REPUBLIC OF AZERBAIJAN

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ABSTRACT

of the dissertation for the degree of Doctor Philosophy

DIRECTIONS FOR IMPROVING STATE REGULATION OF MANUFACTURING INDUSTRY IN AZERBAIJAN

Speciality: 5312.01 – "Field economy"

Field of science: Economic sciences

Applicant: Rukhsara Ilgar Seyfullali

Baku – 2024

The work was performed at the "Economics and Statistics" department of Azerbaijan Technical University.

Scientific supervisor:

PhD in Economics, Associate Professor
Mubariz Malik Mammadli

Official opponents:

Doctor of Economic Sciences, Professor
Farhad Panah Rahmanov

Doctor of Economic Sciences, Professor
Vilayat Ibrahim Ismayilov

PhD in Economics, Associate Professor
Allahyar Niyaz Muradov

Dissertation council ED 2.10 of Supreme Attestation Commission under the President of the Republic of Azerbaijan operating at Azerbaijan State University of Economics

Chairman of the
Dissertation council:

Doctor of Economic Sciences,
Professor
Yashar Atakishi Kalbiyev

Scientific secretary
of the Dissertation council:

PhD in Economics,
Associate Professor
Suqra Inqilab Humbatova

Chairman of the
scientific seminar:

Doctor of Economic Sciences,
Associate Professor
Ramil Zahid Huseyn
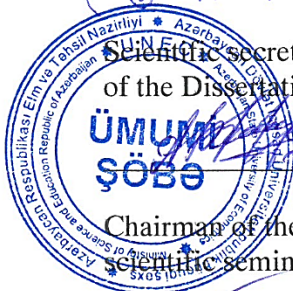
GENERAL CHARACTERISTICS OF THE WORK

Relevance of the topic and degree of elaboration. As a result of the economic policy implemented in Azerbaijan and numerous state programs (poverty reduction, socio-economic development of regions, strategic road maps for the development of the national economy and its priority areas, etc.), an army of national entrepreneurs has been created in our country, macroeconomic stability has been ensured and financial stability strengthened, and the world economy the integration process continued, the welfare of the population increased. The achievement of these successes of independent Azerbaijan against the backdrop of deep crises in the world economy is particularly noteworthy.

At the same time, tasks such as diversification of the structure of the national economy, reduction of dependence on the oil sector and development of modern technological fields that create high added value are still waiting to be solved.

Despite the fact that the manufacturing industry, as one of the main areas of the economy that creates added value, creates a greater demand for science, education, ICT and other sectors in terms of quantity and quality, and has a wider synergy potential for economic development, the share of this sector in the structure of the national economy has increased over the last 30 years. The fact that it remains small shows how important and necessary it is to improve the regulatory mechanisms that support the manufacturing sector of our country.

The presence of a strong manufacturing sector in a country can also be taken as a sign of the presence of appropriate scientific potential, highly qualified human resources and technologies, developed regulatory institutions and infrastructure, and efficient labor, commodity and capital markets. It is no coincidence that the manufacturing industry occupies one of the main places in the content of the five priorities defined in "Azerbaijan-2030: National Priorities for socio-economic development" approved by the decree of the President of the Republic of Azerbaijan dated February 2, 2021.

At the same time, with the Decree of the President of the Republic

of Azerbaijan No. 2462 dated February 1, 2024, 13 strategic investment directions were determined for the issuance of the investment promotion document, 10 of which are (production based on local raw materials, green energy production, waste recycling, private industry creation of neighborhoods, production of privatized non-oil industry enterprises, promotion of import substitution and increase of export potential of the non-oil sector, production of spare parts of railway rolling stock, production of military products, production of aluminum products, public-private partnership projects) directly related fields with manufacturing industry.

Questions about the role of the state in society and its development have remained relevant since the beginning of economic science. In the works of early and mature mercantilists, physiocrats, representatives of the classical and neoclassical school, J.M. Keynes and his followers, representatives of neoliberalism and the institutional school, significantly different, and in some cases mutually exclusive, theoretical views on the intervention of the state in economic processes and its efficiency as a regulatory institution were formed. Over the past 50-60 years, well-founded scientific arguments can be found in the works of F.Hayek, R.Solow, W.Rostow, W.A.Lewis, J.Stiglitz, K.Polany, D.Rodrik, D.Acemoglu, M.Olson, G.J.Stigler, R.Barro, R.Levine, R.Falk, A.Krueger, J.-J.Laffont, D.Newbery, D.Parker, D.Kauffman, R.Hausmann, M.Todaro, L.H.Summers, M.Porter, R.E.Lucas, P.Romer, D.North, M.Henrekson, E.Rainert, et al. This problem also occupies an important place in the researches of international organizations. It is possible to see numerous examples of the state policy aimed at the development of the manufacturing sector leading to great success in some countries and failure in others.

The impact of various regulatory measures on macroeconomic processes and the development of the non-oil sector in Azerbaijan have been investigated by in their studies Y.Hasanli, A.Alakbarov, R.Hasanov, N.Imanov, M.Ahmadov, Y.Kalbiyev, M.Mammadli, F.Ahmadov, F.Hasanov, J.Abbasov, Kh.Aliyev, I.Seyfullayev and other economists in their studies, but the issue of how regulatory tools affect the country's manufacturing sector has not been systematically investigated.

Two factors that complicate the answers to questions about economic regulation in the modern era should be especially noted:

➢ lack of formation of a consensus theory for the complementarity and improvement of market and state regulation of the economy;

➢ as a result of modern globalization and digitization processes, the emergence of new requirements for state regulation of the economy.

In this regard, increasing the quality, effectiveness and efficiency of the regulatory mechanism for the development of the manufacturing industry in Azerbaijan, which is seriously different from other countries with its economic structure, institutions, level of development, geographical and geopolitical position, stands out for its relevance both theoretically and practically.

The mechanism of state regulation of the manufacturing industry in Azerbaijan was chosen as **the object of the study.** The relationship between the state and the private sector in the process of state regulation of the manufacturing industry, as well as the theoretical, methodological and empirical bases for studying those relationships, were taken as **the subject of the research.**

The purpose of the study is to determine directions for its improvement based on the study of the mechanism of state regulation of the manufacturing sector in Azerbaijan.

To achieve this goal, the following **tasks** have been set:

- justifying the necessity of the participation of the state institution in the regulation of the manufacturing sector in modern times;

- generalization of approaches to the assessment of the quality and effectiveness of state regulation of the economy;

- identification of new tendencies of state regulation of the economy in the environment of digital transformation;

- evaluation of the use of economic growth factors in the manufacturing sector;

- analysis of the impact of the "state spending" instrument of regulation on the development of the processing sector;

- a study of the relationship between the development of the financial and manufacturing sectors of the country;

- generalization of successful regulatory practices that have ensured the development of the manufacturing sector in international practice;

- determining the perspectives of the state as a regulatory institution;

- Preparation of justified proposals and recommendations on improving the state policy for the development of the manufacturing sector in Azerbaijan.

Research methods. Quantitative methods using historical and logical summarization and analysis approaches were widely used in conducting the research. The method of least squares, Johansen cointegration test, Toda-Yamamoto test were used to determine the correlation and regression relations between the implementation of the state's economic regulation tools and the changes in the indicators of the processing sector, as well as to investigate the cause-and-effect characteristics of these relations.

Main clauses defended:

1. In modern theories of regulation, the intervention of the state in economic processes within certain limits is considered necessary, and questions such as the quality, effectiveness and efficiency of regulation remain the most relevant subject of discussion.

2. Modern approaches to the assessment of state regulation of the economy are summarized.

3. The opportunities created by digitization in the state regulation of the manufacturing sector have been identified.

4. The investment attractiveness of Azerbaijan's manufacturing industry for entrepreneurs has not reached the desired level.

5. The impact of the state's investment and education expenditures on productivity growth in themanufacturing sector has not reached the desired level.

6. No long-term or short-term causal relationships between the development of Azerbaijan's financial sector and GDP per employee in the manufacturing sector were found.

7. Proposals were made to use the successful regulatory experience of South Korea and Singapore in Azerbaijan.

8. In the conditions of increasing uncertainty of the world economy, the development of institutions that can bring cooperation and mutual trust between the state, private sector and society to the highest level by using digital technologies is defined as the main priority for ensuring the effectiveness and efficiency of regulatory measures.

9. Effectiveness indicators have been proposed for evaluating regulatory measures, along with the creation of a systematic information database for monitoring these indicators. It is suggested that supporting measures be linked to these indicators and timeframes, and that the application of digital technologies be utilized to address these issues.

The following can be attributed **to the scientific innovation of the research:**

1. A necessary condition for the development of the manufacturing industry in Azerbaijan is the strong intervention of the state in economic processes, and the sufficient conditions are the reduction of information asymmetry in this intervention as much as possible, and the provision of transparency and accountability.

2. Regulatory measures in Azerbaijan has better impact on the sectors like trade, construction and repair, communication, transport, etc. But impact of regulations on the manufacturing sector is not at the desired level.

3. There is no causal relationship between financial development and the development of the manufacturing sector that produces tradable products in Azerbaijan.

4. In the process of making, implementing and evaluating the results of regulatory decisions, it is proposed to use digital technologies to ensure transparency and system of indicators to evaluate efficiency.

Theoretical and practical significance of research. Approaching the state regulation of the economy from the perspective of globalization and digitalization processes of the modern era, summarizing the theoretical provisions on reducing the cases of "state

failure" in regulation, and studying the modern problems faced by the state institution in the regulation process can provide new ideas for the theory of regulation.

The results of the research can be used both in Azerbaijan, as well as in other countries with similar economic structure and institutions, to improve the quality of the economic regulation mechanism, to eliminate information asymmetry and coordination failures, to adopt and implement regulatory decisions, and to monitor the results.

Approval and application. The main results of the dissertation were presented at 5 international conferences held in Azerbaijan and abroad, 6 articles on the content of the dissertation were published in local and foreign scientific journals.

The dissertation was completed at the "Economics and Statistics" department of Azerbaijan Technical University.

The volume of the dissertation consists of 229627 characters (including introduction - 12646, chapter 1 - 53616, chapter 2 - 64251, chapter 3 - 60687, conclusion - 10149, reference - 28278).

STRUCTURE OF THE DISSERTATION

Introduction
Chapter I. THEORETICAL-METHODOLOGICAL BASIS OF STATE REGULATION OF MANUFACTURING INDUSTRY
1.1. The state as a regulatory institution of the manufacturing industry
1.2. Modern approaches to the assessment of state regulation of the economy
1.3. Conceptual basis of state regulation of the manufacturing industry in the context of digitization
Chapter II. EVALUATION OF THE USE OF STATE REGULATORY TOOLS IN THE MANUFACTURING INDUSTRY OF AZERBAIJAN
2.1. The current state of economic growth factors in the manufacturing industry
2.2. The impact of government spending on the development of the manufacturing industry
2.3. Assessment of the impact of the development of the financial sector on the manufacturing industry
Chapter III. INTERNATIONAL EXPERIENCE AND PERSPECTIVES OF STATE REGULATION OF MANUFACTURING INDUSTRY IN AZERBAIJAN
3.1. Examples of successful regulation that developed the manufacturing industry - South Korea and Singapore
3.2. Development priorities of state regulation of the economy
3.3. Directions for improving the state policy on the development of the manufacturing industry in Azerbaijan
Conclusion
Reference

THE MAIN CONTENT OF THE RESEARCH

In the "Introduction" part of the dissertation, the relevance of the topic and the degree of its development, the object and subject of the research, the goals and objectives, the methods used in the research process, the main propositions presented for defense, the scientific innovation, theoretical and practical importance of the research, as well as information regarding its approbation, have been outlined.

In the first chapter of the dissertation titled **"Theoretical-methodological basis of state regulation of manufacturing industry"**, the features of the state as a regulatory institution, theoretical propositions on modern approaches to the evaluation of the state regulation of the economy in the academic literature, new realities created by the digitalization processes for the state regulation of the manufacturing sector were studied.

In modern theories of regulation, the intervention of the state in economic processes within certain limits is considered necessary, and questions such as the quality, effectiveness and efficiency of regulation remain the most relevant subject of discussion.

The intervention of the state in the economic processes is associated with the fact that the market mechanism does not work well in the presence of monopoly, incomplete markets and information asymmetry, negative external influences and is not efficient in the distribution of resources.

Many studies show that state support has a positive effect on innovation activity and productivity growth in enterprises[1]. Some studies claim that state support can even lead to a qualitative change in the behavior of enterprises, to a transition to an innovative development model[2]. In the economic literature, the negative tendencies resulting from the intervention of the state in the economic processes are also noted: the weakening of the competitive

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[1] Garcia, A. The relevance of marketing in the success of innovations // JRC Working Papers on Corporate R&D and Innovation, No. 2011-09.

[2] Falk, R. Measuring the effects of public support schemes on firms innovation activities // Research Policy, Vol.36, No.5, - 2007. – p. 665-679. https://doi.org/10.1016/j.respol.2007.01.005

environment; creation of conditions for abuse of state support; overgrowth of the public sector; suppression of private funds from circulation by state funds, etc.[3].

Y. Stiglitz stated that market failures will be more significant in developing countries, and therefore the inclination to state regulation will strengthen in those countries[4].

In general, the regulatory process and its results are reflected in formal and informal rules, so they have a special institutional content. Institutions determine the "rules of the game" and influence economic development[5]. Some studies confirm that good regulation can result in higher economic growth[6].

The effectiveness of regulatory institutions plays an important role in the well-functioning of markets and is reflected in the results of regulation. Parker identified accountability, transparency and compliance as key features of a well-functioning regulatory system[7].

A number of studies using regressions have found that better regulation has a strong effect on per capita national income in the long run[8]. The causal chain between quality regulation and economic outcome has also been one of the main objects of research. Some studies find that the quality of governance and institutions are important in stimulating investment, suggesting that improving

[3] David, P. Is public R&D a compliment or a substitute for private R&D? A review of econometric evidence / P.David, B.Hall, A.Toole // Research Policy, Vol.29, No.4, - 2000. – p. 497-529. https://doi.org/10.1016/S0048-7333(99)00087-6

[4] Stiglitz, J. Private Uses of Public Interests: Incentives and Institutions // Journal of Economic Perspectives, - 1998. 12(2): 3-22.

[5] Rodrik, D. Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development / D.Rodrik, A.Subramanian, F.Trebbi // Journal of Economic Growth, - 2004. 9(2): 131-165.

[6] World Development Report, 2002: Building Institutions for Markets / Washington DC: World Bank. – p. 152.

[7] Parker, D. Regulation of privatised public utilities in the UK: performance and governance // - International Journal of Public Sector Management, - 1999. 12 (3): p .224.

[8] Barro, R.J. Determinants of Economic Growth: A cross-country empirical study // Development Discussion Paper, Harvard Institute for International Development – 1997. No. 579.

economic performance by improving the environment for capital formation is a sign of good regulation[9].

Dani Rodrik suggests that the analysis of the state's industrial policy should focus not only on its uncertain outcomes but also on the proper establishment of this political process[10].

It was considered appropriate to evaluate the effectiveness of the regulatory measures aimed at the development of the manufacturing sector in Azerbaijan in the direction of the analysis of the changes occurring in the macroeconomic indicators of the manufacturing sector as a result of the application of regulatory tools.

Artificial intelligence and robotics, virtual execution environment, adaptive manufacturing, nanomaterials, geoengineering, blockchain, bio, neuro and space technologies are the unique events that the 4th industrial revolution has brought to human history[11]. Adaptation of the state institution to the new processes brought by the 4th industrial revolution has become a necessity.

We can note that the application of digitalization and artificial intelligence creates the following opportunities for increasing the efficiency and effectiveness of regulation:

➢ Reducing information asymmetry in regulatory decision-making;

➢ Determining the needs of entrepreneurs for state support based on more objective data;

➢ Online monitoring of how regulated entities use state support;

➢ Online access to data on the changing dynamics of the performance indicators of entities receiving state support, as well as their interactions with local producers and clustering activities;

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[9] Global Economic Prospects and the Developing Countries / - Washington DC: World Bank, - 2003.

[10] Rodrik, D. Growth strategies // In: P.Aghion., S.N.Durlauf (eds.) – Handbook of economic growth, - 2005. Vol. Part A.Elsevier, - p. 967-1014. https://doi.org/10.1016/S1574-0684(05)01014-2

[11] Schwab, K. Davos Manifesto 2020: The Universal Purpose of a Company in the Fourth Industrial Revolution / K.Schwab – World Economic Forum. Available online:
http://www.worldacademy.org/files/global_leadership/papers/Davos_Manifesto_2020.pdf

➢ Online acquisition of information about the efficiency and effectiveness of regulatory measures through a digital information base for the assessment of regulation in terms of objectives;

➢ Ensuring transparency in the regulatory process;

➢ Evaluating the effectiveness of regulatory tools.

In the second chapter of the dissertation, titled "**Evaluation of the use of state regulatory tools in the manufacturing industry of Azerbaijan**", the modern factors of economic growth in the manufacturing sector were analyzed, the impact of state expenditures, as a regulatory tool of the government, on the economic indicators of the manufacturing sector has been evaluated, along with the influence of financial development on this sector in our country.

The share of the manufacturing industry in the country's GDP has remained between 3,6-7,1% recently and the growth of the manufacturing sector is relatively small against the background of the growth trends of the share of the non-tradable sector in the GDP. These factsreflect that the sector is going through difficult times.
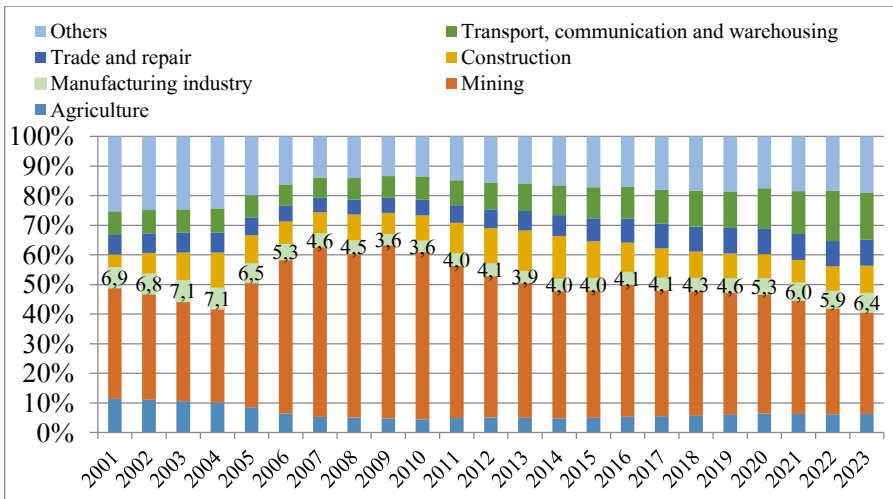
Graph 1. Sectoral structure of GDP in Azerbaijan (in percentage at 2005 prices)[12]

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[12] Compiled by the author based on the data of the State Statistics Committee of the Republic of Azerbaijan https://www.stat.gov.az/

The analysis of the distribution of employment of the population in our region against the background of the sectoral structure of the GDP shows that the manufacturing sector of our country does not play a leading role in creating jobs and increasing labor productivity.
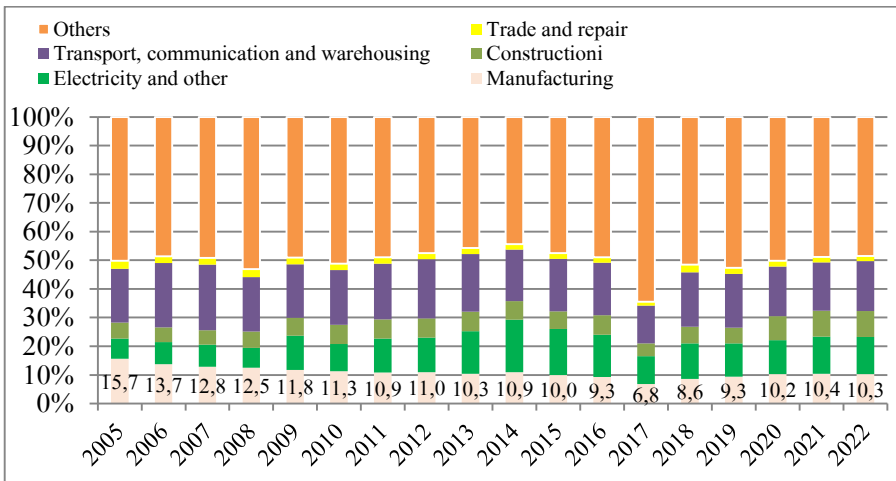
Distribution of GDP and employed population in Azerbaijan in 2023 (in %)[13]

N	İndicators	Mining industry and quarrying	Manu-facturing	Agriculture, hunting and forestry	Const-ruction	Transport, storage and commu-nication	Others
1.	GDP	34,5	6,4	6,3	9,1	16,0	27.7
2.	Employed population	0,8	5,7	35,8	7,8	5,3	44,6

The total value of physical capital in Azerbaijan's non-oil sector increased more than 5 times during 2005-2022. Although growth has also been observed in the manufacturing sector, its growth rates lag behind the growth rates of transport and communications, power generation (electricity, gas and steam generation, distribution and supply), construction and other sectors. As a result, the share of the physical capital of the manufacturing sector in the physical capital of the non-oil sector has significantly decreased from 15,6% in 2005 and has been 10,3% in 2022.

The existence of such trends can give reason to say that the investment attractiveness of non tradable sectors in Azerbaijan is stronger than that of the manufacturing sector, and that the motivation and capabilities of entrepreneurs in the manufacturing sector are not at the necessary level.

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[13] Compiled by the author based on the data of the State Statistics Committee of the Republic of Azerbaijan https://www.stat.gov.az/

Graph 2. Distribution of physical capital in the non-oil sectors (in %)[14]

The level of correlation between the production volume, capital volume, innovation costs and employed population indicators in the manufacturing sector of Azerbaijan shows that the effect of the employed population (k=0.94) and capital (k=0.62) on the production volume in the manufacturing sector was strong. However, this opinion cannot be expressed about the impact of innovation costs on production volume (k=0.23).

The mentioned results give reason to put forward the following ideas:

➢ the labor factor is significantly ahead of other indicators in terms of the degree of influence on the production volume - it gives reason to say that labor-intensive areas prevail in the manufacturing sector;

➢ The impact of capital and labor on GDP is greater than that of innovation costs, suggesting that the extensive nature of economic growth in manufacturing still dominates;

➢ The existence of a very weak correlation between innovation costs in the manufacturing industry and GDP, employed population

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[14] Compiled by the author based on the data of the State Statistics Committee of the Republic of Azerbaijan. https://www.stat.gov.az/

and capital indicators shows that innovation costs in our country have not yet reached a level that will affect economic growth and its factors.

As a way out of such a situation, it is possible to propose the strengthening of the institutions that ensure economic growth - competition, markets, protection of private property and the mechanisms of technology diffusion.

It is noteworthy that the expenditure allocated to education from the state budget has increased approximately 16 times (in nominal terms) over the last 20 years. Since 2015, the year of the crisis, education expenses have increased from 1.6 billion manats by 2.5 times to 4.1 billion manats in 2023[15], which greatly increases hopes for economic development.

Although the growth dynamics of the state's science expenditures is high (about 7 times in 2023compared to 2005), its share in budget expenditures (0.53% in 2023)[16] is very small compared to many developing countries.

In order to evaluate the impact of government spending on the manufacturing sector, a model was built with the dependent variable real GDP per worker in the manufacturing sector (P), the independent variable the amount of fixed assets in the manufacturing sector (K), and the state investment (SI) and education expenditures (EE) as control indicators:

$$P = F(K, S\dot{I}, EE)$$

The results of autocorrelation and normal distribution tests between the residuals of the model were satisfactory.

The results of the model made it possible to construct the following regression equation:

$\ln P = -2.7788 + 0.2497\ln K + 0.01333\ln S\dot{I} + 0.1753\ln EE + 0.4985\ln P(-1)$

The values of coefficients in the regression equation enable us to make the following interpretations:

- a 1% increase in capital leads to a 0.25% increase in GDP per capita in the manufacturing sector;

[15] www.stat.gov.az

[16] www.stat.gov.az

- a 1% increase in public investment leads to a 0.013% increase in GDP per capita in the manufacturing sector;
- A 1% increase in education spending from the state budget leads to a 0.175% increase in GDP per capita in the manufacturing sector.

The following considerations can be cited as the reason for these results:
- the investment costs of the budget are not sufficient in terms of stimulating the economic development of the manufacturing sector;
- Entrepreneurs operating in the processing sector may not have enough motivations, abilities or opportunities to use the opportunities created through budget expenditures. Entrepreneurs may be more motivated to operate in trade, service, repair, construction, communication, transport and other sectors supported by growing domestic demand;
- Coordination between government investment and education expenditures and other supporting instruments (monetary, customs, tax, technical, etc.) may not be at the desired level;
- there may be information asymmetry between the state bodies that make regulatory decisions and the entrepreneurs of the manufacturing sector, etc.

The development of the country's financial sector is determined by the existence of efficient financial markets. It is today's reality that bank loans play a more prominent role than securities and insurance markets in meeting the financial needs of the processing sector in Azerbaijan. Therefore, bank loans were adopted as a variable representing the financial sector in the study.

The growth of the amount of loans to the manufacturing sector at a lower rate compared to loans directed to households, trade and service sectors, as well as its weight fluctuating between 5-11% of the total loan volume, allows us to make the following considerations:
- Since loans to the processing sector are more risky, both banks and entrepreneurs take a more cautious position in this matter;
- the demand for loans of the processing sector, which has a large capital capacity, is not due to investment, but mainly due to the lack of working capital;

Entrepreneurs operating in the manufacturing sector have little demand for credit resources.
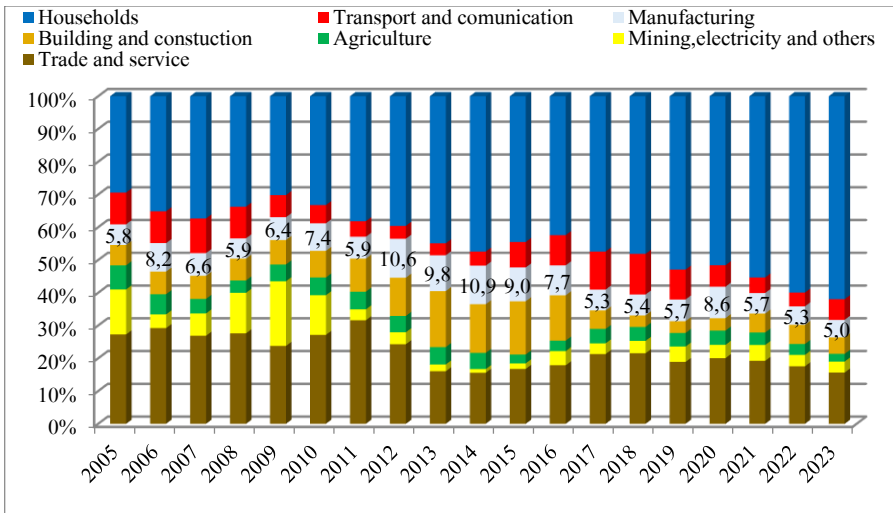
Graph 3. Sectoral breakdown of loans in Azerbaijan in 2005-2023 (in %)[17]

The sharp increase of the nominal GDP in the manufacturing sector in recent years and the decrease of credit investments in this sector during that period show that the nature of the relationship between these two indicators is quite complex and it is necessary to use econometric models with wider opportunities for analysis.

In the study, the causal relationships between indicators such as GDP per employee in Azerbaijan's manufacturing sector, the ratio of capital to GDP, the ratio of local loans to the manufacturing sector to GDP, and the ratio of imports to GDP were evaluated in the study from quarterly data covering the years 2005-2022. The results of the Johansen Cointegration test do not provide any evidence of the existence of cointegration relationships between productivity, lending, the share of physical capital in GDP and the share of imports in GDP in the manufacturing sector of Azerbaijan in the long run. The absence

[17] Compiled by the author based on the information of the Central Bank of the Republic of Azerbaijan. https://www.cbar.az/page-42/monetary-indicators#page-2

of such relations shows that the regulatory measures of the state have not yet brought the expected results.

The Toda-Yamamoto test was used to investigate individual causal relationships between variables in the short term and to determine their direction.

The absence of autocorrelation in the residuals of the model and the positive result of the model stability test made it possible to consider the quality of the model as satisfactory.

According to the results of the Toda-Yamamoto test, there is no mutual causal relationship between the increase in the share of loans in GDP and real GDP per capita in the manufacturing sector of Azerbaijan. The absence of a causal relationship between productivity, capital and loans in the manufacturing sector is quite a sobering finding. The fact that loans do not lead to an increase in productivity and capital means that the credit policy conducted in Azerbaijan cannot support the manufacturing sector through capital growth. The situation in front of us also indicates the lack of competitiveness of local processing products.

One of the interesting points is that the increase in lending in the manufacturing sector leads to an increase in the share of imports in GDP. The mentioned result can be explained as follows: local manufacturing enterprises direct part of the loans to the import of raw materials, components, semi-finished products and other resources; new jobs created in the manufacturing sector support the demand for imported consumer goods in the domestic market.

The creation of alternative financial sources for entrepreneurs in the manufacturing sector requires the development of stock markets in the country. The development of stock markets poses the tasks of relevant institutional issues - strengthening of accountability, transparency and mutual trust between economic agents, improvement of the legal system. At the same time, it is recommended to increase the quality of state regulation of the economy, ensure its addressability and effectiveness, and prepare regulatory measures based on an in-depth study of the motivations and limitations of entrepreneurs operating in the manufacturing sector.

In the third chapter of the dissertation, titled "**International experience and perspectives of state regulation of the manufacturing industry in Azerbaijan**", the features of state regulation in the process of development of the manufacturing sector in countries such as South Korea and Singapore were studied, the issues of increasing the efficiency of the state institution as a regulatory mechanism were investigated, and the proposals on the directions of improvement of the state's industrial policy in Azerbaijan were substantiated.

Since the 1950s and 1960s, South Korea and Singapore have transformed from a traditional economy (an agrarian sector or an economy based on natural resources) to an industrial society (an economy based on a strong manufacturing sector).

The stages of development identified by Rostow[18] (traditional society; rise to self-sustaining growth or initial conditions; rapid growth; progress towards maturity; high mass consumption) can be observed in both countries. During the rapid growth periods of both countries, we can observe that the share of physical capital in GDP is high, and the share of local loans to the private sector in GDP has increased many times over the last 60 years, and the amount of loans exceeds the country's GDP. The share of both imports and exports in GDP was high in both countries.

We can attribute the following to the most important points that distinguish the history of South Korea's economic development from other countries[19]:

➢ carrying out thoughtful and ambitious land reform;
➢ significant strengthening of primary and secondary education.

Although it may seem contradictory at first sight, it is precisely the complex nature of land reform that has spurred the rapid increase in domestic demand for industrial products in the traditional sector: the flow of labor to industrial areas has created an opportunity to reduce surplus labor in the agricultural sector and increase

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[18] Rostow, W. The Stages of Economic Growth / W.Rostow. – Econ History Review, - 1959.
[19] Kong, T.Y. The Politics of Economic Reform in South Korea: A Fragile Miracle / T.Y.Kong. – London and New-York. Rouletdge, - 2000.

productivity. Vocational secondary education created conditions for the training of a skilled workforce for industries that would meet emerging needs. Consequently, mutually supportive sectors began to emerge in the country, leading to notable outcomes resulting from the synergy effect

In South Korea, the state has influenced economic processes through both administrative and indirect regulatory instruments. In order to create economic incentives for entrepreneurs and encourage them to fulfill the government's tasks, various tax and customs incentives have been applied, and the use of these incentives has been linked to the target indicators determined by the government. At the same time, administrative methods such as the adoption of general development plans and the setting of export targets for individual companies were also applied.

After gaining independence in 1965, the most important problem facing Singapore was the diversification of the economy through industrial sectors and increasing exports. Singapore did not have enough spare capital, specialized manpower or technology to solve the mentioned tasks. At the center of Singapore's public policy was the development of areas that would ensure the transition to higher levels of the value chain by using relations with multinational companies. Singapore's export-led growth strategy, cheap domestic labor force, favorable tax regime and quality infrastructure ensured the country's attractiveness for foreign investment. Singapore has chosen a different strategy than South Korea to obtain capital, a prerequisite for development, and has adopted a more favorable strategy of gaining a position in the value chain of multinational companies and attracting foreign direct investment. This approach was influenced by the limited size of the domestic market and the reliance of industrial development on foreign markets.

Based on the experience of South Korea and Singapore, it is possible to recommend the following improvements in the regulation of the manufacturing sector in Azerbaijan:

➢ To increase the investment attractiveness of the processing sector, providing local producers with serious concessions on tax,

customs and lending, as well as on infrastructure and logistics opportunities;

➢ To put the state-business-university mechanism into action, to eliminate the cases of information asymmetry and coordination failure;

➢ full support of entrepreneurs who replace imports or produce new products for the local market;

➢ supporting competition among domestic producers;

➢ supporting clustering among local producers;
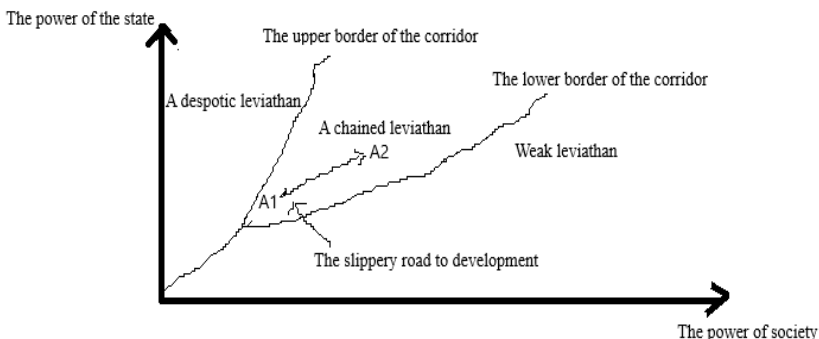
➢ supporting the creation of new technologies;

➢ improving the quality of primary, secondary, vocational and higher education;

➢ using digital technologies to ensure transparency in the adoption, implementation and monitoring of regulatory decisions.

According to the World Economic Forum's Global Competitiveness Report 2020, the erosion of regulatory institutions has been taking place in 2009-2020 amid a decline in transparency, weakening of oversight and other restrictive factors. In recent years, the declining ratings on three indicators of great importance for the quality of state institutions - the independence of the judicial system, the efficiency of the legal framework and the transparency of state contracts - have been observed in the G20, especially in large developed countries[20].

According to Acemoglu and Robinson, the state is better able to ensure economic development when it resembles a "chained Leviathan". The chained Leviathan lies between the despotic and weak Leviathan in its power to influence social processes. But the types of Leviathan are dynamic, not static. A chained Leviathan-type state must constantly run at great speed to maintain its position and keep up with the times. Otherwise, he can become either a despotic or a weak Leviathan.

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[20] Global Competitiveness Report. How Countries are Preforming on the Road to Recovery / Prepered by Klaus Schwab and Saadia Zahidi – Special Edition, World Economic Forum, published 18 December 2020. Available at https://www.weforum.org/reports/the-global-competitiveness-report-2020

The power of the state

The upper border of the corridor

The lower border of the corridor

A despotic leviathan

A chained leviathan

A2

Weak leviathan

A1

The slippery road to development

The power of society

Scheme 1. Acemoglu and Robinson model[21]

In the model of Acemoglu and Robinson, the state and society are imagined in a position of conflict. However, there are many examples of good results of civil relations based on cooperation and mutual benefits in human history. Mutual trust and confidence can create better opportunities for the relationship between the parties to move from conflict to cooperation. We can present information asymmetry as a force that reduces mutual trust, and transparency as a force that supports it. From this point of view, we can look at the modern digitization processes carried out in the world, and especially in Azerbaijan, as a source of new opportunities for strengthening and protecting trust and confidence between the state and society.

Effectiveness indicators were proposed for the evaluation of regulatory measures, the creation of a systematic information base on those indicators for monitoring the results, the connection of supporting measures with these indicators and time limits, and the application of digital technologies in solving the mentioned issues were proposed.

In order to evaluate the results of the regulation, there is a need to create a digital information base consisting of the following indicators on subjects operating in the manufacturing sector and using regulatory advantages. The possibility of classifying this database by types of

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[21] Acemoglu, D. The narrow corridor: States, societies, and the fate of liberty / D.Acemoglu, J.A.Robinson – New York: Penguin Press, - 2019. – p. 41.

activity and size of business entities (micro, small, medium) can greatly increase its usefulness:
- the number and dynamics of those who use benefits;
- amounts not paid to the state budget as a result of concessions and their dynamics (by types of taxes);
- dynamics of production volume (in natural and value terms) and productivity;
- the amount of capital and investments, their share in the total product and their dynamics;
- number and dynamics of employees;
- amount and dynamics of exports;
- dynamics of distribution and diversification of exports by markets (countries);
- the volume and dynamics of production on products that replace imports, the volume and dynamics of imports on those products.

Conclusion

During the study of the relationship between the use of resources and GDP in the manufacturing industry of Azerbaijan, it was determined that the influence of labor resources on the production volume is stronger than that of capital, while the influence of innovation costs was not detected.

The study of the relationship between public spending and the development of the manufacturing sector in Azerbaijan showed that a 1% increase in public investment leads to a 0.013% increase in GDP per capita in the manufacturing sector, and a 1% increase in government education spending leads to a 0.175% increase in GDP per capita in the manufacturing sector.

It was determined that the relationships between indicators such as GDP per capita in the manufacturing sector of Azerbaijan, the ratio of capital to GDP, the share of local loans to the manufacturing sector in GDP, the ratio of imports to GDP do not have a cause-and-effect nature either in the long or short term. An increase in loans leads to an

increase in imports in the short term. These results confirm the low effectiveness of regulatory financial instruments in the development of the local manufacturing industry and indicate that it is necessary to improve the regulation through monetary instruments to find ways out of the existing situation.

The following can be attributed to the most important problems of the regulation mechanism of the manufacturing sector in Azerbaijan:

1. Lack of experience of state regulation in market conditions, asymmetry of economic information existing between state bodies, business and society, lack of adequate level of information about the real problems of business in making regulatory decisions, failure to establish a systematic statistical base for monitoring results, and others.

2. The relatively low attractiveness of the processing sector for local entrepreneurs also reduces their demand for supporting measures in this area. Therefore, the regulatory mechanism should, as a first step, ensure that the manufacturing sector is more attractive than the trade, catering, repair, construction, transport, communication and financial sectors.

3. In order for the state regulation to be effective, it is necessary to improve the quality of the regulation.

The following proposals are put forward to implement a regulatory policy that will trigger a chain reaction of development in the processing industry of our country and ensure a transition to higher technological levels:

1. Ensuring the participation of professionals and research scientists with experience in the processing sector in making regulatory decisions;

2. Conducting research (with the participation of experts, entrepreneurs and scientists in these fields) to reveal comparative advantages in the processing industry, taking into account the global value chain;

3. Strengthening of activities in the direction of creating flexible educational institutions that can adapt to the quality change in the

secondary, vocational and higher education system and the requirements of the labor market;

4. Development of financial markets for the formation of accessible investment sources;

5. Implementation of supporting measures for launching the "state - private sector - university" mechanism of economic development;

6. Ensuring coordination between regulatory bodies and between the public and private sectors;

7. Selection of priority types of activities (in petrochemicals, production of building materials, etc.) with comparative advantages in terms of clustering and boosting overall economic development in the country;

8. Implementation of coordinated supporting measures (state investments, tax, credit, infrastructure provision, scientific research, testing, laboratory, etc.) for those types of activities;

9. Temporary protection of the internal market for selected types of activities (customs duties and taxes, quotas, etc.);

10. Linking supportive measures to measurable performance indicators (such as productivity, production volume, job creation, import substitution, exports, and others) over time;

11. Supporting competition among domestic producers in selected types of activities in domestic markets;

12. Providing the highest level of support to those types of activities, creating direct communication channels between entrepreneurs and the highest level of the state;

13. Elimination of information asymmetry through holding regular meetings with the joint participation of the highest-level officials of relevant state bodies, entrepreneurs, heads of higher education and scientific institutions;

14. Determining the effectiveness criteria of the regulation and monitoring the results based on these criteria;

15. Ensuring accountability and full transparency in regulatory decision-making and evaluation of its results;

16. Continuous improvement of state regulatory tools and strengthening of flexibility.

The quality of the state institution in terms of its influence on economic development depends on the quality of the society, the balance between the power of the state and the society, and the level of mutual trust between the state and the society. Strengthening mutual trust between the state and society can lead to better results in regulating the economy. Azerbaijan's struggle for ensuring territorial integrity and its magnificent victory in the 44-day Patriotic War in 2020 is the most convincing example to justify this idea.

The main provisions of the dissertation work, the obtained results and proposals are reflected in the following published scientific works:

1. Seyfullalı, R.İ. Azərbaycanın emal sənayesində iqtisadi artım mənbələrinin tədqiqi // - Bakı: AMEA-nın Xəbərləri, İqtisadiyyat seriyası, Region və sahə iqtisadiyyatı, - 2019. №4, - s. 97-103.

2. Seyfullayev, I.Z., Seyfullali, R.I. Labor Efficiency and Economic Growth: Evidence from Azerbaijan // 4th İnternational Entrepreneurship, Employment and Career Congress, - Türkiyə: Muğla Sıtkı Koçman Üniversitesi, - 17-20 October, - 2019, - p. 203-210.

3. Seyfullalı, R.İ. İqtisadiyyatın dövlət tənzimlənməsi və iqtisadi artım: nəzəri baxışlar // "Regional inkişafın təmin olunmasında innovativ tendensiyalar: reallıqlar və müasir çağırışlar" mövzusunda Respublika səviyyəli elmi konfransın materialları, - Mingəçevir: Mingəçevir Dövlət Universiteti, - 11-12 dekabr, - 2020, - s. 384-387.

4. Seyfullalı, R.İ. Azərbaycanın emal sənayesinin dövlət tənzimlənməsi zərurətinin nəzəri əsaslandırması // III İqtisadiyyat və İdarəetmə Sahəsində Magistr və Doktorantların Beynəlxalq Elmi Konfransı, Nizami Gəncəvi və Davamlı İnkişaf, - GƏNCƏ: Azərbaycan Dövlət İqtisad Universiteti, - 4-7 iyun, - 2021, - s. 2267-2278.

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İdarəetmə sahəsində Tədqiqatçıların Beynəlxalq Elmi Konfransı, ISCEMR, - Bakı: Azərbaycan Dövlət İqtisad Universiteti, - 23-26 iyun, - 2022, - s. 961-966.

7. Seyfullalı, R.İ. Azərbaycanda dövlətin emal sektorunun inkişafı siyasətinin təkmilləşdirilməsi istiqamətləri // - Bakı: AMEA-nın Xəbərləri, İqtisadiyyat seriyası, Region və sahə iqtisadiyyatı, – 2022. №3, - s. 77-85.

8. Seyfullalı, R.İ Azərbaycanda büdcə xərclərinin emal sektorunun inkişafına təsiri // - Bakı: "İqtisadi islahatlar" elmi-analitik jurnal, - 2023. №1(6), - s. 55-69.

9. Seyfullayev, I.Z., Seyfullali, R.I. The impact of financial development on the manufacturing industry in resource-rich countries: Empirical evidence from Azerbaijan // - Journal of Eastern European and Central Asian Research (JEECAR), USA, Minneaapolis – 2023, 10(3), ISSN: 2328-8272, - p. 478-486.

10. Seyfullalı, R.İ. Tənzimləyici maliyyə alətlərinin emal sektorunda iqtisadi artıma təsiri: Azərbaycan nümunəsində // V İqtisadiyyat və İdarəetmə Sahəsində Tədqiqatçıların Beynəlxalq Elmi Konfransı, ISCEMR, - Bakı: Azərbaycan Dövlət İqtisad Universiteti, – 22-25 iyun, - 2023, - s. 611-622.

11. Məmmədli, M.M., Seyfullalı, R.İ. Cənubi Koreya və Sinqapurda iqtisadiyyatın dövlət tənzimlənməsinin tədqiqi // - Bakı: Azərbaycan Dövlət İqtisad Universitetinin Elmi Xəbərləri, - 2024. İl:12, Cild: 12, №1, - s. 8-23.

The defense will be held on "27" november 2024 at 15^{00} 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 University of Economics.

Address: AZ 1001, Baku city, Istiglaliyet street, 6

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

Electronic version of the abstract is available on the official website of the Azerbaijan State University of Economics.

Abstract was sent to the required addresses on "25" october 2024.