case, the indicators of the last 8 years for Eastern Europe and the former Soviet republics, which changed from the socialist economic system to market economic relations in the nineties of the last century and later, were used, and in the second case, the indicators of the last 8 years were used for Azerbaijan. In both cases, the income tax rate was obtained from the Heritage Foundation reports, and the per capita annual economic growth indicators were obtained from the World Bank database.



Countries with very high incomes such as Kuwait and the UAE do not apply income tax. However, there are many low-income countries that do not have high income tax rates. These countries are trying not to reduce the disposable income of the population and business entities by lowering the income tax rate, as well as to be able to attract foreign direct investments. However, setting the income tax at a low level does not mean that the economy will grow rapidly. Of course, in this case, the favorability of the business environment increases, but income taxes are not the only indicators that determine the favorability of the business environment.

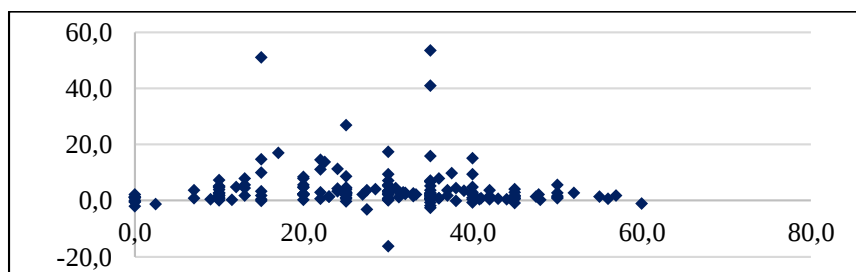


Chart 9. Relationship between income tax rate (%) (X-axis) and inflation rate (Y-axis) (2020)

The nature of the relationship between the income tax rate and GDP per capita in 186 countries in 2020 also shows that there is no universal dependence between these indicators typical of all countries (Graph 7). The nature of the relationships between the income tax rate, the

unemployment rate (graph 8), the income tax rate inflation rate (graph 9) prove that there is no general regularity between these indicators that is characteristic of all countries.

7. The impact of the income tax rate on economic growth in Azerbaijan is not noticeable.

In order to evaluate the effects of the income tax rate on economic growth in Azerbaijan, we will use a simplified version of the regression equation (6):

$$\Delta Y_t = \beta_1 + \beta_2 * \Delta T_t + \varepsilon_t \quad (6)$$

Here, ΔY_t - the percentage change of GDP relative to 2012, ΔT_t - is the change of the income tax rate relative to 2012. It should be noted that the income tax in the country was 30% in 2012, and 25% in the following years, and has not changed in the last 8 years. Therefore, it is very unlikely that the change of GDP in the country will change depending on the income tax rate. On the other hand, the fact that the main part of the GDP in Azerbaijan consists of oil revenues also reduces the impact of the rate of income taxes on economic growth and economic activity Table 4.

Table 4.

The result of the regression relationship between the income tax rate and the change in GDP per capita in Azerbaijan

	coefficient	Standard error	t-statistics	p-value
β_1	-69,236	137.4953	-0.50355	0.630033
β_2	1.69236	1.376993	1.229026	0.25877

Note: calculated by the author

Thus, the assessment of the effects of another indicator characterizing the favorable business environment - the income tax rate on economic growth and GDP per capita in different countries, including Azerbaijan - suggests that these effects vary from country to country and depend on the country's economic situation. In order to increase the positive effects of the income tax rate on economic growth in each country, it is necessary to find its optimal limit.

8. MW p.c. It has a negative effect on the logarithm of GDP volume. The number of salaried workers has no effect on the p.c. GDP volume or its logarithm.

The channel of impact of MW on economic growth or other macroeconomic indicators is mainly related to its effects on the level of employment. A comparative analysis of a large number of studies suggests that an increase in the minimum wage above a certain level has a negative effect on the employment level of low-skilled workers.

The impact of the amount of MW on the business environment cannot be considered unequivocally negative. Thus, since every enterprise is forced to pay wages above this amount, the costs of the enterprise increase. However, it should be taken into account that the increase of MW also revives the labor market. Thus, in cases where MW is low, many people who are able to work choose self-employment or refuse to work. On the other hand, giving higher wages than MW increases employee motivation. The threat of possible layoffs as a result of increasing the MW may induce workers to become more MWSalary. In other words, the increase in MW is one of the main exogenous factors that increase the supply in the labor market. Studies on the effects of MW on employment also show that, although its increase has a negative impact on the employment level of low-skilled workers in some countries, it remains unaffected in others. That is, in some countries the effects of MW on the business environment are felt, and in some countries such effects are not felt. The main reason for this has to do with how MW is comparable to the average salary. For example, in 1995, the amount of MW in Azerbaijan was 1.1 manat. In that year, the average monthly wage in the economy was 12.5 manats. That is, MW was 12 times less than the average monthly salary.

Table 5. M.W. of the logarithm of the volume of GDP per person (log(GDPpc)), dependence on the average wage, their ratio and the number of employees

	Coefficient	Standard error	t-statistics	P-value
SM&AWt	6.565428	0.969823	6.769719	0.0000
MW	-0.017196	0.004802	-3.581063	0.0018
AWt	0.007867	0.001037	7.588192	0.0000
W&St	T	0.000401	-1.901363	0.0711
C	6.635079	0.532654	12.45663	0.0000
R ²	0.974424			
Durbin-Watson coefficient	1.064865			

Note: calculated by the author

The level of Minimum Wage (MW_t) and average (AW_t), as well as the ratio of these two indicators ($SM&AW_t$) and the number of salaried employees ($W&S_t$) to GDP per capita ($GDPpc_t$) can be characterized as the impact of the wage aspect on economic growth, which is related to the favorable business environment.

The logarithm of the volume of GDP per capita depends on the Minimum Wage, the average wage level, the ratio of the minimum Wage to the average wage significantly, even in the 1% and 5% confidence intervals (table 5). The dependence on the number of hired workers exists in the 10% confidence interval. Of course, in such a multivariate regression dependence, the Durbin-Watson coefficient is slightly outside the necessary interval.

The relationship between these indicators after removing autoregression is given in table 6. Let's note that in this case, the dependence on the Minimum Wage, the average wage and the ratio of these indicators is significant. However, the H_0 –-hypothesis for the dependence on the number of employees is justified.

Table 6. Dependence of the logarithm of the volume of GDP per capita ($\log(GDPpc) - 0.4676 * \log(GDPpc)_{t-1}$) on the MW, the average wage, their ratio and the number of employees

	Coefficient	Standard error	t-statistics	P-value
$SM&AW_t - 0.4676 * SM&AW_{t-1}$	2.010580	0.451864	4.449524	0.0003
$MW_t - 0.4676 * MW_{t-1}$	-0.007108	0.002574	-2.761001	0.0124
$AW_t - 0.4676 * AW_{t-1}$	0.003255	0.000600	5.428077	0.0000
$W&S_t - 0.4676 * W&S_{t-1}$	0.000105	0.000178	0.590326	0.5619
C	1.313403	0.118269	11.10524	0.0000
R^2	0.949916			
Durbin-Watson coefficient	1.555719			
Number of observations	26 years (1996-2020)			

Note: calculated by the author

Thus, the double regression equations characterizing the dependence of the logarithm of the volume of GDP per person on the level of the Minimum Wage, the average wage, and the ratio of the Minimum Wage to the average wage indicate that the relationship

between these indicators is significant. The number of salaried employees does not affect the p.c. GDP volume or its logarithm.

CONCLUSION AND SUGGESTIONS

In the dissertation work, the effects of the business environment and its separate aspects on economic development indicators, including GDP volume per capita, GDP volume, and economic growth were quantitatively assessed through various econometric methods. To ensure the high adequacy of econometric models, t- and F-tests, Durbin-Watson coefficient, stationarity of time series, cointegration method, Extended Dickey-Fuller test, heteroscedasticity checking and elimination methods, etc. were used. The main results obtained as a result of the research can be grouped as follows:

1. Endogenous economic growth theory not only does not deny the neoclassical and neoknesian growth theories, but complements them and allows to explain the influence channels of state policy on the economy and its separate aspects. According to the endogenous growth theory, R&D expenditure, as well as human capital development, underlie the accumulation and investment on which the New Keynesian growth theory is based, as well as the technological development on which the neoclassical ones are based. Institutional mechanisms, including any form of government intervention in the economy, have an impact on economic growth. Favorable business environment, which is one of the institutional mechanisms, affects economic development through the increase of savings and investments. The more favorable the business environment in the country, the greater the volume of domestic investments, along with foreign direct investments. On the other hand, the favorable business environment is characterized by a reduction in the tax burden. In this case, the collection also increases. Favorable business environment, characterized by the liberality of foreign economic relations, allows technological innovations to enter the country more easily;

2. It is an institutional mechanism, as it is realized by state policy. The main purpose of this mechanism is business development. At this time, the interest of the entrepreneur is increased more. This includes

measures ranging from price liberalization, tax cuts, simplification of the foreign trade regime, to layoffs and hiring. At this time, a conflict may arise with the social protection of wage workers, and in some cases, the society as a whole. For example, reducing taxes can lead to a decrease in budget revenues. This can lead to a decrease in social protection expenses from the budget. Easing hiring and firing can easily result in wage workers facing unemployment or worsening their working conditions. Therefore, the indicators characterizing the business environment should be divided into two groups during the steps taken in the direction of increasing the favorability of the business environment. The first group of indicators are those indicators. they are necessary in all cases for both business development and social protection of wage workers. For example, the strengthening of anti-corruption legislation and ensuring the rule of law are among such institutional mechanisms. However, although the liberalization of the import regime increases the business environment, it can create conditions for unemployment in the domestic market. Also, tightening of minimum wage legislation may create unemployment for low-skilled workers;

3. Based on the integrated indices prepared by the Doing Business Research Group, the Heritage Foundation or the Fraser Institute, the evaluation of the favorableness of the business environment in Azerbaijan suggests that some aspects of the business environment in Azerbaijan are quite satisfactory. For example, the business environment in Azerbaijan can be considered favorable in terms of credit availability, enterprise registration and other indicators. However, in some aspects, for example, the business environment in Azerbaijan cannot be considered favorable in terms of indicators related to price regulation, tax burden and minimum wage. In fact, the necessary institutional mechanisms for these indicators have been maintained at a certain level in order to ensure the social protection of the population and wage workers;

4. Through econometric calculations, it has been proven that, regardless of the income level, there is a relationship between the GDP volume and the level of economic growth and the integral indicator of the business environment in almost all countries. Calculations show

that the logarithm of the income of countries with different incomes has a positive dependence on the favorability of the business environment.

5. Econometric calculations show that changes in the business environment in any direction do not have the same result for all countries. This is due to the fact that for each country there is an optimal level of business environment. When deviations from optimality occur as a result of changes, economic growth weakens. On the contrary, if the changes bring it closer to the optimum, then economic growth is stimulated. Therefore, cross-country analysis shows that. Regardless of the level of development, the change of the business environment in the countries included in the research within one year in one direction or another leads to different results in different countries.

6. Non-oil GDP in Azerbaijan and economic growth in this sector do not depend on the tax burden. In fact, since the main part of the non-oil sector is related to private entrepreneurship, the amount of added value created in this sector should have depended heavily on the tax burden. However, the main reason for the absence of such a relationship is the high tax burden and the lack of noticeable changes in this burden over the years.

7. The effects of changes in foreign trade tariffs on the rate of GDP growth vary from country to country. In some countries, the increase in tariffs coincides with an increase in the rate of economic growth, and in some countries, on the contrary, a decrease. Given that there are many other factors affecting the rate of economic growth, it cannot be argued that such changes are related to tariffs. In order to assess the extent of this relationship, it would be more correct to assess the impact of taxes on individual groups of goods on the example of each country, even within the country, on the volume of production for those groups of goods;

8. An assessment of the effects of tariffs on GDP per capita in 2019 for 134 countries suggests that there is a relationship between these indicators, but it is weak;

9. The assessment of the reaction of GDP volume to foreign trade tariffs in Azerbaijan based on the VAR model suggests that the volume

of GDP in the year (t-1) ($laq=1$), the level of tariffs in that year ($laq=1$), as well as (t-1) is influenced by the level ($lag=1$) in the year. However, we must note that the reaction of the GDP volume to the change in tariffs is not very serious, even if it exists. It seems that there are mainly two reasons for this. The first reason is related to the structure of imports. Due to the fact that the volume of technical and food goods has the main weight in the structure of import in Azerbaijan, the stability of its ratio has been ensured. A relatively small change in tariffs does not have a serious impact on the stability of imported goods and, consequently, on the volume of GDP. The second reason is related to the dominance of oil revenues in GDP. Changes in import tariffs do not affect oil and gas exports, and thus changes in tariffs do not have a strong impact on GDP. But in all cases such effects are present.

10. Another indicator characterizing the favorability of the business environment - the assessment of the effects of the income tax rate on economic growth and GDP per capita in different countries, including Azerbaijan, suggests that these effects vary from country to country and depend on the country's economic situation. In order to increase the positive effects of the income tax rate on economic growth in each country, it is necessary to find its optimal limit.

11. Calculations have shown that the effects of the economic development on the volume of GDP per capita in Azerbaijan are quite weak. The main reason for this is that the national income tax is much smaller than the average salary. However, the impact of the average salary on the volume of GDP per capita is significant. On the other hand, the effect of the ratio of the national income to the average salary on GDP per capita and its logarithm is significant.

Taking into account the results obtained in the dissertation, it is necessary to determine the optimal level of the business environment in order to ensure the sustainability of economic growth in Azerbaijan. However, at this time, it is appropriate to ensure the optimality of individual aspects, rather than the integral index of the business environment's favorability. Such optimality should be determined mainly for aspects of a dual nature. It is not important to determine the optimality in other aspects. There is a need to continuously improve

Azerbaijan's indicators on non-dual aspects and increase the favorable business environment.

List of published scientific works

1. Islamova, N. M. Analysis and Evaluation of the Current State of the Business Environment in Azerbaijan // Construction Economics and Management, - 2020. №4, -p. 46-56.

2. Islamova, N.M. "Effects of foreign trade freedom on economic growth" // Republican scientific-practical conference on "TEACHING, LEARNING AND EDUCATION" dedicated to the 100th anniversary of the birth of national leader Heydar Alirza oglu Aliyev. N.M. Islamova. Baku: - 2023, - p. 78-79

3. Islamova, N.M. Development dynamics of business environment in Azerbaijan // International scientific-practical conference on "Design, technology and innovation in textile and light industry", Azerbaijan University of Technology, Ganja. – 2022. – pp. 16-18

4. Islamova, N.M. Analysis of the relationship between the level of foreign trade tariffs and GDP per capita in Azerbaijan // Republican scientific-practical conference "Competitive specialist training is the main goal of modern education" dedicated to the 100th anniversary of the birth of national leader Heydar Alirza oglu Aliyev. N.M. Islamova. Baku: -2023, -p. 121-123

5. Islamova, N.M. The Nature of Business Environment and Its Affordability // Journal of Economic and Political Sciences, - 2018. No. 4, - pp. 22-35.

6. Islamova, N.M. Methods of Measuring Business Environment Affordability // - Baku: Azerbaijan National Academy of Sciences, Institute of Economics, Scientific Works, - 2018. №1, - p. 303-308.

7. Islamova, N.M. Assessing the Effects of Business Environment Favorability on Economic Growth in Different Income Countries // Construction Economics and Management, - 2021. №1, - p. 244-251.

8. Islamova, N.M. The Mechanism of Influence of the Business Environment on Economic Growth and Evaluation Methods // - Baku: Azerbaijan National Academy of Sciences, Institute of Economics, Scientific Works, - 2018. No. 6, - pp. 174-180.

9. Islamova, N.M. Effects of income tax rate on economic growth (literature review) // Republican scientific-practical conference on "Global challenges and prospects in economic development", Western Caspian University. - Baku. - 2022. - p. 132-133.

10. Islamova, N. Implementation of Mobile Entrepreneurial Learning in the Context of Flexible Integration of Traditions and Innovations / Islamova N., Teymurova V., Abdalova M, [et all] // International Journal of Interactive Mobile Technologies, - 2020. №21, - p. 118-135

11. Islamova, N. Dynamics of the ease of business index in countries with different income // "International scientific Internet conference" "Світ наукових досліджень. Випуск 7": матеріали міжнародної науковопрактичної інтернет-конференції з економіки, інформаційних систем і технологій, психології та педагогіки. – Тернопіль, 2022. – p. 12-14



The defense will be held on “23” *October* 2024 at the meeting of the Dissertation council ED 2.10 of Supreme Attestation Commission under the President of the Republic of Azerbaijan operating at Azerbaijan State Economic University.

Address: AZ 1001, 6 Istiglaliyyat, Baku. Azerbaijan State Economic University.

Dissertation is accessible at the Library of Azerbaijan State Economic University.

Electronic versions its abstract are available on the official website of the Azerbaijan State Economic University www.unec.edu.az .

Abstract was sent to the required addresses on “21” *September* 2024

Signed for print: 18.09.2024

Paper format: 60x84 ^{1/16}.

Number of hard copies: 20
(41492 Symbols)

“AA – Polygraph” Production and Commercial Association
capevi@internet.ru Tel.: (+99455) 2012809