

REPUBLIC OF AZERBAIJAN

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ABSTRACT

of the dissertation for the degree Doctor of Philosophy

Comparative-econometric analysis of macroeconomic effects of fiscal policy in EECA countries and Azerbaijan

Specialty: 5307.01 Economic theory
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Field of science: Economics

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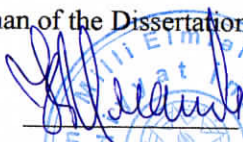
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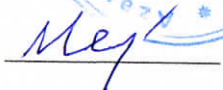
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GENERAL CHARACTERISTICS OF THE STUDY

Relevance and development of the topic. The fiscal policy line was formed as a logical result of the economic policy of the state, as well as the system of measures implemented by it, and has become an integral part of the economic and political life of the state. The important role of the state in creating a stable economic growth of the financial system required the proper development and systematic implementation of fiscal policy. In particular, various events in the twentieth century have affected the relationship between the state and the economy, and the role of the state in the economy and the existing policy have changed radically in connection with the processes taking place in the economic system.

Discussions on the effectiveness of fiscal policy have acquired a new character with the economic processes that have taken place in a number of European countries over the past 20 years. Thus, the fiscal consolidation policies applied in Denmark between 1983 and 1986 and in Ireland between 1987 and 1989, on the one hand, mobilized private consumption expenditures and, on the other hand, led to an increase in aggregate demand. All this proves once again how important the fiscal policies pursued by governments are in economics.

At present, the stimulation of economic development in the world depends on the effectiveness of fiscal policy in the country. Fiscal policy is the basis of the state's economic policy, regardless of the model, time and conditions in which the economy operates in the world. edir. Through budget expenditures and taxes, countries fulfill their social function by interfering in the distribution of income by reducing inequality in this area, and on the other hand, they actively participate in ensuring economic growth by ensuring the production of public goods through budget expenditures.

The question of how the increase in government spending or tax revenues affects the pace of economic development in the country has always been on the agenda of economics. At a time when the question of which economic sector should be supported

by the state in the West is being discussed, in developing countries, increasing budget expenditures and public investment in the most important areas of society has been seen as the foundation of economic growth. Despite this general perception, most developing countries have regained the importance of fiscal policy to maintain macroeconomic balance in the country due to the high inflation and rapid increase in foreign debt that they have experienced since the 1970s.

There are numerous empirical studies examining the effects of budget expenditures on economic growth. Opinions obtained as a result of research are completely contradictory. Some argue that the increase in public spending has a positive effect on economic development, while others say that this factor has slowed growth. Some studies have concluded that there is no significant link between budget expenditures and economic development. A study by James Quartney for 90 countries found that rapid budget spending has significantly slowed economic growth. The six countries (Portugal, Spain, Greece, Finland, Sweden and Denmark), which once had the highest growth rates in budget spending, have experienced incredible declines in economic growth. Between 1960 and 2000, the GDP growth rate of such countries fell from an average of 7% to 1.2%. Ireland, on the other hand, was described in the economic literature as the only country in the European region with stable and rapid economic growth, reducing its budget expenditures from 52% to 36% between 1986 and 1996.

The macroeconomic effects of fiscal policy in Eastern Europe and Central Asia have been extensively studied since the beginning of the twentieth century, taking into account the common features of economic reforms and fiscal policy in the former Soviet Union. Thus, the urgency of the topic requires the study of the impact of fiscal policy on macroeconomic indicators and econometric analysis in Azerbaijan and other countries (for example, the EECA region).

The subject of the research is economic relations based on comparative and econometric analysis between fiscal policy instruments and macroeconomic indicators in the countries of

EECA and Azerbaijan. The object of the research is to study, assess the impact of fiscal policy on macroeconomic indicators in the EECA countries and Azerbaijan, and to determine the relationship between appropriate determinants to increase the positive impact. The issue of state intervention in various spheres of public life has always been relevant in economics. In particular, the concept of fiscal policy became the focus of macroeconomic discussions with JM Keynes's 1936 book, *The General Theory of Employment, Interest, and Money*. If we look at the economic literature in general, the fiscal policy pursued by the state for the purpose of intervention is ineffective in some respects. Interestingly, there are many who say the opposite. In particular, economist Rati Ram's "The weight of the state and economic development. A Look at the US Economy, Quartney's *The Size of the State and the Welfare of Nations*, Barro and Lee's *Winners and Lost in Economic Growth*, and Reinert's *The Role of the State in Economic Growth* Hodzon-Maxer's book "Coordination in Economic Policy, Reforms for Sustainable Development" shows that fiscal policy has a significant impact on changes in macroeconomic indicators.

Well-known German economist Adolf Wagner's "Components of the National Economy" focuses on the role of the state in the economy, fiscal policy on economic growth, employment, income redistribution, inflation, investment climate, banking sector, etc. He extensively studied the influence of such issues, conducted mathematical analyzes and was remembered for his various scientific speeches. In particular, the German economist Okenfels wrote in his 1985 book, *Financial Liberalization*, that one of the three main problems in the economy was the study of the positive or negative effects of fiscal policy on macroeconomic indicators. However, Lucas, Romer, Rebelo, and Barron have at various times sought to explore the role of the state in economic growth. Scholars have provided valuable insights into the role of the state in the economy and when, under what conditions, and how fiscal policy instruments will be implemented. According to them, the state's fiscal policy depends on the nature of the existing system

of governance in the country, the historical development line, long-term economic stability and so on. can have a positive or negative effect, depending on.

In the field of studying the macroeconomic effects of state regulation and fiscal policy in the economy, N.M Imanov's book "Social orientation of the economy in right and left systems" proposed new indices to measure the left-right level of the economy and explored the correlation between left-health and its social orientation. In particular, rich information was provided on the methodology for calculating the Public Finance sub-index and the share of budget expenditures in GDP and the tax burden of enterprises in individual countries.

Regarding to Eastern Europe and Central Asia (EECA) countries, fiscal policy, macro-economic impact study Ionut Dmitrinin ("fiscal policy. Romania impacts"), Kalina Dmitrovanin ("Bulgaria's fiscal and monetary policy"), Alina Monica Klonovskanin ("Fiscal policy effectiveness difficulties") , Maxmudali Dexanovun ("review of the tax system in Uzbekistan"), and poets were great service.

The Development Concept "Azerbaijan 2020: Vision for the Future" approved by the Decree of the President of the Republic of Azerbaijan dated December 29, 2012, the Strategic Roadmap for the National Economic Prospects of the Republic of Azerbaijan approved by the Decree of the President of the Republic of Azerbaijan dated December 6, 2016 Development prospects, A.F.Musayev, Yakalbiyev and Z.H.Rzayev's "Taxes and Taxation", Alakbar Mammadov, Ilgar Seyfullayev's "Tax and investment environment", Isakhan Valiyev's "Legal basis of taxes and taxation", Tanriverdi Pasha's "Global financial crisis. Reasons, consequences for the world and Azerbaijani economy" and "Theoretical and methodological bases of taxation "by F.A.Mammadov and A.F.Musayev shared information about the state tax policy, fiscal policy, taxation mechanism and methods of determining the tax burden.

Goals and objectives of the research. The main purpose of the dissertation is to conduct a comparative and econometric analysis of the impact of fiscal policy on macroeconomic indicators in the countries of Eastern Europe and Central Asia and Azerbaijan. In order to achieve these goals, the following tasks have been set:

- To reveal the essence of state regulation of fiscal policy, to indicate the types of implementation, main goals and objectives;
- To clarify the differences in economic views on issues of state regulation of the economy;
- To study the interaction of fiscal policy with the crisis, inflation and stagflation;
- To get acquainted with the existing methodologies in order to study and measure the macroeconomic effects of fiscal policy;
- To get acquainted with the methodologies for assessing the macroeconomic impact of fiscal policy and conduct comparative analysis in order to conduct econometric calculations;
- To determine the impact of fiscal policy on economic growth, employment, income distribution and human development in the EECA countries and Azerbaijan by comparative and econometric methods and to assess its impact on macroeconomic indicators;

Theoretical and methodological bases of research work. The theoretical and methodological basis of the research is the theoretical, fundamental economic ideas and concepts put forward by classical economists, representatives of modern economic schools and well-known Azerbaijani economists since the Middle Ages on the current effects of fiscal policy on macroeconomic indicators.

Numerous scientific literature on the macroeconomic effects of fiscal policy, various normative-legal documents adopted in connection with fiscal policy, legislative acts, statistical and analytical sources were used as theoretical and methodological basis in the research.

Scientific abstraction, induction and deduction, econometric modeling, statistical analysis and logical generalization methods were used during the research.

The main information base of the dissertation is based on well-known scientific research of local and international importance, statistical data of the Ministry of Taxes, the Ministry of Finance, the Central Bank, the State Oil Fund and the State Statistics Committee, as well as the World Bank and the International Monetary Fund. It compiles reports, scientific articles and statistics published by the Foundation, the Heritage Foundation and other similar economic sources.

The scientific novelty of the research consists of the following:

- As a result of critical-analytical analysis of numerous research works on the theoretical and methodological bases of fiscal policy in EECA countries and Azerbaijan, it was determined that fiscal policy in these countries contributes to budget expenditures, tax revenues, economic growth, employment, income distribution, human development, inflation. , the impact on stagflation, the banking sector, the development of the securities market is significantly different and requires an appropriate approach in the example of one state.

- The Model Tax Code prepared by the Organization for Economic Cooperation and Development (OECD) was analyzed and provisions of special importance for supporting reforms and economic diversification to increase the competitiveness of small and medium enterprises were identified and their feasibility in fiscal policy in Azerbaijan was assessed.

- The model tax codes of the UN and the OECD have been studied, as the economic and trade relations between the EECA countries and Azerbaijan have been selected by the OECD model tax code, taxation issues between developing countries and Azerbaijan by developing countries importing capital, The need to regulate employment on the basis of the principles of the UN Model Tax Code is justified by the fact that employment, business income, interest, diversification of investments are regulated by the first signatory country and decided in favor of the country attracting investment in bilateral negotiations.

- Kyrgyzstan is the most active country in tax reform in the last 10 years among EECA countries. The main reason is the government's "Tax Policy Development" strategy. The strategy has three main slogans - ensuring balanced economic growth, promoting business development by reducing the tax burden, and focusing on the quality factor in tax revenue management.

- Macedonia (0.223) and Kazakhstan (0.271) are the most liberal countries, while Tajikistan (0.484) and Ukraine (0.481) are the most left-wing countries in the Public Finance Sub-Index of the Economic Leftness (Rightness) Index. Azerbaijan is to the left of the relative center (0.379). In the Russian Federation, Ukraine, Kazakhstan, and Kyrgyzstan, there is a moderate correlation between public finance sub-indices and per capita GDP (international dollar AQP) ($R^2 = 0.471-0.489$).

- Given the fiscal stability of the State Oil Fund, the relationship between budget expenditures and nominal non-oil GDP was analyzed by ADF and Philips-Perron tests (including Johansen, Engle-Granger, Trace and Max.eigenvalue tests) and found that nominal A 1% increase in budget expenditures leads to a 0.69% increase in nominal non-oil GDP, and a 1% increase in real budget expenditures leads to an economic growth of 0.48% in the non-oil economy.

- During the econometric analysis of the macroeconomic effects of fiscal policy in Azerbaijan, taking into account the overall size of our economy, it was determined that the amount of budget revenues is higher than the world average.

- A multi-factor regression model of fiscal indicators has been developed in EECA countries. Econometric calculations show that the increase in budget expenditures in Belarus by \$ 1 billion increases the number of employed people in the country by 32,000 people. An increase of 1 billion euros in budget expenditures in Hungary increases the number of employed people in the country by 27,000. According to the results of elastic calculations between these two indicators, a 10% increase in budget expenditures in the country increases the number of employed people by 0.41%. An

increase of 1 billion euros in budget expenditures in Estonia increases the number of employed people in the country by 2,600 people. An increase of 1 billion euros in budget expenditures in Latvia will save 42,000 people from poverty and 61,000 in Lithuania. An increase of 1 billion euros in budget expenditures in Poland saves 312,000 people from poverty. In Slovakia, an increase of 1 billion euros in total incomes will reduce the number of poor people by 20,000. In Slovenia, the figure is 7,000. In Kyrgyzstan, a 10% increase in budget expenditures increases the number of employed people by 0.37%.

- An increase of 1 billion euros in budget expenditures increases the life expectancy at birth (LE) in Slovenia by 0.13 years. The \$ 1 billion increase in budget expenditures will increase the Human Development Index in Kazakhstan by 0.005 points. The \$ 1 billion increase in budget expenditures increases the country's GDP by 0.17 years. The \$ 1 billion increase in budgeted health expenditures raises GDP by an average of 3.4 years. An increase of 1 billion euros in budget expenditures will increase the Human Development Index in Poland by 0.004 points. An increase of 1 billion euros in budget expenditures will increase the country's GDP by 0.09 years. An increase of € 1 billion in budgeted health expenditures raises GDP by an average of 1.3 years.

- Econometric analysis of Azerbaijan has shown that the increase in budget expenditures by 1 billion manat increases the number of employed people in the country by 29,000, and saves 250,000 people from poverty. The increase in budget expenditures by 1 billion manat will increase the Human Development Index in Azerbaijan by 0.005 points and increase life expectancy at birth by 0.11 years.

Theoretical and practical significance of the research. The theoretical provisions and calculated results reflected in the dissertation can be used as a basis for research such as comparative and econometric analysis of future fiscal policy instruments and macroeconomic indicators, as well as in formulating public strategy to achieve long-term goals to create a sustainable fiscal mechanism.

The practical recommendations of the study can be used to measure the optimal share of the state in the economy, as well as to determine the impact of budget revenues and expenditures on economic growth, income distribution, human development, inflation, stagflation, banking sector and securities market development. .

The results of research can be used in the development of scientific research, teaching and methodological aids. Among the results obtained in different sections of the dissertation are "World Economy", "State Regulation of the Economy", "Macroeconomics", "Taxes and Taxation", "Domestic Fiscal Policy and Public Finance", "Human Resource Management" and others. can be used in the teaching of such subjects.

Approbation of research work and application of results.

13 articles related to the research were published, 8 of them abroad. The main provisions of the research, proposals and recommendations in the "Methodological and econometric problems of state regulation of the economy" department of the Institute of Economics of ANAS, "Young Scientists and Specialists" Council of the Institute of Economics of ANAS, "Strategic economic reforms: Preventive tax policy" organized by the Institute of Economics of ANAS He has presented and published at international scientific conferences organized by the Chinese Academy of Social Sciences and at the 4th International Conference of Young Researchers organized by Baku Engineering University.

The structure and scope of the dissertation. The dissertation consists of an introduction, 3 chapters, results and suggestions, list of used literature, 50 tables, 11 diagrams, 7 graphs and consists of 168 pages.

INTRODUCTION

CHAPTER I. Theoretical and methodological bases of macroeconomic effects of fiscal policy

1.1. Fiscal policy - as an economic tool of state regulation

1.2. Comparative analysis of economic research on the macroeconomic effects of fiscal policy

1.3. Methodological bases of measuring macroeconomic effects of fiscal policy

CHAPTER II. Assessing the Macroeconomic Impacts of Fiscal Policy in Eastern Europe and Central Asia (EECA) and Azerbaijan

2.1. General characteristics of public finance in EECA countries and Azerbaijan and assessment of fiscal sustainability in our country

2.2. The role of the model tax code in the sustainable development of fiscal policy in the EECA countries and opportunities for its application in Azerbaijan

2.3. Evaluation of macroeconomic effects of fiscal policy in EECA countries and Azerbaijan by ISSI - Public Finance sub-index

CHAPTER III. Econometric analysis of macroeconomic effects of fiscal policy in EECA countries and Azerbaijan

3.1. Econometric analysis of the impact of fiscal policy on employment in EECA countries and Azerbaijan

3.2. Impact of fiscal policy on poverty in EECA countries and Azerbaijan

3.3. Econometric analysis of the impact of fiscal policy on human development in EECA countries and Azerbaijan

MAIN SCIENTIFIC PROVISIONS PROVIDED FOR DEFENSE

1. As a result of the calculation of the coefficients of elasticity of budget expenditures of the non-oil sector, it turns out that a 1% increase in nominal budget expenditures results in an increase of 0.69% in nominal non-oil GDP. The real non-

oil sector's elasticity coefficient against government spending is 0.48. This means that a 1% increase in real budget expenditures leads to a 0.48% increase in the non-oil economy.

In Azerbaijan, there is a very close link between budget expenditures, the share of the non-oil sector in GDP and nominal incomes. In particular, the correlation coefficient between household income and budget expenditures is 0.996.

As a result of such comparisons, we can calculate the hypothetical multiplier coefficients for Azerbaijan:

Table 1. Calculated hypothetical multiplier coefficients for Azerbaijan

Indicator	Calculated coefficient	calculation rule
Marginal propensity to consume	0,64	c
Cost multiplier	2.8	$1/(1-c)$
Tax multiplier	-1.8	$-c/(1-c)$
Transfer multiplier	1.8	$c/(1-c)$

Source: Compiled by the author.

According to the above calculations, we can say with confidence that the coefficient of marginal propensity to consume in our country is 0.64. This means that as the population's income increases by 100 manat, final consumption expenditures increase by 64 manat. Expenditure multiplier means that for 1 manat spent from the budget, there is a potential for income generation in the economy in the amount of 2.8 manat. That is, here the hypothetical multiplier coefficient of government spending is 2.8.

In real life, the multiplier ratio is often slightly lower than its hypothetical ratio due to fluctuations in taxes or imports. Therefore, we need to conduct a more detailed regression analysis:

Table 2. Results of the regression analysis of the impact of budget expenditures on population income growth

	Budget expenditures	Fixed limit	R ²	DW
Population incomes	1,84	3491.2	0,996	2.08
Ln (for population incomes)	0.7	3.8693	0.997	2.21
Real population incomes	1.54	3784.5	0.998	1.88
Ln (for real population income)	0.59	4.6771	0.996	2.15

Source: Compiled by the author.

Table 3. Results of the regression analysis of the impact of budget expenditures on the non-oil sector

	Budget expenditures	Fixed limit	R ²	DW
Non-oil GDP	1.43	2492.2	0.997	1.45
Ln (for non-oil GDP)	0.69	3.5321	0.997	2.09
Real non-oil GDP	0.96	3456.3	0.988	1.46
Ln (for real non-oil GDP)	0.48	5.0517	0.993	2.02

Source: Compiled by the author.

According to the results of all these calculations, the increase in budget expenditures by 1 manat in nominal terms increases the income of the population by 1.84 manat. In real terms, an increase of 1 manat in budget expenditures increases the income of the

population by 1.54 manat. According to elastic estimates, a 1 percent increase in government spending increases the income of the population by 0.7%. In real terms, the 1% increase in budget expenditures results in a real increase in household income by 0.59%.

An increase of 1 manat in budget expenditures results in an average increase of 1.43 manat in non-oil GDP (of course, if other data remain stable). In real terms, the 1 manat increase in budget expenditures ends with a 0.96 manat increase in the real value of non-oil GDP.

2. In order to take advantage of the Model Tax Convention (MTC), Azerbaijan should follow the recommendations of the OECD Council, in particular the second and third recommendations (when drafting new bilateral agreements or revising existing multilateral agreements, the requirements of the MTC and the multilateral model tax code). When implementing the provisions of tax agreements, the country's tax authorities must take into account in a timely manner any significant changes in the OECD's interpretations of the articles of the MTC over time.

We can briefly comment on the application of the MTC in our country as follows:

- Azerbaijan's cooperation with the Organization for Economic Cooperation and Development (OECD) on budget and tax issues is not so satisfactory. Azerbaijan's cooperation with the OECD in this area is only related to supporting reforms and economic diversification to increase the competitiveness of small and medium enterprises. The Ministry of Economy should take more serious steps in this area.

- On the way to joining the OECD, Azerbaijan must more strictly follow all the recommendations of the Council of this Organization for governments. Theoretical research shows that the Council's recommendations 2 and 3 should be of greater interest to the tax authorities of Azerbaijan.

- We conclude that on the way to joining the OECD, Azerbaijan must first immediately adopt special articles of the MTC (Articles 24,26,27,28,29) and reconsider its "Tax Convention" in the process of adopting these articles. The special articles of the MTC are as follows:

- Prevention of tax discrimination in various cases (Article 24);
- exchange of information between the tax authorities of the Contracting States (Article 26);
- Assistance of the Contracting States to each other in the timely collection of taxes (Article 27);
- Harmonization of the tax liability of diplomatic representatives and consular officers with the international legal system (Article 28);
- Regional expansion of the model tax code (Article 29).

It should be noted that the MTC seeks to define a single solution to eliminate all economic difficulties as much as possible. At the same time, some provisions of the model tax code are flexible for effective implementation. For this reason, member countries are completely free, for example, in the calculation of dividends or interest deficits and in the choice of political and economic methods aimed at preventing double taxation.

3. Econometric analysis has shown that there is a correlation between the increase in budget expenditures and changes in employment. An increase of 1 billion euros in budget expenditures in the Czech Republic, one of the most economically powerful countries in the region, increases the number of employed people in the country by 33,000. According to the results of elastic measurements, a 10% increase in budget expenditures in the country increases the number of employed people by 0.46%.

Hungary is one of the leading countries in the Eastern European region in terms of economic potential. An increase of 1 billion euros in budget expenditures in the country increases the number of employed people in the country by 27,000 people. According to the results of elastic calculations between these two

indicators, a 10% increase in budget expenditures in the country increases the number of employed people by 0.41%.

An increase of 1 billion euros in budget expenditures in Estonia increases the number of employed people in the country by 2,600 people. According to the results of elastic calculations between these two indicators, a 10% increase in budget expenditures in the country increases the number of employed people by 0.1%.

An increase of 1 billion euros in budget expenditures in Latvia increases the number of employed people in the country by 6,000 people. According to the results of elastic calculations between these two indicators, a 10% increase in budget expenditures in the country increases the number of employed people by 0.2%.

An increase of 1 billion euros in budget expenditures in Lithuania increases the number of employed people in the country by 7,000 people. According to the results of elastic calculations between these two indicators, a 10% increase in budget expenditures in the country increases the number of employed people by 0.24%.

An increase of 1 billion euros in budget expenditures in Slovakia increases the number of employed people in the country by 15,000. According to the results of elastic calculations between these two indicators, a 10% increase in budget expenditures in the country increases the number of employed people by 0.34%.

An increase of 1 billion euros in budget expenditures in Slovenia increases the number of employed people in the country by 6,500. According to the results of elastic calculations between these two indicators, a 10% increase in budget expenditures in the country increases the number of employed people by 0.18%.

The \$ 1 billion increase in budget expenditures in Belarus increases the number of employed people in the country by 32,000. According to the results of elastic calculations between these two indicators, a 10% increase in budget expenditures in the country increases the number of employed people by 0.57%.

The \$ 1 billion increase in budget expenditures in Kazakhstan increases the number of employed people in the country by 58,000. According to the results of elastic calculations between these two

indicators, a 10% increase in budget expenditures in the country increases the number of employed people by 0.9%.

The \$ 1 billion increase in budget expenditures in Kyrgyzstan increases the number of employed people in the country by 20,000. According to the results of elastic calculations between these two indicators, a 10% increase in budget expenditures in the country increases the number of employed people by 0.37%.

The increase in budget expenditures by 1 billion manat in Azerbaijan increases the number of employed people in the country by 29,000 people. According to the results of elastic calculations between these two indicators, a 10% increase in budget expenditures in the country increases the number of employed people by 0.45%.

Table 4. Results of the regression analysis of the impact of budget expenditures on employment in Azerbaijan

	Budget expenditures	Ln (budget expenditures)	R ²	DW
Busy population (thousand people)	0,029		0,987	1,602
Ln (Busy population)		0,045	0,976	1,755

Source: Compiled on the basis of author's calculations

4. Econometric analysis has shown that there is a correlation between budget expenditures, total income and changes in poverty.

An increase of 1 billion euros in budget expenditures in Poland saves 312,000 people from poverty. In Poland, an increase in the total income of the population by 1 billion euros will reduce the number of poor people by 174,000. According to the results of elastic measurements, in Poland, a 1 percent increase in budget expenditures leads to a 0.8% decrease in the number of poor people, and a 1% increase in total incomes leads to a 0.931% decrease in the poor population.

Latvia and Lithuania have one of the highest poverty rates in the Eastern European region (16.8% and 16.9%, respectively).

Econometric analysis shows that the increase in budget expenditures by 1 billion euros in Latvia saves 42,000 people from poverty, and in Lithuania - 61,000 people. In Latvia, an increase in the total income of the population by 1 billion euros will reduce the number of poor people by 19,000. In Lithuania, this figure is 24 thousand. According to the results of elastic measurements, in Latvia, a 1 percent increase in budget expenditures leads to a 0.17% increase in the number of poor people, and a 1% increase in total incomes leads to a 0.346% decrease in the poor population. In Lithuania, this figure is 0.22% and 0.403%, respectively.

The Czech Republic is one of the three countries with the lowest poverty rates in the European Union (Denmark 5.5%, Iceland 5.4%). Econometric analysis shows that an increase of 1 billion euros in budget expenditures in the Czech Republic saves 128,000 people from poverty. An increase of 1 billion euros in the total income of the population will reduce the number of poor people by 63,000. If we look at the results of elastic measurements, a 1 percent increase in budget expenditures leads to a 0.48% increase in the number of poor people, and a 1 percent increase in the total income of the population leads to a 0.616% decrease in the poor population.

The poverty rate in Hungary is 10.1%, well below the EU average (17%). Estimates tell us that an increase of 1 billion euros in budget expenditures in this country will save 168,000 people from poverty. In Hungary, an increase of 1 billion euros in total incomes will reduce the number of poor people by 83,000. According to the results of elastic measurements, in Hungary, a 1 percent increase in budget expenditures leads to a 0.13% increase in the number of poor people, and a 1% increase in total incomes leads to a 0.28% decrease in the poor.

Poverty is much lower in Slovakia and Slovenia (8.5% / 8.7%). Econometric analysis shows that an increase of 1 billion euros in budget expenditures in Slovakia will save 67,000 people from poverty, and in Slovenia - 26,000 people. In Slovakia, an increase of 1 billion euros in total incomes will reduce the number of poor people by 20,000. In Slovenia, the figure is 7,000.

According to the results of elastic measurements, a 1 percent increase in budget expenditures in Slovakia leads to a 0.22% increase in the number of poor people, and a 1% increase in total incomes leads to a 0.103% decrease in the poor population. In Slovenia, the figures are 0.13% and 0.062%, respectively.

In Azerbaijan, there is a logarithmically very close relationship between the income of the population and the level of poverty (Table 40). The impact of changes in government budgets on groups living below the poverty line was measured both directly (by regression equations) and indirectly (as a product of indicators) and some very close figures were obtained:

The increase in budget expenditures in Azerbaijan by 1 billion manat saves 250,000 people from poverty. The increase in the total income of the population by 1 billion manat will reduce the number of our poor population by 130,000 people. If we look at the results of elastic measurements, a 1 percent increase in budget expenditures leads to a 0.68% increase in the number of poor people, and a 1 percent increase in total incomes leads to a 0.975% decrease in the poor population. As a result of indirect calculations, we know that a 1 billion increase in government spending reduces the number of poor people by 245,000. At the elastic level, a 1 percent increase in budget expenditures reduces the number of poor by 0.676%.

5. Econometric analysis has shown that there is a correlation between changes in the impact of budget expenditures on human development.

According to the Human Development Index, the leading country in the EECA region is Slovenia (0.896). Life expectancy at birth in the country is 78.5 years. According to this indicator, it ranks 67th in the world. As a result of regression analysis, we found that a 1 billion euro increase in budget expenditures provided a 0.002 point increase in the Slovenian Human Development Index. An increase of 1 billion euros in budget expenditures will increase the country's GDP by 0.13 years. An increase of € 1 billion in budgeted health expenditures raises GDP by an average of 1.1 years.

According to the Human Development Index, the Czech Republic is the second country in the EECA region (0.888). Life expectancy at birth in the country is 78.41 years. According to this indicator, it ranks 71st in the world. As a result of regression analysis, we found that an increase of 1 billion euros in budget expenditures provides a 0.001 point increase in the Human Development Index in the Czech Republic. An increase of 1 billion euros in budget expenditures will increase the country's GDP by 0.16 years. An increase of € 1 billion in health expenditures from the budget raises GDP by an average of 1.6 years.

Estonia ranks third in the EECA region in this index (0.871). It is currently ranked 30th in the world. Life expectancy at birth in the country is 74.98 years. According to this indicator, it ranks 122nd in the world. As a result of regression analysis, we found that an increase of 1 billion euros in budget expenditures provides an increase of 0.002 points in the Human Development Index in Estonia. An increase of 1 billion euros in budget expenditures will increase the country's GDP by 0.15 years. An increase of € 1 billion in budgeted health expenditures raises GDP by an average of 2.7 years.

According to the Human Development Index, Poland ranks 33rd in the world with an index of 0.865. Life expectancy at birth in the country is 77.4 years. According to this indicator, it ranks 83rd in the world. As a result of regression analysis, we found that a 1 billion euro increase in budget expenditures provided a 0.004 point increase in the Human Development Index in Poland. An increase of 1 billion euros in budget expenditures will increase the country's GDP by 0.09 years. An increase of € 1 billion in budgeted health expenditures raises GDP by an average of 1.3 years.

Life expectancy at birth in Lithuania is 76.77 years. According to this indicator, it ranks 92nd in the world. As a result of regression analysis, we found that a 1 billion euro increase in budget expenditures provided a 0.006 point increase in the Lithuanian Human Development Index. An increase of 1 billion euros in budget expenditures increases the country's GDP by 0.18

years. An increase of € 1 billion in budgeted health expenditures raises GDP by an average of 2.8 years.

Life expectancy at birth in Slovakia is 77.21 years. According to this indicator, it ranks 86th in the world. As a result of regression analysis, we found that an increase of 1 billion euros in budget expenditures provided a 0.004 point increase in the Human Development Index in Slovakia. An increase of 1 billion euros in budget expenditures will increase the country's GDP by 0.1 years. An increase of € 1 billion in budgeted health expenditures raises GDP by an average of 2.4 years.

Latvia ranks 41st in the world on this index. Life expectancy at birth in the country is 74.41 years. According to this indicator, it ranks 127th in the world. As a result of regression analysis, we found that an increase of 1 billion euros in budget expenditures provided a 0.003 point increase in the Human Development Index in Latvia. An increase of 1 billion euros in budget expenditures increases the country's GDP by 0.19 years. An increase of € 1 billion in health expenditures from the budget raises GDP by an average of 2.6 years.

Life expectancy at birth in Hungary is 76.3 years. According to this indicator, it ranks 98th in the world. As a result of regression analysis, we found that a 1 billion euro increase in budget expenditures provided a 0.002 point increase in the Human Development Index in Hungary. An increase of 1 billion euros in budget expenditures will increase the country's GDP by 0.07 years. An increase of 1 billion euros in budgeted health expenditures raises GDP by an average of 0.9 years.

According to the Human Development Index, the leading country in the Central Asian region is Kazakhstan (0.8) and ranks 58th in the world. Life expectancy at birth in the country is 71.41 years. According to this indicator, it ranks 155th in the world. As a result of regression analysis, we learned that the \$ 1 billion increase in budget expenditures provided a 0.005 point increase in the Human Development Index in Kazakhstan. The \$ 1 billion increase in budget expenditures increases the country's GDP by 0.17 years.

The \$ 1 billion increase in budgeted health expenditures raises GDP by an average of 3.4 years.

An increase of 1 billion manat in budget expenditures will increase the Human Development Index in Azerbaijan by 0.005 points. An increase of 1 billion manat in budget expenditures increases GDP by 0.11 years. An increase of 1 billion manat in health expenditures allocated from the budget increases the GDP by an average of 3.6 years. The calculations prove that budget expenditures in Azerbaijan play an important role in the human development index.

Table 5. Results of regression analysis on the impact of budget expenditures on human development in Azerbaijan

	Budget expenditures (in billions of manats)	Ln (budget expenditures)	Health expenditures allocated from the budget	R ²	DW
HDI	0.005			0.961	2.429
Ln (HDI)		0.041		0.978	1.162
Life expectancy at birth	0.114			0.959	1.835
Ln (LE)			0.0036	0.952	1.148

Source: Compiled by the author.

6. In the post-pandemic period, expansionary fiscal policy in the EECA countries and Azerbaijan must be supported by a tightening monetary policy.

Currently, the EECA countries and Azerbaijan are trying to apply effective forms of fiscal and monetary intervention to reduce the impact of the pandemic on the economy. Low interest rates are beginning to "eat" banks' profits, and these delays make banks even more reluctant to lend. The impact of the financial and banking

sector is creating conditions for a deep economic recession in the countries. Thus, we conclude that in order to reduce the impact of the pandemic, Central Banks should move away from the policy of interest rate cuts on the demand-supply-investment factor.

In the post-pandemic period, the most important issue will be to find the optimal model of economic growth for each state. At this stage, the British government's plan to exclude neoliberalism with its new borrowing and spending fiscal policy should be closely monitored by the world community, and the possibility of its domestic application, if effective, should be assessed.

The pandemic has already reached the point where states have launched expansionary fiscal and monetary policies at the same time. In the United States, the ratio of budget deficit to national income is likely to rise from 5.6 to 10-15 percent. The French government continues to mass nationalize the private sector. Moreover, this policy pursued by governments is currently being implemented without serious pressure from leftist economists. The consequences can come later. Therefore, given that the application of low interest rates to prevent the reversal of socio-economic consequences in the countries of EECA and Azerbaijan has no significant impact on preventing the economic crisis, expansionary fiscal policy must be supported by a tightening monetary policy.

The following suggestions were made for the research conducted in the dissertation:

1. In order to ensure the long-term sustainability of public finances in the EECA countries and in Azerbaijan, states should apply the necessary fiscal rules to budget revenues and expenditures. In foreign practice, Germany and Italy "Restriction on the growth rate of nominal expenditures" (Restriction of annual growth of budget expenditures at the level of annual growth of tax revenues), Denmark "Restriction of direct and indirect tax rates" (Limit of tax revenue - GDP to GDP and total budget of tax revenues) expectation of an acceptable level in relation to revenues) and Belgium's fiscal rules "Nominal budget balance" (the ratio of

budget expenditures to GDP and the ratio of budget expenditures to tax revenues) are being successfully implemented.

2. In order to ensure fiscal stability in our country, the provisions of the upper limit of budget expenditures, tax revenues and total public debt to GDP, as well as annual total expenditures of the State Oil Fund to the total annual revenues are included in the Tax Convention of the Republic of Azerbaijan. It should be attached to the Law of the Republic of Azerbaijan.

3. Special fiscal measures should be taken to legalize the hidden economy in order to increase tax revenues in Azerbaijan. That is, the tax burden should be reduced and tax administration should be improved. Comparative analysis shows that the tax burden on enterprises in Azerbaijan should be around 30%. At the same time, in order to legalize the shadow economy, it is necessary to reshape the four economic factors that affect it - tax rates, the regulatory burden on financial markets, the level of liberalization of the labor market and the institutional quality factor. At the beginning of this process are issues such as improving the overall business and competitive environment, easing the conditions for foreign trade.

4. On the way to joining the OECD, Azerbaijan must first immediately adopt special articles of the MTC (Articles 24,26,27,28,29), and the effect of these articles must be reflected in the Tax Convention of the Republic of Azerbaijan.

Prevention of tax discrimination in various cases (Article 24);

- exchange of information between the tax authorities of the Contracting States (Article 26);

- Assistance of the Contracting States to each other in the timely collection of taxes (Article 27);

- harmonization of the tax liability of diplomatic representatives and consular officers with the international legal system (Article 28);

- Regional expansion of the MTC (Article 29)

5. In order to take advantage of the MTC, Azerbaijan should adhere to the second and third recommendations of the OECD Council, especially when drafting new bilateral agreements or revising existing multilateral agreements. In carrying out its provisions, the country's tax authorities must take into account in a timely manner any significant changes in the OECD's interpretation of the articles of the MTC over time.

6. The government of Azerbaijan should further increase budget expenditures allocated to the economy. Econometric analysis shows that the rapid growth of other budget expenditures is a serious threat to the country's fiscal sustainability. At the same time, in order to prevent this, there must be a high increase in spending on the economy. Thus, a 1% increase in expenditures from the budget to the economy automatically creates a 0.74% increase in budget revenues.

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