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# ECONOMIC COOPERATION ORGANIZATION

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## Foreword

The Economic Cooperation Organization (ECO) has proven to be an instrumental force in fostering economic cooperation, uniting nations with common objectives for sustainable development and prosperity. Since its establishment, the organization has played a pivotal role in promoting intra-regional trade, investment, and knowledge-sharing, laying the groundwork for collective advancement. In today's rapidly evolving global landscape, characterized by dynamic economic challenges and opportunities, the ECO remains a steadfast platform for dialogue and collaboration.

I am pleased to highlight the exemplary collaboration between Azerbaijan and the ECO, which has been instrumental in driving economic growth and regional development. Azerbaijan's active engagement within the ECO framework has played a crucial role in fostering cooperation and promoting shared prosperity among member states. As the current Chair of the ECO under the theme "2023 – Year of Green Transition and Interconnectivity," Azerbaijan demonstrates its unwavering dedication to advancing sustainable development and regional connectivity. Azerbaijan with its strategic location and abundant resources, including a considerable renewable energy supply with an estimated economic potential of 27 GW, has been a significant contributor to the ECO's endeavors in various sectors, including energy, transportation, and trade. It is worth noting that the liberation of Karabakh and 7 adjacent districts from occupation has created new opportunities for fostering regional cooperation. These lands hold significant economic potential in various sectors, including green energy, industry, logistics, tourism, and more.

Azerbaijan's commitment to regional integration and sustainable development has further strengthened the bonds among the ECO Member States. By enhancing connectivity, fostering public-private partnerships, and embracing technological advancements, we can unlock new avenues for progress and ensure that the benefits of growth are equitably distributed among all segments of society.

In today's interconnected global economy, fostering a culture of knowledge-sharing and collaboration has become paramount. The ECO Economic Journal serves as a conduit for this exchange, providing a platform for economists, policymakers, and researchers to present their insights, analyses, and innovative ideas that contribute to the economic growth and stability of our region. Within the pages of this journal, we explore a wide range of economic themes, ranging from trade and investment to infrastructure development, from technological advancements to financial cooperation. It exemplifies our collective determination to explore innovative solutions, exchange ideas, and embrace economic reforms that promote inclusive growth. Through this journal, we strengthen our commitment to nurturing a thriving and interconnected economic landscape within the ECO region.

Research cooperation serves as a powerful catalyst for tackling shared challenges and harnessing collective opportunities. By pooling our intellectual resources and expertise, ECO member states can effectively address pressing economic issues, foster technological advancements, and develop policies that are tailored to the specific needs of our diverse economies.

The establishment of the ECO Research Center hosted by Azerbaijan is a significant stride forward in our journey of progress. Azerbaijan's commitment to hosting this center reflects the country's recognition of the substantial role research plays in shaping the future of the region. It demonstrates Azerbaijan's vision to become a central hub for knowledge exchange and a catalyst for research-driven solutions within the ECO framework. The ECO Research Center will serve as a focal point for scholars, researchers, and policymakers from

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member states to collaborate on a wide array of critical topics. Let us draw inspiration from each other's experiences, successes, and challenges to forge a brighter and more prosperous future for the entire ECO community. Together, we can harness the power of research and innovation to drive sustainable growth and development within our region.

***Mikayil Jabbarov***

*Minister of Economy  
The Republic of Azerbaijan*

## From the Editor-in-Chief

The release of the current issue of the ECO Economic Journal is a significant event. The journal has been re-launched after a hiatus of many years thanks to the efforts of the ECO Secretariat, the new Editorial Board and the Chief Editorial office.

Against the backdrop of the conflicts, energy crisis, food security and economic crisis, it is important to conduct joint research on socio-economic issues and disseminate the obtained results to the public of the region and the world. In this context, there is an increasing demand for the publication of the ECO Economic Journal, which meets the highest academic standards.

The ECO Member States have promising human potential, natural resources including oil and gas deposits and water resources, agricultural land, numerous scenic areas and a transport and transit network. The long-term and optimal use of the above-mentioned resources and potential can play a special role in solving the socio-economic problems of the region by promoting both the rapid development of the Member States and the further expansion of existing economic relations.

The main problem facing the Editorial Board today is to make our journal readable and to generate interest in the journal among the academic community. To achieve this, we have to ensure the regular publication of the journal, ensure a high academic and practical publication quality that meets international standards, and develop the journal's website and attract a large readership by digitizing the journal.

Each issue of the journal contains an analytical overview of socio-economic development and trends, economic potential and achievements of the ECO Member States, the crisis and resulting global economic challenges, the impact on the region etc. In the next issues of the journal, we will try to help our readers through analysis and assessment to uncover hidden opportunities of the ECO countries, to propose and discuss new approaches and ideas that will ensure long-term and optimal use of the available opportunities. So, let us get to know more about the joint research in the region and the academic work of the ECO.

In conclusion, I would like to take this opportunity to invite the editors of the journal to work in close cooperation and wish them and their readers success.

***Arzu Huseynova***

*Editor-in-Chief of the ECO Economic Journal*

*First Deputy Chairman of the Board*

*The ESRI, the Republic of Azerbaijan*



## ECONOMIC COOPERATION FOR GROWTH, DEVELOPMENT AND SUSTAINABILITY

*Khusrav NOZIRI*

*Ambassador  
ECO Secretary General*

It is a source of great honour and joy to contribute to the 8<sup>th</sup> Edition of ECO Economic Journal being revived through the dedicated efforts of the Economic Scientific Research Institute (the ESRI) after almost a 10-year interval. Endorsed by the ECO Member States in 2009, the Journal was meant to provide a forum for theoretical background and methodological research on social and economic issues related to our region with special focus on sustainable development and economic growth, dynamics in the fields of trade and connectivity, communications, industry, energy, environment, minerals, agriculture, tourism, human resources, etc.

The intervening period has witnessed a number of major regional and global developments, including economic and financial crises, political stress, wars and disputes characterized by widespread tensions and destabilization as well as natural disasters, most notably COVID-19. The pandemic appeared to bear devastating impacts on humans, taking a significant toll on lives, livelihoods, healthcare systems, societies and economies. COVID-19's undermining effects on regional and global development efforts resulted in rising inflation, disruptions in value chains and increased poverty across the globe.

In particular, the year 2020 brought about an unprecedented challenge to the world economy as the global GDP shrank by 3.2%. Very high inflation led to monetary policy tightening thereby triggering worldwide rigid financial conditions. Thanks to the massive vaccination program, the global economic recovery began in 2021 and 2022 with around 6% and 3.1% global GDP growth rates respectively with the revival of demand for goods and services. On the other hand, supply shortages with respect to the demand, increasing energy & food prices and disruptions in the supply chains created uncertainties about economic growth in the ensuing period, leading to a slowdown in global recovery as forecasts for the world GDP growth in 2023 are revised downward to around 2% (World Bank, 2023).

Like the global economy, the ECO economies are projected to face similar trends. In our region, the inflation rate is projected by the IMF at 15.4% in 2023. In terms of GDP growth rates, Tajikistan was leading with an annual GDP growth rate of 9.2% in 2022, followed by the Kyrgyz Republic 7.0%, Pakistan 6.2%, Türkiye 5.6%, Azerbaijan 4.6%, Kazakhstan 4.2% and Iran 2.7% (World Bank Data). Yet, the growth rate predictions for all economies in the region toe the same pattern as global forecasts do, indicating a foreseeable slow-down during the years 2023-2025.

In the trade sector that holds a central position in our agenda of regional cooperation, world trade registered a rebound of 21% over 2020, reaching US\$ 22.4 trillion in 2021. After softening to 10% growth in 2022, world trade is projected to register a further decline in growth rate by 1.7% in 2023 as multiple shocks weigh on the global economy, largely reflecting the weakening demand (Trade map).

Increased by 46% in 2022 over 2020 on a year-on-year basis, the share of ECO Region

in global trade was recorded at US\$ 1,036 billion (Trade map). In 2022, imports of the ECO Region stood at US\$ 577 billion while exports to the world were recorded at US\$ 459 billion. On the other hand, intra-regional trade was recorded at US\$ 85 billion in 2021, which is only 8.2% of the region's total trade with the rest of the world. ECO Region's share in world trade, at around 4.1%, clearly falls below its commensurate potential for a region that is strategically located on important trade routes with more than 6% of the world population and an abundance of endowments in natural and human resources.

Against this backdrop, one major lesson from the recent turmoil educates us about the individual governments' lack of proper preparedness to cope alone with such global challenges; making it obvious that multilateral cooperation is the key to progress, development and sustainability. Relevantly, global policymakers have duly recognized the need and necessity to strengthen and encourage international institutions and communities to build more active and vibrant partnerships with a view to consolidating the joint regional and global development process.

It is gratifying to note that the ECO Member States, with the given understanding in mind, have shown genuine interest in increasing their cooperation for supporting the socioeconomic development in our region. It is further notable that, during the year 2021, two ECO Summits were convened where the Heads of Member States unanimously called for intensified regional cooperation. In particular, the Ashgabat Consensus for Action adopted by the 15<sup>th</sup> Summit on November 28, 2021, highlighted that multilateralism is imperative to promote and strengthen the process for securing sustainable development, peace and security in the region. Stressing on the role of international and regional organizations in upholding and furthering multilateralism, the highest ECO leadership encouraged for early implementation of our legal frameworks and agreements to affect the expedited functioning of the ECO Institutions.

The Secretariat has, therefore, had an increased focus on further consolidation of our regional development efforts in line with the aspirations of ECO leadership and the Organization's yearly themes that declared 2022 as the "Year of Strengthening Connectivity" and 2023 the "Year of Green Transition and Interconnectivity" in the region under the chairmanship of Uzbekistan and the current chairmanship of Azerbaijan, respectively.

Moreover, the Organization has taken significant steps forward to secure its regional development objectives, especially in trade, transit transport, tourism, energy, economic growth and social welfare sectors as per the priorities determined by ECO Member States in the ECO Vision 2025. Significant progress has been achieved towards the implementation of different ECO projects and mutually agreed legal frameworks; in particular, the ECO Trade Agreement (ECOTA), ECO Agreement on Protection and Promotion of Investment (APPI), ECO Transit Transport Framework Agreement (TTFA), ECO Regional Electricity Market and ECO Clean Energy Center, as well as a number of other important initiatives taken to address challenges in agriculture, food security and building resilience against natural disasters.

In addition and given the fact that our region has a huge but untapped tourism potential in terms of historic and natural landmarks and many UNESCO heritage sites, some important programs and projects to boost the quality and infrastructure of regional tourism by enhancing travel facilitation, services quality and multi-seasonal product development have been developed. An ECO Tourism Action Plan, designed in this regard, is expected to

add fuel to the tourism activities in our region.

Besides, the charter of the ECO Research Center (ERC) was approved by the President of Azerbaijan Ilham Aliyev in February 2023. Notably, Türkiye and Pakistan had previously signed the charter of the ERC in 2021 and 2023, respectively. The ERC is aimed at making extensive regional economic research, providing in-depth information to facilitate a wider and reinforced economic cooperation amongst the ECO nations. The ERC is also tasked to review and publish the serial ECO Economic Journal. I take this opportunity to extend my deep gratitude to the Journal's Editorial Board for reviving this publication after a long intermission, as well as my sincere appreciation to the ECO Trade and Development Bank for sponsoring the fourth edition of this exclusive journal.

Recalling the ECO's expansion that took place thirty years ago in the early 1990s, I am elated to see the Organization as a progressive and meaningful intergovernmental economic forum being increasingly determined and committed to expanding multilateralism in the region through enhanced solidarity and cooperation amongst the Member States. With this in mind, the framework of the Ashgabat Consensus for Action reaffirms our highest leadership's support of international efforts to provide urgent humanitarian aid to Afghanistan with effective, transparent and accountable mechanisms. The document also underscores the importance of political inclusivity and protection of human rights, particularly the women segment of the Afghan society. Despite the current situation in Afghanistan, the Secretariat is exploring all possible ways and means to ensure the implementation of the ECO Advocacy Program for Afghanistan. To this end, the Organization is collaborating with Member States and its regional and international development partners, mainly the relevant UN bodies.

It is my further pleasure to recall the imminent holding of the 27<sup>th</sup> COM Meeting this year on October 9 and the 16<sup>th</sup> Summit on November 10 to be respectively hosted by Azerbaijan and Uzbekistan with the participation of the highest leadership of the Organization. As usual, we are keeping our fingers crossed to seek the renewed guidance of our leaders that is always very kindly offered by them to refuel and reinvigorate our cooperative efforts for greater connectivity and integration of the region.

Fostering economic cooperation is an integral part of our agenda for shared and sustainable development in the region. Based on the ECO Vision 2025, we are collectively balanced towards our common aims and objectives. The unity cushioned by the Treaty of Izmir is the source of unique pleasure, excitement and satisfaction that strengthens our cooperative journey for a more prosperous ECO Region. We are confident that with the continued support of Member States, the ECO will continue plowing ahead leaving no stone unturned on its way to progress and prosperity.

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## CSR PRACTICE OF SMES IN DEVELOPING ECONOMIES: THE CASE OF AZERBAIJAN

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At the beginning of the 21<sup>st</sup> century overwhelming majority [if not all] of companies and organizations in post-soviet countries including Azerbaijan were not fully aware of the essence of corporate social responsibility (CSR) - one of the most important factors required for the sustainable development and successfulness of modern business activity. However, for several years, the question of social responsibility of businesses became crucial in this geography and the concept of CSR has been increasingly moved to the forefront.

The main purpose of this research work is to study the current state of CSR practice in modern Azerbaijan with a particular focus on the CSR activity of small and medium-sized enterprises. In this study, we tried to shed light on the current CSR practice of SMEs in Azerbaijan against the backdrop of their constantly growing importance for the country by highlighting the way SMEs use CSR strategy and policy and the shortcomings in this field. The article also highlights government support for sustainable development, the way government can influence and encourage businesses to become more socially responsible. The benefits of CSR and its close interrelation with long-term success and sustainability are also among the issues discussed in this research paper.

**Keywords:** CSR strategy, socially responsible business, sustainable development, social investments, stakeholder orientation, SMEs.

## 1. Introduction

21<sup>st</sup> century entrepreneurship adopted new colours and tendencies becoming more stakeholder-oriented, environmentally friendly, and focused on sustainability. Corporate social responsibility (CSR) in its turn became one of the important components of sustainable development and marketing strategy of large businesses and has been acknowledged as an indicator of the ethicalness of business. As concluded by Spence and Perrini, to some extent the fields of corporate social responsibility and ethics started to exist in parallel (Spence & Perrini, 2009).

Socially responsible entrepreneurship is also traditional for Azerbaijan and commitment to it used to be part of the nation's culture having been deeply rooted in its historical past. The manifestation of philanthropy, which is considered the predecessor of CSR was part of the activity of Azerbaijani entrepreneurs at all times in the form of charity (Suleymanov, 1987; Yilmaz, 2014). In the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, Azerbaijan experienced more systematic socially responsible business activity - the traditional Maecenas activity was upgraded into more impressive in size and mature in character social investments made by oil magnates and other rich people of Azerbaijan to healthcare, education and other urgent social needs laying the foundation of responsible and ethical business in Azerbaijan (Gahramanova, 2019; Amrahov & Gafarova, 2012). However, their noble initiatives could last until the establishment of the Soviet system in the country which put an end to the existence of the private sector.

Becoming independent in 1991 Azerbaijan went through a difficult period of political and social transformation and a state-building period extremely complicated by the involvement in the Armenian-Azerbaijani Nagorno-Karabakh conflict and demographic crisis inherited from the soviet era. The poor socio-economic environment had a negative impact on the sustainable approach to business development; entrepreneurs were mainly trying to set up a business to somehow survive and improve their livelihoods (Gahramanova, 2020). As proposed in Maslow's hierarchy of needs, businesses focused on satisfying their basic physiological needs and were not mature enough to think of their stakeholders.

Favourable conditions created for the socio-economic development in Azerbaijan during the years of independence are connected with the name of national leader Heydar Aliyev. After Heydar Aliyev's coming to power in 1993 many important steps were taken in the field of business development. The economic growth in the country was particularly increased with the signing of "The Contract of the Century" in 1994 aimed at using the country's potential resources for its [country's] sustainable development. The outcomes of this brave decision had its effect on all areas of the economy and social life in Azerbaijan.

It is worth noting that 60 years long history of CSR concept and practice shows that the attention to the social responsibility of business increases in parallel to the economic growth of a country or an entire region. This was the case in the United States and in developed countries of Europe and Asia. The same tendency was also observed in Azerbaijan: the situation with CSR activity started to change in parallel to the economic development in the country as the reviving private sector now had the opportunity to think of its social responsibilities and sustainable development.

Now almost 30 years later, we witness a different picture: CSR which was not familiar to the overwhelming majority of newly established business organizations in early post-soviet Azerbaijan, has now been more or less integrated into the strategy of the majority of

large firms while this positive tendency is less visible in the activity of small and medium-sized enterprises (SMEs). Research studies revealed that the CSR activity of SMEs in the country, as well as their focus on sustainable development, is far behind compared to large businesses. To note that the situation with SMEs is different in developed countries - SMEs are becoming the backbone of the economy (Oldham & Spence, 2021; Del Baldo, 2018; Morsin & Perrini, 2009) representing more than 90% of all businesses and providing more than 50% of employment worldwide (World Bank, 2021). For the EU economy, SMEs constitute 99.8% of all EU enterprises employing more than 74 million people (statista.com, 2021; European Commission [EC], 2019; OECD, 2021).

Though SMEs in Azerbaijan are still far from becoming the backbone of the country's economy, their role in economic development and share in GDP is gradually growing. Currently, SMEs representing various business spheres provide 56% of the employment in the country (The State Statistical Committee of the Republic of Azerbaijan [SSCRA], 2022). Growing indicators allow expecting that positive world tendency in terms of SMEs' growing significance and CSR implementation will soon be observed in Azerbaijan too.

This study aims to summarize SMEs growing role in the economy of Azerbaijan, the current situation with their socially responsible behaviour and sustainable development.

## **2. CSR and its role in the sustainability of businesses**

Reviewing the historical background to the CSR concept we see that as a conception CSR has around half-century history of formation and development and its role in the sustainability of businesses has been proved both theoretically and empirically. First introduced by American scientist Howard Bowen in 1953 as a concept necessary for business's relations with society and other stakeholders (Bowen, 1953) this concept later gained popularity and some other significant theories were developed under its umbrella. Among them stakeholder approach proposed by E. Freeman, CSR Pyramid of A. Carroll, Corporate Sustainability and Triple Bottom Line by J. Elkington to name a few.

One of the theoretical approaches developed under the umbrella of CSR theory is the concept of corporate sustainability. Various peer-reviewed articles and other related sources surveyed by the author in an attempt to summarize the interrelation between CSR and sustainable development allowed us to conclude that corporate sustainability refers to an approach that aims to create long-term value through a strategy that encompasses the ethical, social, environmental, cultural and economic aspects of business (Camillieri, 2017; Jansson et al., 2017; Sullivan, 2009).

CSR became particularly popular in the early years of the 21st century which was marked by serious corporate scandals stemming from the unethical behaviour of reputable business giants with respect to society and the environment. The collapse of large companies such as Enron, World Com, Lehman Brothers, Swiss Air and plenty of other business giants was a shock for the entire economy of developed economies such as the United States, Canada, as well as of the developed countries of Europe and Asia. These economic and social "earthquakes" have forced governments and commercial organizations to reconsider their attitude towards the society and environment and adopt more serious and responsible behavioural norms.

In modern economic conditions, the sustainable development of any business is interrelated with the sustainable development and social welfare of the society in which it

operates and there is a close relationship between the CSR activity, reputation and sustainability of an organization (Sullivan, 2009; Porter & Kramer, 2016). 21<sup>st</sup> century business cannot afford to ignore its social responsibilities and the significance of social responsibility in the sustainable development of business and society has repeatedly been emphasized by practitioners and theorists (Davis, 1960; Freeman, 1984; Elkington, 1994; Carroll, 1999; Sullivan, 2009; Porter & Kramer, 2006).

An excellent empirical study in this connection was contributed by American scientists M. Porter and M. Kremer in their article titled "The Link Between Competitive Advantage and Corporate Social Responsibility" where they described CSR as a strong tool for improving competitiveness of a business. In the example of the world's leading sustainable and competitive business giants such as Volvo, BMW and Whole Foods Market authors proposed effective ways of using CSR policy as an opportunity for public welfare and business' own growth and sustainability (Porter & Kramer, 2006).

### **3. Materials and Methods**

In this research work both primary and secondary sources were utilized to collect necessary data. A wide range of secondary sources such as peer-reviewed journal articles, statistical information, media publications, expert analyses, reports of international organizations, conference materials and sustainability reports of target companies were studied.

In-depth interviews, involving representatives of selected large companies and SMEs were conducted to examine the existence of CSR policy and practice in companies.

Interview questions were prepared to find out whether worldwide CSR practices applied in Azerbaijani companies, to learn about the perception of the CSR concept, drivers of CSR, level of involvement in CSR implementation and challenges faced, CSR policies and strategies developed and used, positive impact of CSR for company performance, application of global CSR standards in non-financial reports, future CSR related plans, etc.

Methods used include logical reasoning based on the analysis of scientific literature, statistical and interview data, analysis of reports of international organizations and publicly available data.

### **4. Findings**

#### **4.1. SME's growing significance in the country's economy**

SME's role in Azerbaijan's economy is gradually growing and its impact is becoming important. Along with large companies now, medium and small enterprises make significant contributions to the economic development of the country.

According to the State Committee of Statistics, as of January 2022 there are around 1245000 officially registered SMEs representing various business fields (SSCRA, 2022). Table 1 demonstrates the size classification of SMEs in Azerbaijan which is set by the Decree 555 of the Cabinet of Ministers of Azerbaijan in 2018 taking the global criteria indicators as a foundation.



**Table 1.***Size classification of SMEs in Azerbaijan*

<b>Category of Enterprise</b>	<b>Employees</b>	<b>Annual revenue in Azerbaijani manat</b>
Medium-sized	51 – 250	3.000000 – 30.000000
Small	11 – 50	200.000 – 3 000 000
Micro	Up to 10	Up to 200.000

As of January 2021, the share of SMEs in the country's GDP is around 15%. Share of SMEs in non-oil sector GDP is around 25%. Constituting 87% of all registered business entities in Azerbaijan SMEs provide more than 52% of the total employment in the country which is quite impressive while still well behind the indicators of the developed countries. Their share in non-oil exports is also quite significant having around 53% (SMBDA, 2021). From this perspective, it is difficult to overestimate the role of small and medium-sized businesses in the country's economy. However, in Azerbaijan, SMEs are still far from becoming the backbone of the country's economy, as it is the case in the EU and other developed geographies.

Although the share of SMEs in the non-oil sector is close to normal, its share in the total GDP of the country is small having only around 15% share. One of the reasons for this insignificant share is because a large part of Azerbaijan's economy is based on oil revenues. However, there are other problems and at present, this issue is in the focus of the government and serious strategic measures are being taken to increase the share of SMEs in the country's economy up to 40% by 2025. Necessary measures related to increasing the share of SMEs in the country's economy is also underlined in the Decree of the President of the Republic of Azerbaijan on "Socio-economic Development Strategy of the Republic of Azerbaijan in 2022-2026". Mechanisms implemented within the state support programs is aimed to ensure the increase of SME share in the country's economy.

The strategic goal includes to strengthen the role of SMEs in the country's economy by supporting their development, boosting competitiveness, facilitating access to markets through the supply of daily consumer goods, achieving significant increase of SMEs share in the non-oil sector and total national GDP. Providing more employment opportunities with the involvement of SMEs is also among the strategic goals to reach (SMBDA, 2021). Figure 1 demonstrates the current position of SMEs in the country's economy.

#### **4.2. CSR Practice of SMEs in Azerbaijan and its impact on their sustainable development**

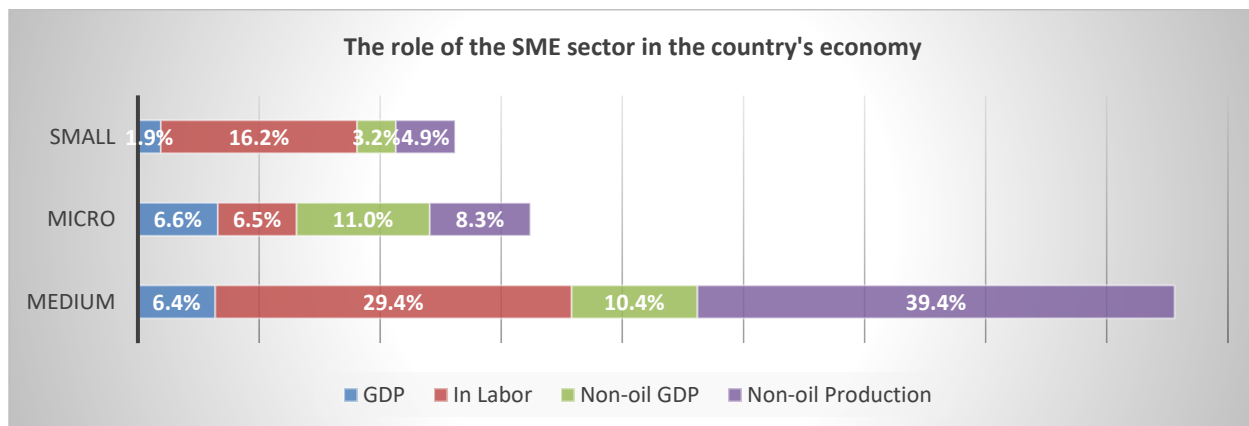
Based on the literature review of CSR related activities of SMEs worldwide certain expectations/assumptions were developed about possible CSR practices of SMEs in Azerbaijan. The assumptions were proved while studying available secondary sources and then during the interviews with the representatives of both SMEs and large businesses.

**Perception of CSR.** There is a serious misunderstanding related to the perception of CSR concept. Random questioning of people working for SMEs and even in some large companies revealed their unawareness of CSR conception and activity. The term "CSR"

sounds strange to them and they recognize the expressions such as “social responsibility”, “moral responsibility toward society”, “voluntary charity” and in most cases are involved in those initiatives in the way they consider appropriate and affordable to implement.

### Figure 1.

*The role of the SME sector in the country's economy. Prepared by the author using the available statistics*



Source: The Small and Medium Business Development Agency

**Level of involvement in CSR related activities.** While the result of interviews showed the absence of mechanism for the systematic CSR implementation, answers to the specific questions demonstrated that CSR related activities are taking place all the time. Feedback received from the interviewed SME representatives demonstrated that the majority of them already exhibit socially responsible initiatives and activities similar to what is meant by CSR. In these circumstances, conclusion by D’Andrea and Montanini for the Italian context is applicable also in the Azerbaijani context - CSR practices of SMEs in the country is hidden in the daily behaviours (D’Andrea & Montanini, 2015) and is more a “sunken CSR” (Perrini et al., 2009). The outcomes of this study also proved the conclusion made more than a decade ago by Moore et al for UK context stating that SMEs are engaged in CSR related activities “without necessarily viewing such activity in this way” (Moore et al., 2009).

**Drivers of SMEs’ CSR practices in Azerbaijan.** It was not possible to clearly identify the drivers of social responsibility initiatives of SMEs while the results of the interviews demonstrated that community focus is dominating for all SMEs and for large business as well. All the interviewed within this study considered social responsibility activities very noble and important engagement that makes them feel morally satisfied. Interview also revealed that the virtue, goodwill and the good citizenship feelings of a particular entrepreneur are the main factors encouraging business for social investments. In other words, if socially responsible behaviour is desired by the its owner then will be translated into the operations of the company (Del Baldo, 2012).

**CSR policies and strategies developed and used.** Interviews with SME representatives demonstrated that majority of firms do not have CSR policy and strategy or at least a scheme of CSR implementation programs. They do not have neither a CSR unit nor a particular person responsible for coordinating CSR related activities. This reality dictates that managers and employees of private sector need training in order to acquire the

necessary skills and competence to integrate CSR in their day-to-day activities and report on them (Quliyev, 2020).

**CSR reporting.** Publishing CSR activity and sustainability report is a major problem to be addressed. Currently SMEs do not publicize non-financial reports and they find doing it quite challenging. Unawareness of globally recognized CSR reporting standards negatively affects integration and regular implementation of CSR. From this perspective developing and promoting national non-financial reporting standards based on the globally recognized reporting systems such as GRI (The Global Reporting Initiative), ISO26000, AA1000 (Assurance Standard) and other social reporting mechanisms would be a step forward in promoting CSR activities in the country. However, these standards should be worked and applied in a way not to become a burden for SMEs (Sheehy & Farneti, 2021).

#### **Do SMEs think of any positive impact CSR may bring for their businesses?**

Major problem in this regard is that both large businesses and SMEs are mainly oriented for profit-sacrificing CSR and are far from thinking of profit-making CSR (Lee et al., 2015). CSR impact on organizational performance and profitability, talent acquisition and prevention of staff turnover, improved customer loyalty, good relationships with stakeholders, attracting investors and partners, achieving access to international markets and other potential benefits are not yet the part of the strategic thinking of businesses in this geography, particularly of SME's. Borrowing a conclusion from Perrini et al it can be concluded that reducing pollution, improving waste management and implementing practices to minimize environmental impacts act as a reputation signaling exercise, which becomes crucial in terms of opening new markets (Perrini et al., 2009).

## **5. Conclusion**

This study analysed the CSR practices of businesses in Azerbaijan with a particular focus on SMEs. Summarizing the research outcomes, it can be concluded that CSR activity of businesses in Azerbaijan including SMEs is gradually developing though it differs from the practice in developed countries of the West where CSR has been institutionalized for decades. CSR activity is situational and spontaneous while there are positive intentions that need to be directed. Expert support is required to help businesses to develop a CSR strategy that is comprehensive and stakeholder-oriented.

There is unawareness of how a well-developed CSR strategy and improved community image can be linked to better business returns and improved customer and employee loyalty. Entrepreneurs somehow feel obliged to be socially responsible but cannot make a link between corporate social performance (CSP) and corporate financial performance (CFP) and do not use CSR policy in their strategy of growth and development.

The most important conclusion is connected to the importance of recognition of CSR on the governmental level and the necessity of developing national CSR strategy and CSR reporting standards in conformity with internationally recognized standards such as GRI reporting system, Dow Jones Sustainability Indices (DJSI), SA 8000, ISO 26000 while considering and adapting certain cultural and historical specificities. We think that the current positive dynamics in national economic development, the reforms carried out in various fields of the economic, political and social life allows to predict positive changes in CSR field in the near future.

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## ASSESSMENT OF THE IMPACT OF AMENDMENTS OF THE TAX LEGISLATION OF THE AZERBAIJAN REPUBLIC ON VOLUNTARY COMPLIANCE

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In this article, the package of amendments made in the tax legislation in order to prevent the difficulties in the economic field of the country in connection with the COVID-19 pandemic and to minimize the harmful consequences is evaluated by Mamdani FIS and Matlab software package was used. The model being investigated includes 4 inputs, 10 *IF – THEN* rules and a single-output. In order to ensure accuracy, taxpayers and neutral experts on economic and tax relations were involved as experts, and their opinions were studied, cross-sectioned, analyzed at the two-tier level, and based on this, a final evaluation has been made.

**Keywords:** Tax legislation, Fuzzy Logic, Membership Functions, Defuzzification Methods, Mamdani FIS, IF-THEN rules

## 1. Introduction

The Republic of Azerbaijan proclaimed its independence from the Soviet Union in 1991, abandoned the socialist economic system and made significant development in building and developing a social market economy. Achieving successful results in this area is directly related to the state's economic policy, including tax policy. One of the main features of modern tax policy is the ability to respond quickly to rapidly changing economic relations, to ensure the compromise of the interests of business entities with the state and public interests. Through its tax policy, the state ensures the implementation of an effective regulatory and distributive function in economic relations, taking into account the current situation and development characteristics of the country. There is also purpose to provide additional revenues to the state budget and further to strengthen its financial stability. This need necessitates relevant changes in the legislation, including the tax code governing relations between public and private entities.

In the recent years, for this purpose a series of amendments have been made to the Tax Code of the Republic of Azerbaijan. The changes are mainly aimed at building mutual trust between tax authorities and taxpayers, creating a high tax culture and voluntary compliance, a transparent tax system that stimulates the development of the national economy and creates a fair competitive environment. That is why, the amendments to the tax legislation cover important aspects such as supporting the development of entrepreneurship in the country, transparency of economic relations, reduction of the shadow economy, expansion of the tax base and optimization of tax administration.

In 2020, when the COVID-19 pandemic began, a package of amendments to the Tax Code of the Republic of Azerbaijan was prepared and adopted to reduce the tax burden on the population, as well as businesses, and expand the tax base through social benefits. The article takes these changes as the object of research.

## 2. Expert evaluation of legislative and administrative efforts of the state in the fields of economy

It is known that economic policy requires constant changes in the tax system. The changes are in line with the policy of improving the tax legislation, as well as the direction of tax administration (Musayev, 2020). In many cases, the prepared projects are evaluated from the point of view of economic efficiency until they reach the level of a normative document. It does not allow us to comment on how useful these changes are in terms of their intended purpose. In the case of additions and changes, the elimination of deficiencies often leads to certain losses, both in terms of financial and human resource consumption, and in terms of time. On the other hand, the system of indicators reflected in the draft amendments to the tax system, which consists of two types, including quantitatively measurable and unmeasurable indicators, puts serious difficulties for tax policy institutions in decision-making (Musayeva, 2020). The most common of the approaches used in practice is the use of expert evaluation.

During the research, obtaining information from an expert (or a group experts) significantly increases its quality, accuracy and allows for a comprehensive analysis of the situation.

In this article we propose to use two levels of expert evaluation in order to ensure the accuracy of expert evaluation. As the evaluation depends on the composition and quality of



the expert group, it is intended to conduct a survey to select an expert and form groups according to this basis. Taxpayers engaged in entrepreneurial activities are subjects of this process (composition of experts). In general, the proposed expert evaluation is carried out according to the following scheme: both groups of experts are intended to be formed from among the subjects of entrepreneurial activity. Let us assume that the first group of experts is selected from a number of business entities and is offered to evaluate the impact of a number of provisions contained in the draft amendment to the tax legislation on voluntary compliance on a predetermined point scale (Musayev, 2016).

Meanwhile, it is assumed that the second group of experts is selected from a number of business entities and they are asked to evaluate the accuracy (reliability) of the evaluation of the first group of experts on a predetermined point scale. The result is a second expert evaluation. These results are reflected in Table 1.

**Table 1.**  
*Summarized expert evaluation*

Impact of amendments to the tax legislation on voluntary compliance									
№	Proposed amendments to Tax Code	Experts` full name and points							
		E <sub>1</sub>	E <sub>2</sub>	...	...	E <sub>j</sub>	...	...	E <sub>m</sub>
1	M <sub>1</sub>	X <sub>11</sub>	X <sub>12</sub>	...	...	X <sub>1j</sub>	...	...	X <sub>1m</sub>
		Y <sub>11</sub>	Y <sub>12</sub>	...	...	Y <sub>1j</sub>	...	...	Y <sub>1m</sub>
2	M <sub>2</sub>	X <sub>21</sub>	X <sub>22</sub>	...	...	X <sub>2j</sub>	...	...	X <sub>2m</sub>
		Y <sub>21</sub>	Y <sub>22</sub>	...	...	Y <sub>2j</sub>	...	...	Y <sub>2m</sub>
...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...
i	M <sub>i</sub>	X <sub>i1</sub>	X <sub>i2</sub>	...	...	X <sub>ij</sub>	...	...	X <sub>im</sub>
		Y <sub>i1</sub>	Y <sub>i2</sub>	...	...	Y <sub>ij</sub>	...	...	Y <sub>im</sub>
...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...
n	M <sub>n</sub>	X <sub>n1</sub>	X <sub>n2</sub>	...	...	X <sub>nj</sub>	...	...	X <sub>nm</sub>
		Y <sub>n1</sub>	Y <sub>n2</sub>	...	...	Y <sub>nj</sub>	...	...	Y <sub>nm</sub>

Each provision proposed for amendment in this table is evaluated by experts in terms

of the impact of this item on tax revenues with two values: first, its level of impact on voluntary compliance ( $x_{ij}$ ), and second, its weight ( $y_{ij}$ ). According to the expert valuation, the impact of the proposed amendments on the tax legislation on the voluntary compliance is deducted from the draft by selecting less significant or insignificant provisions by dividing them into certain groups in terms of the significance of those changes. The effectiveness of the initial project can be increased by using statistical methods such as average value, dispersion, histogram and etc.

### 3. Application of the fuzzy inference method to evaluation the impact of amendments to the tax legislation on voluntary compliance

The technique of mapping input data to an output element using fuzzy logic is known as fuzzy inference. On the basis of the samples provided at the end of this mapping, a choice is taken. This article examines the influence of changes to the Republic of Azerbaijan's tax code implemented in 2020 on voluntary compliance using fuzzy inference consisting of 4 inputs, 8 IF-THEN conditions, and 1 output. The purpose of using the data for 2020 was the relation of the amendments to the tax legislation in that year with the COVID-19 pandemic.

Since the entry into force of the Tax Code, about at least 1,320 amendments have been made to the Tax Code. The number of changes made per year is given in the table below. The number of changes over the years is shown schematically in the diagram below (see Fig.1).

**Figure 1.**

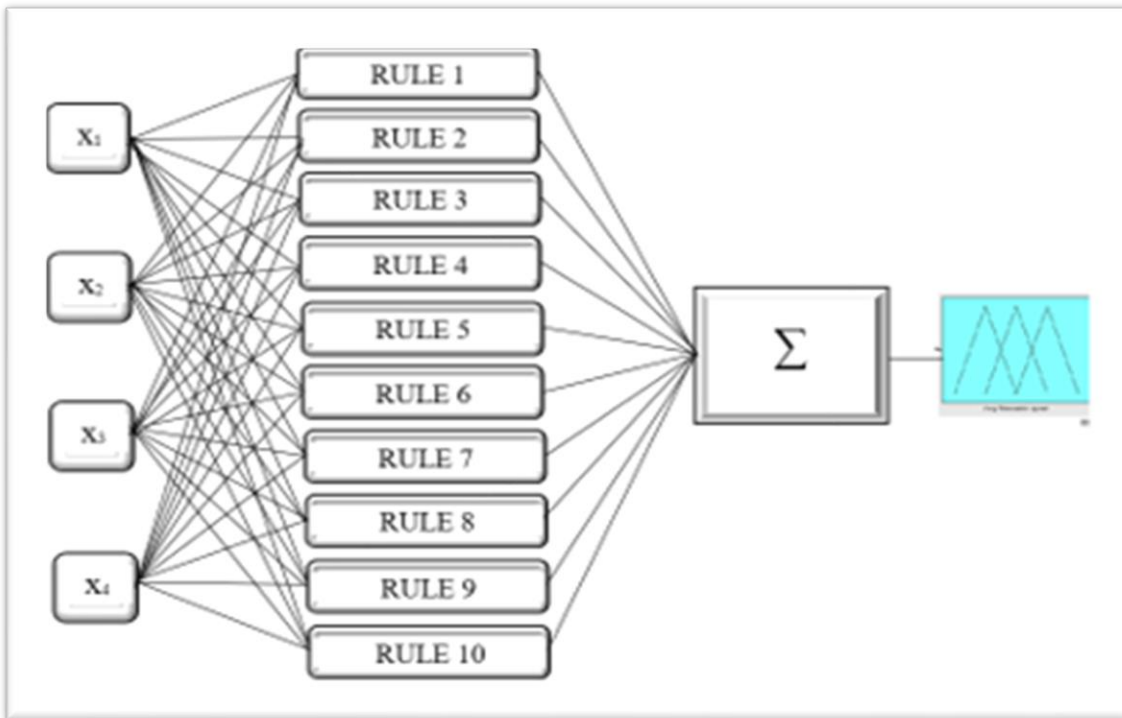
*A figure of the amendments of tax legislation*



*Pre-processing of data.* The 2020 tax law changes are conditionally grouped into four groups based on the likely impact, taking into account the expert opinions: “much less important”, “less important”; “important”; “very important” laws. 18 economic

experts evaluated the amendments in 0-100 scale. The conducted evaluation has accuracy weight coefficients that have been reviewed by additional specialists. The input data are multiplied by these weight coefficients, and the result is the average value for each input data.

**Figure 2.**  
General scheme of fuzzy inference system



**Figure 3.**  
IF-THEN rules for the expert evaluation of the impact of the amendments to the tax legislation on the voluntary compliance

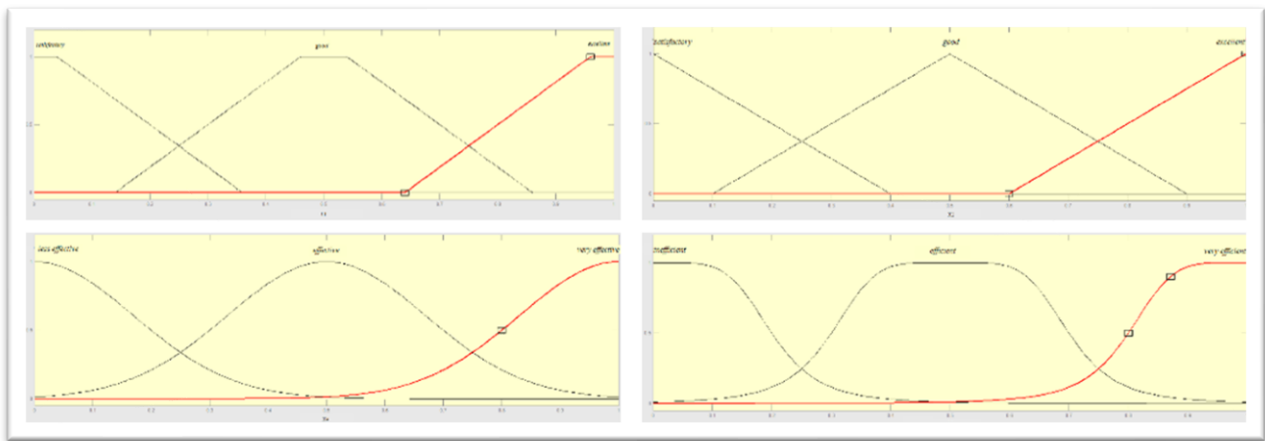
No	IF-THEN RULES
1.	If (x <sub>1</sub> is satisfactory) and (x <sub>2</sub> is satisfactory) and (x <sub>3</sub> is effective) and (x <sub>4</sub> is very effective) then (Y is effective)
2.	If (x <sub>1</sub> is satisfactory) and (x <sub>2</sub> is satisfactory) and (x <sub>3</sub> is very effective) and (x <sub>4</sub> is effective) then (Y is effective)
3.	If (x <sub>1</sub> is good) and (x <sub>2</sub> is good) and (x <sub>3</sub> is effective) and (x <sub>4</sub> is ineffective) then (Y is ineffective)
4.	If (x <sub>1</sub> is good) and (x <sub>2</sub> is good) and (x <sub>3</sub> is very effective) and (x <sub>4</sub> is ineffective) then (Y is ineffective)
5.	If (x <sub>1</sub> is good) and (x <sub>2</sub> is good) and (x <sub>3</sub> is very effective) and (x <sub>4</sub> is effective) then (Y is effective)
6.	If (x <sub>1</sub> is good) and (x <sub>2</sub> is good) and (x <sub>3</sub> is very effective) and (x <sub>4</sub> is very effective) then (Y is very effective)
7.	If (x <sub>1</sub> is excellent) and (x <sub>2</sub> is good) and (x <sub>3</sub> is very effective) and (x <sub>4</sub> is very effective) then (Y is very effective)
8.	If (x <sub>1</sub> is excellent) and (x <sub>2</sub> is excellent) and (x <sub>3</sub> is very effective) and (x <sub>4</sub> is very effective) then (Y is very effective)
9.	If (x <sub>3</sub> is very effective) and (x <sub>4</sub> is very effective) then (Y is very effective)
10.	If (x <sub>3</sub> is effective) and (x <sub>4</sub> is effective) then (Y is effective)

The structure for the case solution is given in the Fig.2 (Mamdani, 1976). Let's mark the groups of “much less important”, “less important”, “important”, “very important” laws

by  $x_1$ ,  $x_2$ ,  $x_3$  and  $x_4$  respectively. And let's mark the impact of the amendment made to the tax legislation on the voluntary compliance by  $y$ . 10 rules have been determined in the expert evaluation of the impact of the amendments made to the tax legislation on the tax voluntary compliance (See Fig.3). The rules have been composed and realized in Matlab FIS program package.

#### Figure 4.

Descriptions of the Trapezoid-shaped, Triangle-shaped, Bell-shaped, Gaussian curve membership according to the input data according to linguistic variables in the given example



Source: The graphics were prepared by Matlab in the FIS software package

In this article the membership functions is used according to the input data:

1. The input data  $x_1$  ("important" laws) is fuzzified by a trapezoid-shaped membership function. 3 linguistic variables have been found: "sufficient", "good" and "excellent" (see Fig.4).

sufficient:  $a = -0.36$ ;  $b = -0.04$ ;  $c = 0.04$ ;  $d = 0.36$

good:  $a = 0.14$ ;  $b = 0.46$ ;  $c = 0.54$ ;  $d = 0.86$

excellent:  $a = 0.64$ ;  $b = 0.96$ ;  $c = 1.04$ ;  $d = 1.36$

Here a,b,c,d are the parameters of trapezoid membership function.

2. The input data  $x_2$  ("much less important" laws) is fuzzified by a triangle-shaped membership function. 3 linguistic variables have been found: "sufficient", "good" and "excellent" (Fig.4).

sufficient:  $a = -0.4$ ;  $b = 0$ ;  $c = 0.04$

good:  $a = 0.1$ ;  $b = 0.5$ ;  $c = 0.9$

excellent:  $a = 0.6$ ;  $b = 1$ ;  $c = 1.4$

Here a, b, c are the parameters of triangle membership function.

3. The input data  $x_3$  ("less important" laws) is fuzzified by the generalized Bell-shaped membership function. 3 linguistic variables have been found:

“ineffective”, “effective” and “very effective” (Fig.4).

ineffective:  $a = 0.2$ ;  $b = 2.5$ ;  $c = 0$

effective:  $a = 0.2$ ;  $b = 2.5$ ;  $c = 0.5$

very effective:  $a = 0.2$ ;  $b = 2.5$ ;  $c = 1$

Here  $a, b, c$  are the parameters of Bell function.

4. The input data  $x_4$  (“very important” laws) is fuzzified by Gaussian curve membership function. 3 linguistic variables have been found:

“ineffective”, “effective” and “very effective” (Fig.4).

ineffective:  $\sigma = 0$ ;  $c = 0.17$

effective:  $\sigma = 0.5$ ;  $c = 0.17$

very effective:  $\sigma = 1$ ;  $c = 0.17$

Here  $\sigma$  and  $c$  the parameters of the Gaussian curve membership function.

- *Application of implication.*

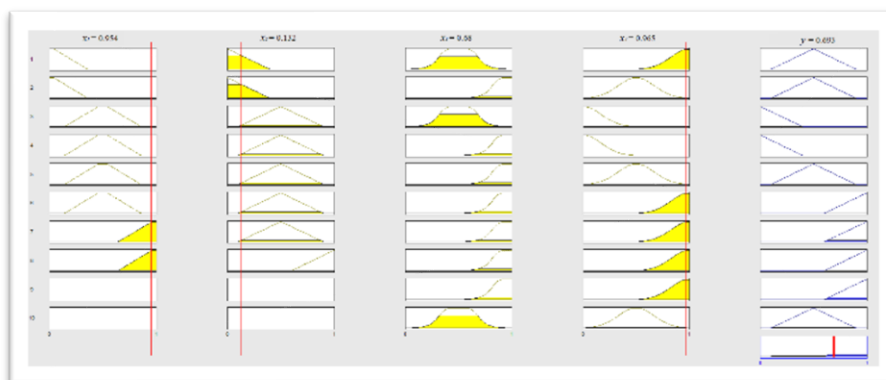
The weights of the rules in the range (0-1) are defined before the application of implication. All rules are considered equal. But the rule with the higher weight has more impact on the result of implication process. Implication method is applied after defining a weight of for each rule. The result of the process is a fuzzy set described by the membership function. The shape of this set is changeable according to the value of the membership functions of the input. In implication process the input is number, the output is fuzzy set. The implications of the rules are found as the minimum or multiplication of the results (Musayev, 2018).

- *Aggregation of the outputs.*

In a fuzzy inference system, a decision made is based on the application of all the rules. Here the process of aggregation of the final outputs is to be considered combination of fuzzy sets in one fuzzy set. The input of the aggregation process is the value of the output functions of the implication process of each rule. The output of the aggregation process is fuzzy set to which output variable is defined. Since the order of execution of the rules during aggregation is not important, it possesses the commutative property. The sum or maximums of the output of the rules are used to calculate the aggregation (Zadeh, 1965).

### Figure 5.

Diagram of the calculation of a fuzzy set in which the decision-making output is defined by the aggregation method



Source: The graphic was prepared by Matlab in the FIS software package

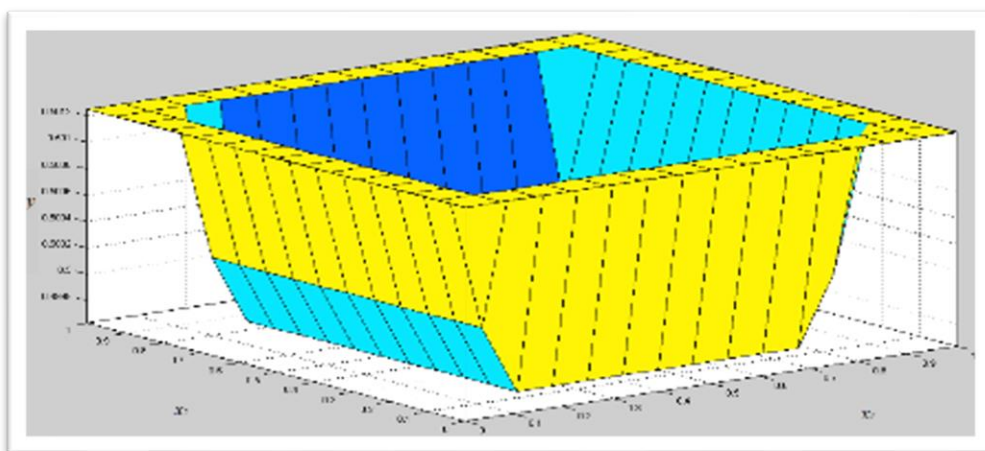
- *Defuzzification*

The input for the defuzzification process is a fuzzy set and the output is a number. For the defuzzification operation, we used the central gravity defuzzification method, which allows us to find the center of the area under the curve described by the membership function. Additionally, we can use defuzzification methods such as bisector, the largest maximum, the smallest minimum and mid-maximum (Rustamov, 2018).

At the end of the FIS, the graphical relationship between the output and the input is expressed by different surfaces. Figure 6-9 shows the surfaces that illustrate the relationship of the impact amendments on voluntary compliance on two different input (changes proposed in legislation).

**Figure 6.**

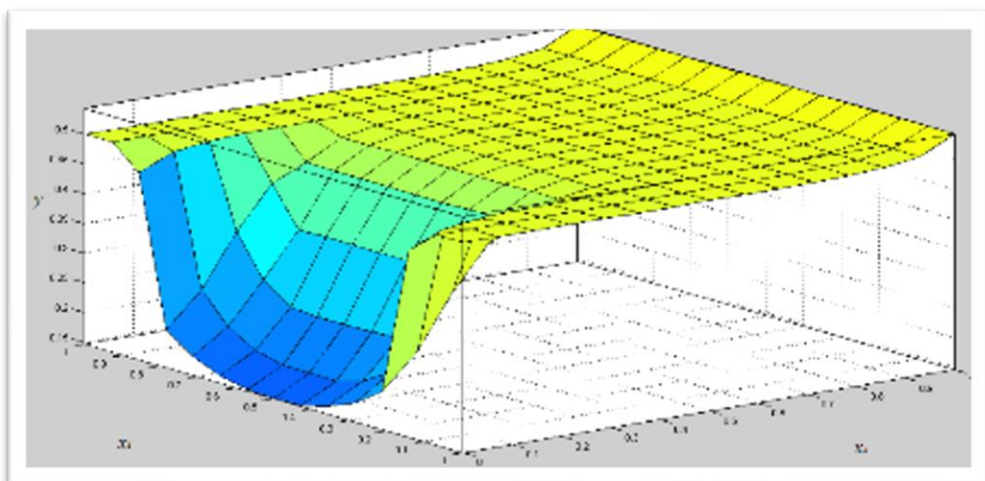
*The surface of the evaluation of impact of tax legislation amendments on voluntary compliance depends on elements of  $x_2$  and  $x_1$*



Source: The graphic was prepared using Matlab in the FIS software package

**Figure 7.**

*The surface of the evaluation of impact of tax legislation amendments on voluntary compliance depends on elements of  $x_1$  and  $x_4$*

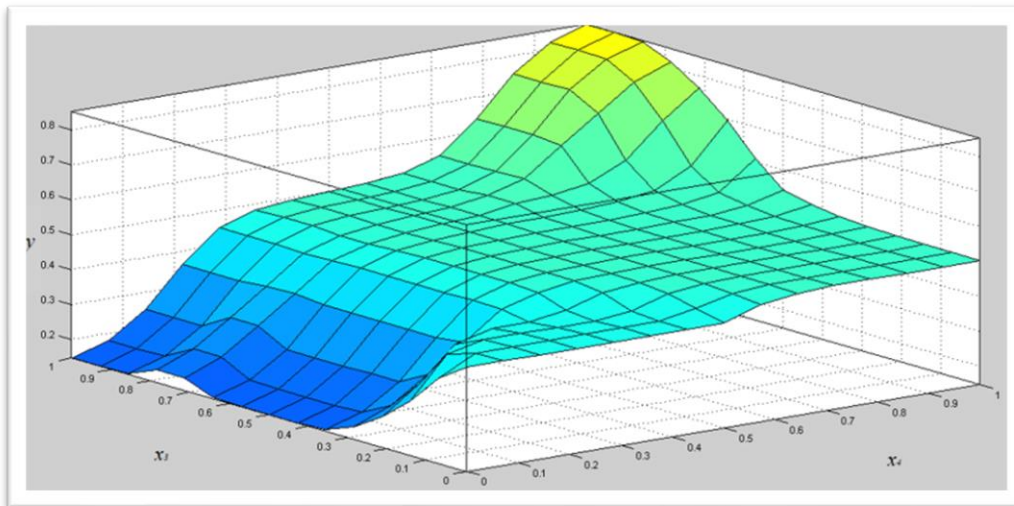


Source: The graphic was prepared using Matlab in the FIS software package



**Figure 8.**

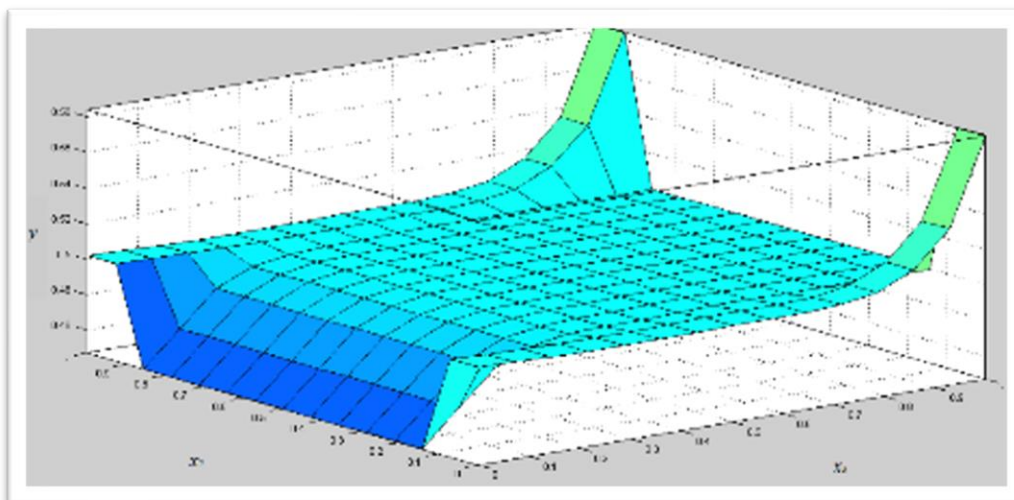
*The surface of the evaluation of impact of tax legislation amendments on voluntary compliance depends on elements of  $x_3$  and  $x_4$*



Source: The graphic was prepared using Matlab in the FIS software package

**Figure 9.**

*The surface of the evaluation of impact of tax legislation amendments on voluntary compliance depends on elements  $x_2$  and  $x_3$*



Source: The graphic was prepared using Matlab in the FIS software package

**4. Conclusion**

The sustainable development of modern economic relations depends on adequate tax legislation. This correlation makes it necessary for jurisdictions to make regular amendments to tax legislation. In the article impact of amendments on the tax legislation made in 2020 on taxpayers' voluntary compliance for the first has been studied on the basis of two-tier level expert evaluation. Thus, contrary to previous approaches, in this article taxpayers are invited for evaluation process as experts and on the basis of Mamdani FIS their opinion regarding to the amendments made to tax legislation has been evaluated on 4 group. Subsequently, these results were the subject to the same evaluation of the qualified

professionals involved as neutral experts. The results of each group have been cross-sectioned and as a result it has been found that the temporary tax regime, the amendments in the country's tax legislation due to the significant changes in economic conditions as a result of the spread of the coronavirus pandemic have a positive impact on voluntary compliance. The output value of the FIS is 0.69. This value corresponds to the "good" linguistic set in 0-1point scale that divided regularly.



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## OVERCOMING THE CHALLENGES OF DIGITALIZATION: THE ESTONIAN EXPERIENCE

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Digitalization is a key driver of economic growth and development in the 21st century. However, digitalization also presents challenges for countries like Azerbaijan. This article discusses the specific challenges that Azerbaijan faces in the digital age, and it compares and contrasts these challenges with those faced by Estonia. The article also analyzes the factors that have contributed to Estonia's success in digitalization, and it offers recommendations for how Azerbaijan can overcome its challenges. The article argues that Azerbaijan needs to invest in its digital infrastructure, improve its digital skills, create a more supportive regulatory environment, and strengthen its cybersecurity defenses. If Azerbaijan can overcome these challenges, it could become a major player in the global digital economy.

**Keywords:** Digitalization challenges, Azerbaijan, Digital infrastructure, Internet penetration, Regulatory environment, Innovation, Startups, Tech-savvy population, Global digital economy.

## 1. Introduction

Digitalization refers to the process of using digital technologies to change how traditional businesses operate. This is a crucial factor for economic growth in the 21st century. However, for countries like Azerbaijan, there are difficulties related to this. Azerbaijan faces a major challenge due to its limited digital infrastructure. The country has a low rate of internet usage and many people lack skills in using digital tools. This makes it hard for businesses in Azerbaijan to use digital technologies and compete globally. Another problem is that Azerbaijan doesn't have the right rules in place to support digital businesses. The laws and regulations in the country do not really encourage new ideas and businesses. As a result, startups and small businesses struggle to succeed in Azerbaijan. Even with these problems, Azerbaijan has the potential to become a digital leader in its region. The country has a young population that's good with technology, and the government is focused on promoting digital growth. If Azerbaijan can deal with these challenges, it could become an important player in the global digital economy. In the following sections, I'll talk about the specific problems that Azerbaijan deals with in the digital age. I'll also compare these issues with what Estonia faces. Additionally, I'll look at why Estonia has been successful with digitalization and suggest ways that Azerbaijan can overcome its own challenges.

## 2. Challenges of Digitalization in Azerbaijan and Estonia

In the context of digitalization, Azerbaijan encounters a spectrum of challenges that collectively delineate its digital landscape. The Internet users in Azerbaijan stand at a relatively modest 84.6%, indicating a significant portion of the population lacks access to the Internet, thereby curtailing their participation in the digital economy. On the other hand, while the world's average median internet speed is 59.8 Mbps, Azerbaijan's median internet speed is only 26.95 Mbps, which puts it in 118th place globally (Wisevoter, 2023). Additionally, the country's digital infrastructure remains less developed compared to certain peers, consequently impeding the seamless integration of digital technologies into businesses. While yearly it is diminishing, a conspicuous gap in digital skills is also apparent, with a State Statistical Committee of the Republic of Azerbaijan data revealing that the specific weight of enterprises with Internet access in the total number of all operating enterprises is 54% (Figure 1.).

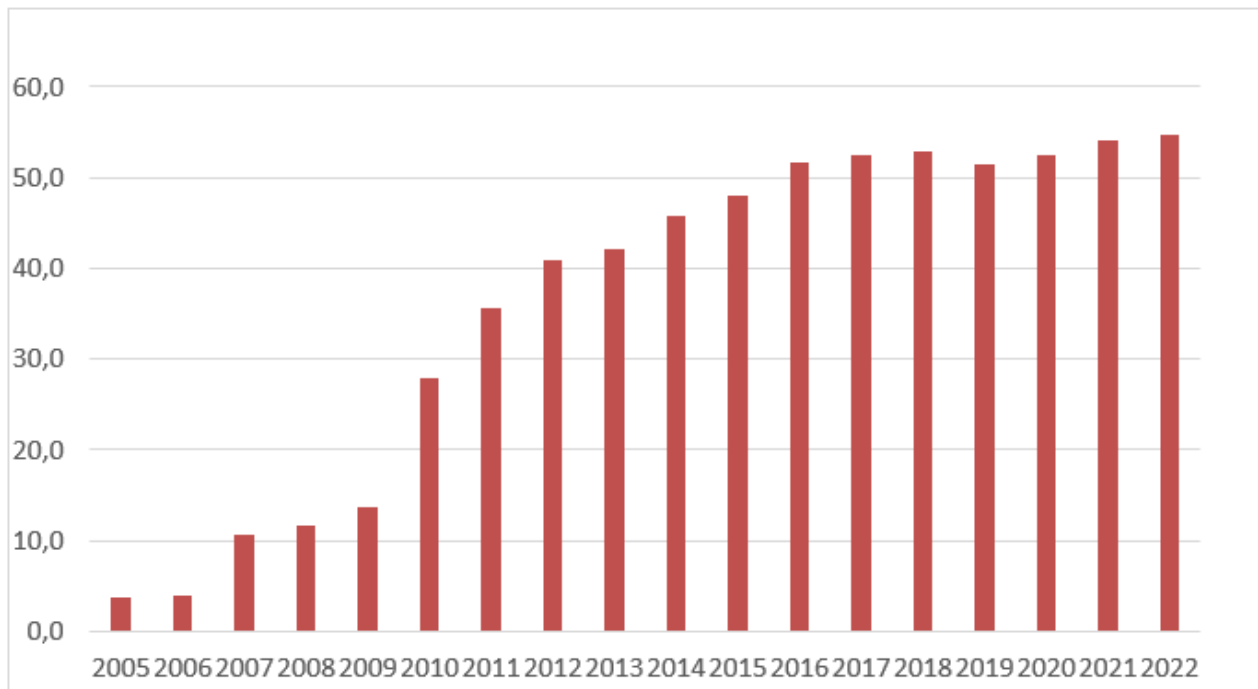
This deficit translates into a scarcity of proficient professionals who could facilitate the adoption of digital innovations by businesses. The regulatory framework within Azerbaijan, often falling short in terms of fostering an environment conducive to innovation and entrepreneurial initiatives, contributes to the challenges. Notably, the country's data protection laws exhibit relatively lesser strength compared to international benchmarks, thereby inducing hesitation among businesses considering the adoption of emerging technologies.

Furthermore, bureaucratic complexities within the government's procurement procedures hinder the swift entry of startups' products and services into the market. Azerbaijan's susceptibility to escalating cybersecurity threats is also evident, exemplified by instances of cyberattacks that have targeted the government's website and underscored the broader implications of such assaults for commercial entities and individuals alike. These multifaceted challenges collectively underscore the intricate landscape Azerbaijan faces in the digitalization era. To transcend these obstacles, concerted efforts are imperative to fortify

digital infrastructure, elevate digital literacy, cultivate an innovation-friendly regulatory milieu, and enhance cybersecurity resilience.

**Figure 1.**

*The specific weight of enterprises with Internet access in the total number of all operating enterprises in Azerbaijan by years*



Source: State Statistical Committee, 2022

In the domain of digital progress, Estonia emerges as a pioneering force and stands as one of the world's foremost digitally advanced nations. Nevertheless, even in its trailblazing role, Estonia grapples with challenges in the digital era that encompass diverse dimensions. Despite Estonia's commendable digital prowess, a significant gap prevails between the digital skills possessed by the younger versus the older generations and between those in urban versus rural settings, presenting impediments for businesses seeking skilled personnel and curtailing opportunities for those lacking digital competence. Moreover, Estonia, though modest in size, bears a substantial digital footprint, rendering it a prime target for cyberattacks. An illustrative instance materialized in 2007 when Estonia faced a substantial cyber onslaught, incapacitating government websites and inducing widespread disruption; although considerable investments have been channeled into fortifying cybersecurity, the nation's susceptibility to such threats remains (McGuinness, 2017). Concurrently, the Estonian populace inherently values their privacy, translating into reservations about the utilization of personal data by governmental entities and commercial enterprises, thus complicating the seamless governmental implementation of select digital services and placing constraints on the expansion of the digital economy. In the face of these formidable hurdles, Estonia remains steadfast in its commitment to digital advancement and is diligently striving to surmount these challenges. The government's endeavors encompass robust investments in nurturing digital competencies, bolstering cybersecurity protocols, and safeguarding privacy; concomitantly, the private sector is vigorously investing in digital innovations, further amplified by the flourishing growth of a startup ecosystem

within the nation. Collectively, these multifaceted efforts position Estonia favorably to perpetuate its digital achievements and sustain its eminence in the era of digital transformation.

### **3. Factors that have contributed to Estonia's Success in Digitalization**

The triumphant trajectory of Estonia's digitalization can be attributed to several pivotal factors. Foremost among these is the unwavering commitment demonstrated by the Estonian government over numerous years. In the year 2000, a transformative initiative, the e-Estonia program, was inaugurated by the government, aiming to metamorphose the nation into a paperless society. (Vassil, 2016) An ardent investment in digital infrastructure, cybersecurity, and the cultivation of digital proficiencies further underscores the government's resolute stance. Exemplifying this dedication, the establishment of a national data center alongside an extensive fiber-optic network interlinking educational institutions and medical facilities stands testament to their proactive measures. Additionally, the inception of initiatives like the Digital Literacy Program and the Digital Entrepreneurship Program is emblematic of the government's pursuit to equip Estonian citizens with indispensable digital skills (Lorenz, Kaido Kikkas, & Mart Laanpere, 2016).

Estonia emerges as the foremost global contender in government effectiveness, with a concurrent second ranking for digital government implementation. An early foray into digital transformation during the early 1990s, coinciding with the disintegration of the Soviet Union, positioned Estonia strategically. This timely inception facilitated the development of avant-garde digital technologies and services. In a historic feat, Estonia swiftly followed by the 2001 introduction of the groundbreaking X-Road – a secure platform catalyzing electronic data exchange between government entities (Ahto Kalja, Aleksander Reitsakas, & N. Saard, 2006).

Estonia's policy of open data availability has birthed a thriving landscape of startups and commercial endeavors harnessing governmental data to engender innovative products and services. A 2019 Open Knowledge Foundation report elevates Estonia to the zenith of open government data, fostering an environment ripe for innovation. Through forging international alliances, Estonia has effectively disseminated its digital prowess while concurrently gaining access to novel technologies and resources. Noteworthy among these partnerships are affiliations with the European Digital Single Market and the Organization for Economic Co-operation and Development (OECD).

Consistent with the findings of a 2019 OECD report, Estonia emerges as the premier global exponent in the adept utilization of information and communications technologies (ICT) within government services. In culmination, the multifaceted synthesis of these factors has propelled Estonia to the vanguard of digitalization, serving as an exemplar for nations embarking on similar transformative journeys.

### **4. Recommendations for Azerbaijan**

Azerbaijan can overcome the challenges of digitalization and become a leader in the digital economy by making a strong commitment to digitalization, starting its digital transformation as soon as possible, focusing on developing its tech-savvy population, adopting an open data policy, and partnering with other countries and organizations to share its expertise in digitalization.

Specifically, the Azerbaijani government should invest in a national data center and

a fiber-optic network that connects all of the country's schools and hospitals. This will improve the country's digital infrastructure and make it easier for businesses and citizens to adopt digital technologies. The government should also launch a number of programs to provide digital skills training to Azerbaijani citizens, including the Digital Literacy Program and the Digital Entrepreneurship Program. This will help to close the digital skills gap and make it easier for Azerbaijanis to participate in the digital economy.

In addition, the government should pass a new data protection law that is in line with international standards. This will help to protect the privacy of Azerbaijani citizens and make businesses more confident in adopting digital technologies. Finally, the government should simplify the process for startups to obtain a license to operate. This will make it easier for startups to get their products and services into the market and help boost economic growth.

By following these recommendations, Azerbaijan can overcome the challenges of digitalization and become a leader in the digital economy. This will pave the way for economic growth, job creation, and improved quality of life for all Azerbaijani citizens.

## **Conclusion**

Digitalization is a key driver of economic growth and development in the 21st century. However, digitalization also presents challenges for countries like Azerbaijan. Azerbaijan faces a number of challenges in the digital age, including a lack of a strong digital infrastructure, a digital skills gap, a lack of a supportive regulatory environment, and cybersecurity threats.

Despite these challenges, Azerbaijan has the potential to become a leader in digitalization in the region. The country has a young and tech-savvy population, and its government is committed to digitalization. If Azerbaijan can overcome the challenges it faces, it can become a major player in the global digital economy.

The Azerbaijani government can overcome the challenges of digitalization by making a strong commitment to digitalization, starting its digital transformation as soon as possible, focusing on developing its tech-savvy population, adopting an open data policy, and partnering with other countries and organizations to share its expertise in digitalization.

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## ECONOMETRIC TESTING OF THE BENOIT HYPOTHESIS IN AZERBAIJAN, KAZAKHSTAN, AND KYRGYZSTAN

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The aim of this study is to examine the effect of defence expenditures on economic growth in Azerbaijan, Kazakhstan, and Kyrgyzstan and to test the validity of the Benoit hypothesis. In this context, the existence of the relationship between defence expenditures and economic growth in the economy of selected Turkic states was investigated by obtaining data on an annual basis for the 2005-2020 periods. The relationship between the variables was examined with the help of Granger Causality Analysis. The results obtained revealed the existence of a positive relationship between the variables for the Azerbaijan economy and the existence of a one-way causality relationship from economic growth to defense expenditures. The fact that economic growth causes an increase in defense expenditures and this relationship is not reversed is since economic growth in Azerbaijan is an effective tool for the objectives of increasing military expenditures. These results: In the context of the Benoit Hypothesis, it is an expected situation for Azerbaijan in developing countries. As a result, the findings confirm the Benoit Hypothesis for the Azerbaijan economy. However, as a result of the analysis for Kazakhstan and Kyrgyzstan, the Benoit hypothesis was not found in these countries.

**Keywords:** Benoit hypothesis, military expenditure, economic growth, Azerbaijan, Kazakhstan, Kyrgyzstan.



## 1. Introduction

According to Clements, Gupta, and Khamidova (2019), advanced economies and top spenders globally have continued to be ambitious in their expenditures since the 1970s. In contrast, social investment geared toward the sustainable development goal is now limiting military spending in emerging nations. A powerful and competitive military force is a method for some of the biggest spenders to perform as anticipated in battle and win concessions without participating in actual warfare. Because the state invests in expensive military forces that are seldom employed, military power bears a significant economic cost (Slantchev, 2012).

Defence economics literature has done a lot of study on the connection between military expenditure and economic growth. Contradictory findings have been found in the research undertaken in the literature, nevertheless, as can be observed. In particular, despite research suggesting a negative association between military spending and growth (Deger, 1986; Deger & Smith, 1983; Huang & Mintz, 1990), others (Biswas & Ram, 1986; Grobar & Mintz, 1990) have found no evidence of such a relationship. (Smith, 1980; Porter, 1989; Ward & Davis, 1992). On the other hand, some research (Benoit, 1973; Sezgin, 1997, 2000) and others (Abu-Qarn and Abu-Bader, 2003; Pradhan, 2010) imply that military investment boosts economic growth for various reasons.

On the basis of data from many nations, the literature has examined the link between military spending and economic development, either in terms of the structure of these spending and financing practices or the impact of military spending on economic growth. The Benoit hypothesis was examined in this research for the nations of Azerbaijan, Kazakhstan, and Kyrgyzstan.

## 2. Literature review

In the early 1970s, debates over the connection between military spending and economic development started. In particular, Benoit (1972, 1973, 1978) was a trail-blazer in the study of the connection between military expenditure and economic development in emerging nations. The study's findings led to the conclusion that raising military expenditure boosts economic growth rates. However, he also made the assumption that emerging nations would cut down on their support for military projects and that doing so would not boost economic growth.

The Benoit hypothesis was examined between 1961 and 2005 in 15 major EU nations, according to research by Nikolaidou (2008). Zsoy (2008) used vector autoregression (VAR) and impact response functions (IRF) models to analyze the relationship between military spending, budget deficits, and income distribution for Türkiye between 1965 and 2003. The study's findings showed a link between budget deficits and military spending that is generally favorable. By using fully modified least squares (FMOLS) and dynamic least squares (DOLS) in Bahrain, Iran, Jordan, Oman, Syria, and Yemen for the years 1988 to 2002, Smyth and Narayan (2009) examined the effect of defense spending on external debt and discovered a positive correlation between the two. Ahmed (2012) used panel data analysis to look at the link between military spending and foreign debt for 25 Sub-Saharan nations during the years 1988–2007 and discovered a favorable correlation between the two.

In a study by Muhanji and Ojah (2014), the dynamic stochastic general equilibrium

model was used to analyze the impact of defense spending on external debt for 10 African countries between 1970 and 2010. The results showed a positive correlation between defense spending and foreign debt. Aye et al. (2014) examined the connection between military expenditure and economic growth in African nations between 1951 and 2010. Using the Johansen and Eagle cointegration method, Mosikari and Matlwa (2014) also discovered that military expenditure had a direct impact on economic growth. The link between India's military expenditure and its economic development was examined in research by Khalid and Mustapha (2014).

In a research published in 2018, Karagöz (2018) used the DOLS, FMOLS, and FE models in Türkiye, Kazakhstan, Kyrgyzstan, and Azerbaijan from 1994 to 2015 to empirically examine the impact of military spending on foreign debt. A time series of Türkiye, Azerbaijan, and Pakistan's per capita GDP and military expenditures for the years 1992–2019 were used in research by Usta (2020) to perform an experimental investigation. (2019) used cointegration and a causality test on panel data to examine the Benoit hypothesis in light of data from three South Asian nations.

The impact of military spending on budget deficits for 22 OECD nations from 2000 to 2017 was examined using the panel data analysis approach in research by Ertekin (2020). The study's findings revealed that spending on the military had a beneficial impact on budget deficits. Susilo et al. (2022) used cross-sectional data for 40 upper-middle-income nations to perform their analysis, which looked at the effects of military spending, political stability, and the size of the labor force on GDP growth.

### 3. Research methodology

#### 3.1. Purpose and data Set

In this study, it is aimed to test the validity of the Benoit hypothesis in developing countries in the economy of selected Turkic states (Azerbaijan, Kazakhstan, and Kyrgyzstan) and to determine whether defense expenditures are an auxiliary factor for economic growth. The data set used in the study consists of annual data for the years 2005-2019 for each country. Logarithmic results of the data are included in the analysis for more robust results.

### 4. Analysis Method

In order to determine the most suitable model to be used in the analysis of the data, it is necessary to examine whether the time series used are stationary. The most common approaches used to test the stationarity of a time series are Dickey and Fuller. It is the DF unit root test developed by (1979-1981). The “Extended Dickey-Fuller (ADF)” test regression equations used in this study are as follows:

$$\Delta Y = \alpha_1 Y_{t-1} + \sum_{i=1}^k \beta_i \Delta Y_{t-1} + \varepsilon_t \quad (1)$$

$$\Delta Y = \alpha_0 + \alpha_1 Y_{t-1} + \sum_{i=1}^k \beta_i \Delta Y_{t-1} + \varepsilon_t \quad (2)$$

$$\Delta Y = \alpha_0 + \alpha_1 trend + \alpha_2 Y_{t-1} + \sum_{i=1}^k \beta_i \Delta Y_{t-1} + \varepsilon_t \quad (3)$$

The  $i = 1, 2, 3, \dots, k$  parameters in the equations indicate the optimal lag length at

which autocorrelation between variables disappears. In the study, the appropriate lag lengths where the autocorrelation problem disappeared were determined by performing LM autocorrelation tests.

The Granger causality test is a test that determines whether there is causality between any two variables, and if there is causality, it determines the direction of causality. The Granger causality test assumes that information on the estimation of variables is found only in the time series data of these variables. The regression equations for the test are formed as follows:

$$\Delta X_t = \alpha_0 + \sum_{i=1}^m \beta_i \Delta X_{t-1} + \sum_{i=1}^n \gamma_i \Delta Y_{t-1} + \varepsilon_t \quad (4)$$

$$\Delta Y_t = \alpha \delta_0 + \sum_{j=1}^p \theta_j \Delta Y_{t-1} + \sum_{j=1}^q \varphi_j \Delta X_{t-j} + \varepsilon_t \quad (5)$$

In the Granger causality test, the series are required to be stationary, but they are not required to be stationary at the same level. In the equations, m, n, p and q indicate the optimal lag lengths. In the study, optimal lag lengths were determined by looking at the Akaike Information Criteria (AIC) and Schwarz Information Criteria (SC) for each added delay. In the model, firstly, the lag number of the dependent variable is determined, and the constrained regression equation is obtained. Then, the lag number of the other variable is determined, the unconstrained regression equation is obtained, and the F statistic is calculated. The model created for the data set used in this study is expressed as follows for all three countries:

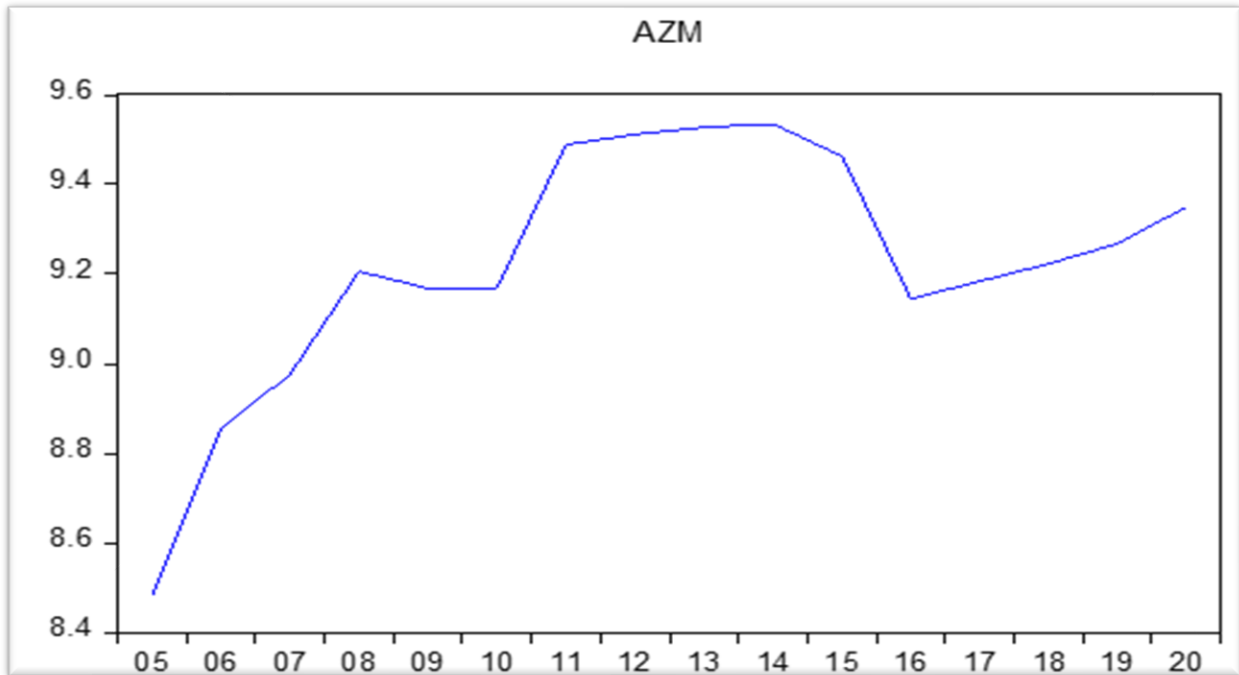
$$GDP_t = \alpha_0 + \alpha_1 MS_t + \varepsilon_t \quad (6)$$

## 5. Analyses and results

Before proceeding to econometric analysis, examining the graphical drawing can give a preliminary idea about the series. When the graphical drawing of the series in Figure 1 is examined, the trends of the series are observed. Since the series are in a constant mean and constant progression state, they create the impression that they are stationary in their level values.

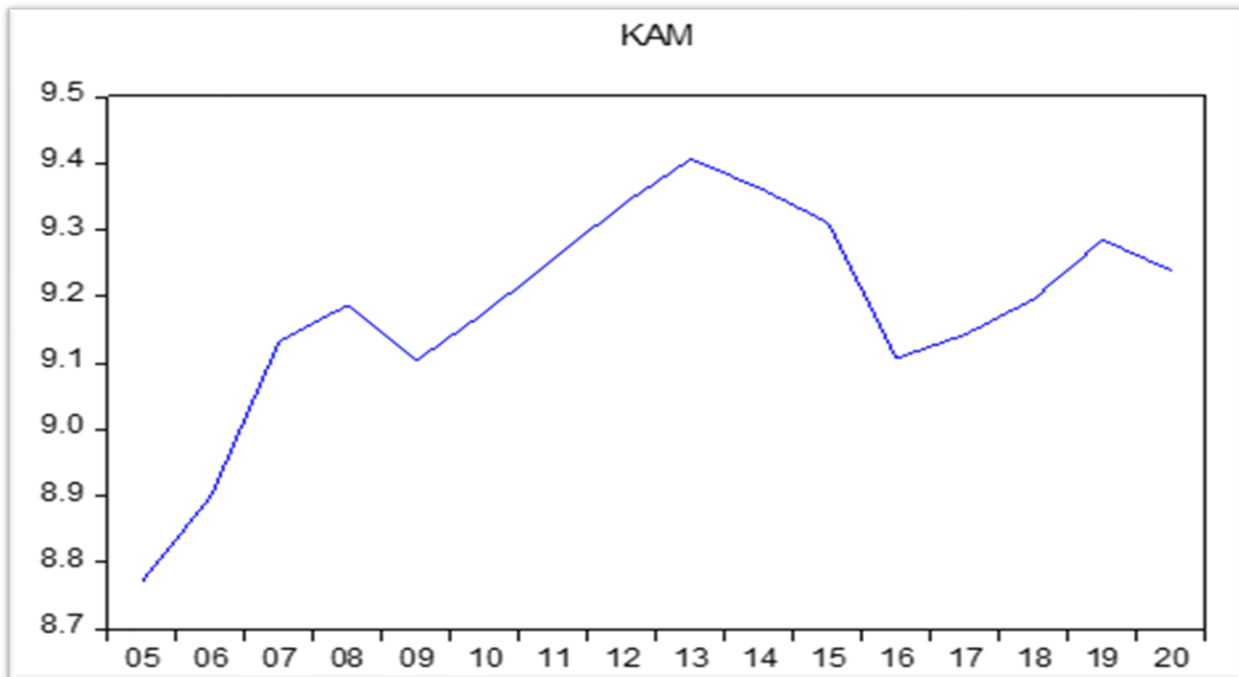
To test the stationarity of the series, ADF unit root tests were used in the study. Results suitable for ADF unit root tests are given in Table 1. To test the stationarity of the series, the calculated critical value and the test statistical value are compared in absolute value. If the test statistical value is higher than the critical value, it is concluded that the series is stationary, and in the opposite case, it is not stationary. In line with the findings in Table 2, it has been observed that these data are stationary from the level value. The data were processed logarithmically to give more accurate results in the stage of either stationarity or general analysis.

**Figure 1.**  
*Distribution of military expenditures in Azerbaijan by years*



Source: Prepared by the author based on World Bank data

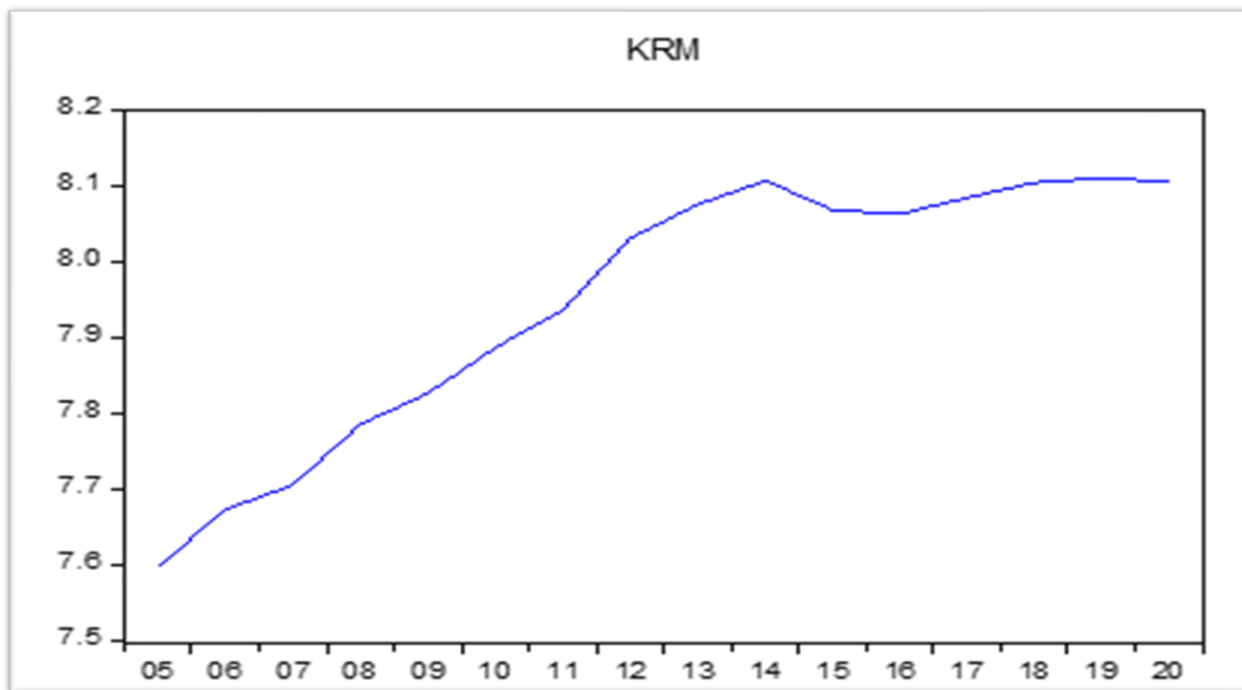
**Figure 2.**  
*Distribution of military expenditures in Kazakhstan by years*



Source: Prepared by the author based on World Bank data

**Figure 3.**

*Distribution of military expenditures in Kyrgyzstan by years*



Source: Prepared by the author based on World Bank data

**Table 1.**

*Level values of series*

Azerbaijan					
		Military spending		GDP	
		t-statistics	Possibility	t-statistics	possibility
ADF testing statistics		-3.658876	0.0175	-3.913422	0.0109
Test Critical Values	%1	-3.559148		-3.859148	
	%5	-3.081002		-3.081002	
	%10	-2.681330		-2.681330	
Kazakhstan					
		Military spending		GDP	
		t-statistics	Possibility	t-statistics	possibility
ADF testing statistics		-3.190751	0.0411	-3.452444	0.0256
Test Critical Values	%1	-3.059148		-3.359148	
	%5	-3.081002		-3.081002	
	%10	-2.681330		-2.681330	
Kyrgyzstan					
		Military spending		GDP	
		t-statistics	Possibility	t-statistics	possibility
ADF testing statistics		-3.338960	0.0314	-4.041386	0.0471
Test Critical Values	%1	-3.259148		-3.057910	
	%5	-3.081002		-3.119910	
	%10	-2.681330		-2.701103	

To perform the Granger causality test, it is necessary to know the largest degree of stationarity (dmax) and the appropriate lag length (m) values. It was revealed because of the test that the series showed stationarity at the level of level. Values marked with (\*) in Table 2 indicate the appropriate lag length. The appropriate delay length for each country is given in Table 2.

**Table 2.**  
*Appropriate Delay Length*

Azerbaijan						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	24.41778	NA	8.18e-05	-3.736297	-3.655479	-3.766218
1	33.13084	13.06959*	3.81e-05	-4.521807	-4.279353	-4.611572
2	33.48490	0.413071	7.62e-05	-3.914150	-3.510061	-4.063758
3	41.45865	6.644795	4.94e-05	-4.576442	-4.010718	-4.785894
4	51.89816	5.219751	2.94e-05*	-5.649693*	-4.922333*	-5.918987*
Kazakhstan						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	34.81092	NA	1.45e-05	-5.468486	-5.387669	-5.498408
1	41.94596	10.70256	8.76e-06	-5.990993	-5.748539	-6.080758
2	43.67894	2.021812	1.39e-05	-5.613156	-5.209068	-5.762765
3	55.78788	10.09079*	4.53e-06	-6.964647	-6.398922	-7.174098
4	67.25779	5.734953	2.27e-06*	-8.209631*	-7.482271*	-8.478926*
Kyrgyzstan						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	38.07626	NA	8.40e-06	-6.012710	-5.931892	-6.042632
1	54.08498	24.01308*	1.16e-06*	-8.014163	-7.771710*	-8.103928
2	55.39645	1.530052	1.98e-06	-7.566075	-7.161986	-7.715684
3	60.43872	4.201894	2.09e-06	-7.739787	-7.174063	-7.949239
4	68.29579	3.928533	1.91e-06	-8.382632*	-7.655272	-8.651927*

\*Indicates the appropriate lag length for the relevant test.

In Granger causality analysis, the  $H_0$  basic hypothesis states that there is no causal relationship between the variables, while the  $H_1$  alternative hypothesis states that there is a causal relationship. The findings presented in Table 3 reject the  $H_0$  hypothesis at the 5% significance level, which states that there is no causal relationship from economic growth to defense expenditures in Azerbaijan. The test results obtained indicate that there is a unilateral causality relationship from economic growth to defense expenditures in this country. When we evaluate it in terms of the other two Turkic states, it seems that there is no causal relationship between the series. In other words, while the Benoit hypothesis was confirmed for Azerbaijan, it was concluded that the Benoit hypothesis was not valid for Kazakhstan and Kyrgyzstan.

## 6. Discussion and conclusion

Defence spending, which is classified as a kind of public spending, is seen to either have a negative impact on economic development by discouraging investments under the Neo-Classical Approach or a positive impact by raising total demand under the Keynesian

Approach. According to nations and areas, this scenario is different. In the literature on economics, this area of research is referred to as the Benoit hypothesis. The Benoit hypothesis, which holds that military spending and economic growth are positively correlated, is well-known in the literature. Benoit stated that nations with high military spending often have the strongest economic development rates, whereas those with the lowest defense spending experience the slowest rates of economic expansion. This research adds to the body of knowledge by identifying whether military spending supports economic development in emerging nations in the economy of a few Turkic states. The Benoit hypothesis for the economies of a few chosen Turkic states will also be tested by this research, which is of paramount importance.

**Table 3.**

*Results of Granger Causality Test*

Hypotheses	F-value	Probability value (p)	Decision at 5% significance level
The economic growth of Azerbaijan is the reason for the increase in military expenditures in this country.	11.59873	0.0030	Acceptable
The increase in military expenditures in Azerbaijan is the reason for the economic growth of the country.	1.316588	0.5177	Rejected
The economic growth of Kazakhstan is the reason for the increase in military expenditures in this country.	3.776033	0.1514	Rejected
The increase in military expenditures in Kazakhstan is the reason for the economic growth of the country.	1.225908	0.5417	Rejected
The economic growth of Kyrgyzstan is the reason for the increase in military expenditures in this country.	1.191769	0.5511	Rejected
The increase in military expenditures in Kyrgyzstan is the reason for the country's economic growth.	4.175095	0.1240	Rejected

This analysis uses yearly data for the economies of a few chosen Turkic states from 2005 to 2020 to examine the link between military spending and economic growth. In the research, Granger causality analyses were used. According to the findings of the causality and cointegration analyses conducted throughout the study period, there is a one-way causal connection between Azerbaijan's economic development and military spending, as well as a positive cointegration relationship between the variables. According to Karagöz's (2018) analysis of Türkiye, Kazakhstan, Kyrgyzstan, and Azerbaijan from 1994 to 2015, it was found that rising military spending had a favorable impact on foreign debt. A clear causal relationship between military spending and economic development in the economies of Türkiye, Azerbaijan, and Pakistan over the period under consideration was established because of the research undertaken by Usta (2020). The Benoit hypothesis, which supports the positive correlation between military spending and economic development in the economic literature for Azerbaijan and in analyses for emerging nations, is anticipated to be

supported by this study. The Benoit hypothesis is not supported for the other two nations, according to other research data. In other words, in these nations, there is no correlation between economic development and military spending. While the findings are in favor of the Keynesian theory for Azerbaijan, they are in favor of the Neo-classical theory for other nations, which holds that military spending might hinder economic development by excluding investments. It is impossible to dispute the beneficial impact of military spending for Azerbaijan's economy, which is at war and under threat from foreign powers. Consequently, although the results support the Benoit Hypothesis in terms of the economy of Azerbaijan, they contradict it in terms of the economies of the other two nations.



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## THE NECESSITY OF DEVELOPING THE ECO QUALITY AWARD FROM TRADE FACILITATION PERSPECTIVE

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This study aims to investigate the necessity of developing a common quality award among the countries that are the members of ECO trade agreement from the business perspective and its aspects such as trade facilitation, business conditions improvement, Etc. Therefore, first, the historical background of the famous quality excellence Models in the world is reviewed, including the Deming Excellence model in Japan, Malcolm Baldrige in the USA, and EFQM in the EU, and their positive impacts as well as benefits on the related companies and organizations are discussed from different perspectives. The next step is dedicated to mentioning the historical background of national quality awards in ECO countries and the positive impacts expected by developing a common quality award based on a common model among these countries. Moreover, the importance of considering such a quality award among these countries is discussed with a focus on the uniqueness and specified conditions of the agreement. In conclusion, a summary of the highlighted points related to the study is provided.

**Keywords:** A common Quality Award; ECO Trade Agreement; Organizational Excellence.

## 1. Introduction

New concepts with different approaches to quality have been proposed since 1990. Accordingly, at first Quality control inspectors were determined in the production lines to inspect all products in order to ensure that the products were of high quality and add an approval label to show their good quality. After the Industrial Revolution in Europe, control charts were proposed to check the products in terms of being safe, healthy and efficient to use. In this procedure, the products were under control by randomly choosing and checking a number of products as a sample in different periods of time. If the process was out of control, the production line was stopped until the products met the necessary requirements. Due to the large number of products that were produced by the companies at that time, the use of control charts could result in significant time and cost savings by accepting a percentage of error in producing defective products. In the next step, the new concept of quality assurance with the main focus on controlling all the processes related to the system was introduced. In fact, if the whole system and its related processes could do their own tasks properly, this could guarantee that the final product was of high quality. Finally, the new concept of Total Quality Management (TQM) was proposed with the focus on defining the related standard for each component whether the component is under the control or not. From Deming's point of view, companies that are willing to survive should consider and implement TQM in all their components. In fact, it should be noted that the main focus of implementing TQM is considering and meeting the needs and expectations of the company's stakeholders such as its customers, employees, and etc.

TQM can be achievable in terms of applying the following items:

- TQM components;
- Sets of opinions and ideas from the experts (Experts' opinions);
- Previous successful experiences;
- Organizational excellence models.

The previous research studies indicated that the first three aforementioned items may not lead to expected results while the fourth item not only covers the successful experience of the first three items but it only needs lower cost for implementation.

The most famous organizational excellence models are mentioned as follows: Deming Excellence Model, which was proposed for the first time in 1951, could result in positive fundamental changes in the Japanese industry. It should be noted that there are three categories for Deming Prize such as firms or divisions for firms, for individuals and for units operating in quality control. As a result, the Americans got enthusiastic to develop the Malcolm Baldrige National Quality model in order to identify and introduce top industries and companies in the USA. It should be noted that the Malcolm Baldrige Award is presented to organizations in terms of five categories such as manufacturing, services, small businesses, education and healthcare. In 1989 a large number of European companies (fourteen of the biggest firms) such as Siemens, BMW, etc. with the aim of sharing their successful experiences for those companies that failed in the concepts of quality and excellence, developed a new quality model called European Foundation for Quality Management (EFQM). The EFQM Excellence Awards is presented in four different fields: (1) Large Private Sector (over 1000 employees), (2) Small / Medium Private Sector (less than 1000 employees), (3) Large Public Sector (over 1000 employees), and (4) Small / Medium

Public Sector (less than 1000 employees). In some countries such as Iran, Türkiye, and Pakistan the national quality awards have been held for more than 10 years. Particularly in Iran, in the period of 16 years, the award was held as Iran National Quality Award (INQA) based on the concepts of EFQM but the fundamental changes were made to adapt the model into Islamic patterns so that it had the potential to be used for other Muslim countries. In fact, the aim to develop the model is to provide a common understanding about the quality and organizational Excellence among Muslim countries for facilitating trade and improving Business conditions among them. The Economic Cooperation Organization (ECO) is an Asian economic intergovernmental organization, including 10 neighboring countries, with the objective of establishing a single market for goods and services. This study investigates the necessity of developing a common quality award among the countries that are the members of ECO. The idea of considering a common model related to quality and organizational Excellence for these countries was developed by the authors with the hope to facilitate trade and improve the business conditions among the countries more than before. To do this, at first the history of the formation of the most famous Excellence *Models such as Deming Excellence Model in Japan, Malcolm Baldrige in the USA, and EFQM in the EU* are mentioned. In the next step, the historical background of the ECO trade agreement and its potential in the global economy are stated in detail. Then, the long-term history of national quality awards in some ECO countries such as Iran, Türkiye, and Pakistan is explained. Finally, the importance of considering a common quality award among the ECO countries is discussed with the focus on the uniqueness and specified conditions of the agreement.

## 2. Literature Review

A number of research studies have investigated the effects and impacts of applying quality excellence models on the financial performances of some industrial organizations as well as firms in the service sector. For example, Corredor and Goni investigated if the firms that have received quality awards could obtain higher profitability than those that do not have. They tested the proposed hypothesis on a sample of Spanish firms that received TQM prizes at the national or regional level between 1997 and 2003. Their obtained results showed that firms that applied this approach could achieve profitability more than other firms (Corredor and Goni, 2010). Heras-Saizarbitoria considered the impacts of the implementation of the ISO 9001 standard and EFQM model on a set of industrial organizations and firms in the service sector from different perspectives such as export capacity growth, market share growth, sales growth, profit margin improvement, productivity, company profitability, and product price-cost ratio. They concluded that the use of different quality tools had a positive impact in the considered firms and organization while the impact is greater for industrial organizations (Heras-Saizarbitoria and others, 2011). Boulter investigated whether the implementation of the Total Quality Management (TQM) approach positively affects the financial performances of the North American firms, the same as European companies. They could show that the successful results and stronger performances of the applied approach were obtained for North American companies in comparison to European firms. Moreover, they found that businesses that have obtained awards for the quality, mainly related to the EFQM model, obtained better results than those that have no awards for excellence (Boulter et al., 2013). Moreover, Dadfar considered

the impacts of the implementation of the EFQM model on the profit derived from the increase of exports. Their results obtained on the case of pharmaceutical firms in Iran indicated the significant impact of the model on the export indicators of the firms (Dadfar and others, 2015). In another research study, Yousaf investigated the impacts of quality certificates from the EFQM Excellence Model on the performances of a sample of 336 Czech firms. The obtained results showed that applying the model had a positive impact on the financial performances of the considered firms in terms of Return on Assets (ROA), Return on Equity (ROE), and Assets Turnover (ATO) (Yousaf, 2022).

Based on the literature review, the impacts of applying the quality excellence models on the financial performances of firms and industrial organizations are noticeable. As a result, having a common quality model among the countries, that members of the ECO can help them to strengthen their relationship and also improve the business components such trade facilitation.

### 3. ECO Trade Agreement and its Potentials in Global Economy

The Economic Cooperation Organization (ECO) is an Asian political and economic intergovernmental organization that was founded in 1985 in Tehran by the leaders of Iran, Pakistan, and Türkiye. It provides a platform to discuss ways to improve development and promote trade and investment opportunities. The objective is to establish a single market for goods and services, much like the European Union. The ECO expanded to 10 countries including Iran, Pakistan, Türkiye, Afghanistan, Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan in 1992.

**Figure 1.**

*Geographical map of ECO countries*



As can be seen in Figure 1, the ECO consists of 10 neighboring countries with a population of about 434 million people, which is 5.5 percent of the world's population. This region is highly important since it is the main route of communication between the two continents of Europe and Asia. On the other hand, the ECO countries include about 4.8% of the land area of the world, if we consider the land area of the earth as about 149 million



square kilometers. Moreover, according to an article from the President of the Iranian Chamber of Commerce in Shabestan news agency, although the trade volume between ECO countries and other countries in the whole world is around 710 billion dollars, only 8.7 % is for trade volume among the ECO counties (Shabestan News Agency, 2022). From another point of view, according to an article in Shana news agency, the ECO countries have more than 1.5 trillion dollars for total Gross Domestic Product (GDP) and only three countries that are members of ECO, including Iran, Kazakhstan, and Azerbaijan have more than 174 billion barrels of oil (12.8% world oil). It should be mentioned that the ECO countries have 22.1% world gas (1461 trillion cubic meters) which shows another importance of this region in the world (SHANA, 2012). To conclude, based on the aforementioned information, it can be stated that the ECO trade organization has an important role in global trade. As a result, by considering and strengthening joint cooperation among these countries, we can expect that economic growth will be improved and trade will be facilitated among these counties.

#### **4. National Quality Awards in ECO Countries**

It should be noted that in only 3 out of 10 countries such as Iran, Türkiye and Pakistan that are the members of ECO, the national quality awards have been held. As a result, the rest of the other 7 countries do not benefit from having such an award in their countries. The historical background of the National Quality Award in the aforementioned members of the organization is stated as follows:

##### **4.1. Iran National Quality Award**

The quality award in Iran has been held under the title of National Quality Award of Iran since 2001. For this purpose, various quality award models including Malcolm Baldrige, European Quality Foundation, and National Deming Award were investigated and finally, the constitution of Iran National Quality Award was proposed in the relevant technical committee. The initial structure of the model was approved in the 120th meeting of the Council of the Iran National Quality Award and then it was notified to the Iran National Standards Organization in order to be implemented. At first, the EFQM model was considered as the basis of the model and this award was held in 4 consecutive years. In 2006 and 2007, in order to propose a new model with a different structure, the annual award ceremony was canceled. In the next year, a new model which was called Iran's National Quality Award (INQA) was introduced as the basis model of the award. The award based on the new model was held until 2018. Unfortunately, due to the Covid-19 outbreak and to *protect participants from Covid-19* transmission, the Iranian quality award was not held in 2019. The model of the award was fundamentally revised in 2022 in order to be adapted to the principles, conditions and rules related to the country of Iran. Organizations can participate in three levels and in the case that they obtain an acceptable score related to each level, the award has been given to them.

##### **4.2. Türkiye National Quality Award**

The Türkiye National Quality Award is known as Tüsiad-Kalder National Quality Awards which is fundamentally based on the European Foundation for Quality Management (EFQM). The Türkiye's Industrialists' and Businessmen's Association initiated the Tüsiad-Kalder National Quality Awards in 1990 and this

association is the administering organization of the national quality award in Türkiye. The basic objective of this award can be mentioned as follows:

- Promoting the philosophy of quality among organizations in the country;
- Improving the level of quality in the country;
- Encouraging doing jobs with high quality.

The Tüsiad-Kalder National Quality Award, which was first held in 1993, was awarded in three main categories: Commercial, Public, and Civil Society Organizations Categories. The award was first presented in terms of General Category in 2001, which was divided into the following three sub-categories such as Health Services, Education Services and Government Services and Administration Categories. It should be mentioned that since 2002, Non-Governmental Organizations have again been included among the award categories (Samanlı, 2009).

### 4.3. Pakistan National Quality Award

According to the information on the Pakistan award website, The Pakistan National Quality Award is known as the Prime Minister Quality Award (PMQA) which is fundamentally based on the Malcolm Baldrige National Quality Award (MBNQA). The National Productivity Organization (NPO) initiated the PMQA in 2010 and it is the administering organization of the national quality award in Pakistan. The basic objective of this award is to acknowledge and appreciate the good practices of high achievers at national level. It will also encourage the culture of benchmarking with national and international organizations. The PMQA Criteria for Performance Excellence provide a systems perspective for understanding performance management. It reflects validated, leading-edge management practices against which an organization can measure itself. With its acceptance nationally and internationally as the model for performance excellence, the Criteria represent a common language for communication among organizations for sharing their best practices.

The organizations can expect the following results by applying the PMQA:

- To improve performance and achieve world-class results;
- To seek "the most cost-effective, value-added business audit available anywhere";
- To objectively clarify your organization's strengths and weaknesses;
- Offers an overall systems framework;
- Focuses on results in all areas;
- Focuses on the future - a strategic view;
- Includes organizational and personal learning and knowledge sharing;
- Includes corporate governance, ethics, societal responsibility, and sustainability;
- Provides a public service in the national interest;

The Benefits of Applying the PMQA can be mentioned as follows:

- Align efforts and resources;
- Develop an integrated management approach;
- Focus on results;

- Enhance benefits of certification and accreditation efforts;
- Gain an opportunity to become a national role model;
- Earn the prestige of being a presidential award recipient, if selected.

## 5. Discussion

As it was mentioned, the organizational excellence and quality awards have had a very long historical background in some countries and unions over the world. In fact, these awards are established in order to create a sense of competition among their participants, including organizations and firms, with the hope of improving the level of quality in the production and service industries and also providing the global competitive advantage for organizations in the production of goods and providing services. Moreover, as already mentioned in the previous Section, the ECO with its unique features has high economic and commercial potential, which can lead to economic development and growth in the ECO countries if they are considered. In this regard, by developing a common award among these countries, the aforementioned results not only can be achievable, but can also lead to facilitating trade as well as strengthening the cooperation among its members. Finally, it should be noted that given the long-term history of the 3 members of the ECO organization in implementing the national quality awards in their own countries and due to the lack of such national awards in the rest of 7 countries, there is a clear necessity of creating a common quality award among these countries. In fact, by creating a common language about quality in the ECO countries, we will expect to see signs of economic prosperity in these countries.

## 6. Conclusion

This study aimed to investigate the necessity of developing a common quality award for the countries that are members of the ECO trade agreement. As it was mentioned, the idea of developing a common model for the ECO countries and the way that it came to the authors' mind were explained based on the model which was recently proposed by Iran for Muslim countries and approved by them. Based on the historical background of the ECO trade agreement and its potential in the global economy, which were stated, the ECO trade organization has an important role in different aspects such as the global economy and trade. Therefore, the main focus of this study was to discover the neglected potential of this agreement by developing a common quality model for the ECO countries in order to facilitate trade among countries. Moreover, due to the lack of existence of national quality awards in 7 out of 10 countries that are members of the ECO, the important roles of the countries of Iran, Türkiye and Pakistan in developing a common model were discussed. Finally, by reviewing the previous studies about applying the excellence models in some companies, their important roles were emphasized from different perspectives such as trade facilitation and business process improvement.

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## DEVELOPMENT OF COOPERATION IN THE TRANSIT- TRANSPORT DOMAIN AMONG MEMBER STATES OF THE ECONOMIC COOPERATION ORGANIZATION

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This article delves into the critical role of transit and transport infrastructure in international trade, underlining its significance for economic growth and regional integration. The impact of transit and transport on trade and economic relations is multi-faceted, enhancing market access, logistical efficiency, and regional cooperation, consequently fostering economic development, job creation, and improved living standards.

Despite recognizing the importance of transit and transport infrastructure, challenges persist, especially in developing regions. The article investigates the obstacles faced by member states of the Economic Cooperation Organization (ECO), focusing on Kazakhstan as a pivotal player in the realm of transport and transit infrastructure. The study explores potential pathways for enhanced collaboration among ECO member countries, spanning investment in infrastructure, harmonization of regulations, regional transport corridors, multimodal transportation, and public-private partnerships.

Thus, investing in transport infrastructure emerges as a fundamental component for promoting economic development and integration among ECO member states. While challenges such as limited funding persist, there exists a wealth of prospects for cooperative efforts to overcome these hurdles and enhance connectivity within the region. This article underscores the urgency of prioritizing transit and transport infrastructure to advance economic growth and integration in the ECO region.

**Keywords:** ECO, transport and transit, infrastructure, economic development

## 1. Introduction

Transport and transit infrastructure are critical components of international trade, connecting producers, consumers, and markets around the world. A well-developed transportation system is especially important for countries that rely on international trade for economic growth. Transit and transportation systems facilitate the movement of goods and services, allowing businesses to enter new markets and expand their operations.

The importance of transit and transport for trade and economic relations cannot be overestimated. In addition to improved access to markets and more efficient movement of goods and services, transit and transportation infrastructure also plays a crucial role in facilitating regional integration and cooperation. Better communications can open up new opportunities for trade and economic development, job creation and improved living standards.

In recent years, many countries have recognized the importance of transit and transportation infrastructure to promote economic growth and have invested heavily in this area. However, there are still challenges, especially in developing regions, where transportation infrastructure may be inadequate or insufficient.

This article will examine the importance of transit and transport for trade and economic relations, and consider the problems encountered in transit and transportation in ECO member states. In particular, the example of Kazakhstan as an important ECO player in transport and transit infrastructure will be considered. At the end, opportunities for further transit and transport cooperation among ECO member countries will be suggested, as well as their potential impact on the trade and economic component.

## 2. Importance of transit and transport for trade and economic relations

Efficient transit and transport infrastructure is crucial to promoting economic development and trade between countries. Transport infrastructure includes physical infrastructure such as roads, railroads, ports, and airports, as well as logistics networks that connect different modes of transportation and facilitate the movement of goods from one place to another.

Transport and transit infrastructure is of particular importance for countries that are members of a regional economic organization such as the Economic Cooperation Organization (ECO). Better connectivity and infrastructure in the region can stimulate intra-regional trade, cross-border investment, and promote economic integration. Efficient transportation networks can also help unleash the economic potential of landlocked countries, allowing them to access global markets and participate more fully in regional economic cooperation.

But transport infrastructure can pose problems, especially for developing and landlocked countries. Inefficient transport infrastructure can lead to high transport costs, longer transit times, and logistical problems that can limit a country's ability to participate in global trade and attract foreign investment. Improved transport infrastructure and logistics networks can help overcome these challenges and promote economic development.

## 3. Challenges encountered in transit and transportation in ECO member states

ECO member countries face a number of challenges when it comes to transit and

transport infrastructure. These problems can hinder economic development, trade, and investment in the region.

Many ECO member states do not have a sufficiently developed transport infrastructure, especially in rural and remote areas. Poor infrastructure can lead to higher transportation costs, longer transit times, and logistical problems that can limit a country's ability to engage in trade and attract foreign investment.

Moreover, limited investment in transport infrastructure is a serious issue facing many ECO member countries. This may be due to budgetary constraints, lack of foreign investment and political instability, among other factors.

Regulatory barriers such as customs procedures, tariffs, and non-tariff barriers can also create problems for transit and transport in the ECO region. These barriers can increase transportation costs and create logistical problems for businesses engaged in cross-border trade.

There are other security problems, such as terrorism, piracy, and theft, among others. These threats can limit the movement of goods and services, increase transportation costs, and create additional logistical challenges.

#### **4. Kazakhstan and the ECO**

Kazakhstan is a key player in transit and transport in the ECO member states. One of the main advantages of Kazakhstan in transit and transport is its geographical location at the crossroads of Europe and Asia. As a result, Kazakhstan is a major center of transit trade, with overland routes connecting China and Europe passing through its territory.

In addition to its strategic position, Kazakhstan is developing its transport infrastructure, including roads, railroads, ports and airports. This infrastructure played a decisive role in facilitating the movement of goods and people within the country and throughout the region. Kazakhstan regularly undertakes various initiatives to improve connectivity in the region, such as the construction of the international transit corridor Western Europe-Western China, which is the main transport route connecting Europe and Asia.

Furthermore, Kazakhstan is demonstrating a commitment to further improving its transport infrastructure and increasing connectivity in the region. In recent years, the country has announced plans to develop several transportation projects, including the Kazakhstan-Turkmenistan-Iran railroad, which would provide a direct rail link between Central Asia and the Persian Gulf. Kazakhstan has also signed a number of agreements with other ECO member states aimed at improving transport connectivity, such as a trilateral agreement with Turkmenistan and Iran to develop a new transit transport corridor (Kazakhstan, Iran & Turkmenistan, 2021).

Moreover, on December 30, 2022 the government approved the Concept of Development of Transport and Logistics Potential of the Republic of Kazakhstan. Its goal is to improve the quality of people's lives and support the country's economic and social growth by maximizing potential in the transportation and transit sector. The primary task is to bring all international roads (13 thousand km) and national roads (24.5 thousand km) in normative and technical condition. As for the key transport infrastructure, according to international standards, they will be provided with a 4G mobile communications network. It is also planned to reduce the average time to pass freight checkpoints and optimize the

quality of public transport in the country's densely populated cities (Government of the Republic of Kazakhstan, 2017).

The transport potential of Kazakhstan and the region as a whole is quite large. For example, the average shipping time by sea is 30-35 days, while the travel time using the potential of Western Europe-Western China transport corridor, according to approximate calculations, will be only 10-12 days (In six days, 2019). Based on the statistics collected, the volume of freight traffic along this transport corridor was 1.5 million tons of cargo in 2022, which is 2.5 times higher than in the same period in 2021. Kazakhstan's share of cargo was 891 thousand tons, which is 6.5 times higher than in 2021. In addition, the volume of container shipments increased by 33% in 2022 and amounted to 33.6 thousand TEUs (twenty-foot equivalent units) (Trans-Caspian Transport Route, 2023).

The issue of opening a third border crossing between Kazakhstan and China and construction of a new railway line Bakhty-Ayagoz, whose costs will be covered by the Eurasian Development Bank (80%) and Kazakhstan Temir Zholy (20%), is also under consideration (The EDB Technical, 2023). There is also an agreement between Kazakhstan and Uzbekistan to accelerate the construction of the 106-kilometer Darbaza-Maktaaral railroad with subsequent access to the Syrdarya station (Kazakhstan and Uzbekistan, 2023).

The volume of cargo transshipment through seaports of Kazakhstan increased significantly from January to September 2022. According to the Ministry of Industry and Infrastructure Development of Kazakhstan, about 1.38 million tons of cargo was transshipped through the sea ports of Aktau and Kuryk during this period, which is 2.4 times more (against 565 thousand tons for nine months of last year). Meanwhile, container shipments increased by 54 percent to 27,399 TEUs (up from 17,833 TEUs from January to September 2021) (Ishekenova, 2022).

Moreover, the "Middle Corridor" or "Trans-Caspian Route" project plays a huge role in the development of the transport and logistics complex. The Trans-Caspian International Transport Route (TITR) is a transport corridor that connects China and Europe through Kazakhstan, the Caspian Sea, Azerbaijan, and Georgia. The route is a key part of the modern Silk Road and provides a shorter and more efficient trade route than traditional sea routes.

TITR can significantly increase trade and economic cooperation among member states of the Economic Cooperation Organization (ECO) by reducing the time and cost of transportation. Kazakhstan is a key player in the development of the TITR. The country's strategic location at the crossroads of major trade routes between Asia and Europe makes it an important transit hub for the TITR. The country has invested heavily in developing its transport infrastructure to support the TITR.

To date, the potential for transportation of only Kazakhstani cargo along this corridor is estimated at more than 4 million tons per year. In view of changes in international supply chains, logistics operators can also reorient their volumes to this route (The potential for, 2022). In this regard, this regional project is a key chain in the development of a new vector of the international supply chain.

## **5. Opportunities for further transit and transport cooperation among ECO member states**

Despite the challenges that ECO member states face when it comes to transit and transport infrastructure, there are also opportunities for further cooperation in the region.



Investments in transport infrastructure are one of the most significant opportunities for further cooperation. This could include building new infrastructure, upgrading existing infrastructure, and improving connectivity between countries in the region. Infrastructure investments can help reduce transportation costs, shorten transit times and improve economic competitiveness by making it easier for countries to participate in trade and attract foreign investment.

Harmonization of rules concerning transit and transport can also facilitate further cooperation in the ECO region. This could include the optimization of customs procedures, reduction of tariffs and non-tariff barriers, and better coordination between transport authorities of different countries. By reducing regulatory barriers, it will be easier for businesses to engage in cross-border trade and investment, which will further promote economic integration in the region.

Regional transport corridors are networks of transport infrastructure linking different countries within a region. By developing these corridors, countries in the ECO region can improve connectivity and reduce transportation costs, making it easier for businesses to participate in cross-border trade and investment.

Multimodal transportation refers to the use of multiple modes of transport, such as rail, road, and sea, to transport goods and services. By facilitating multimodal transportation in the ECO region, countries can improve connectivity and reduce transportation costs, making it easier for businesses to participate in cross-border trade and investment.

Finally, public-private partnerships can also play an important role in facilitating further cooperation in the ECO region. Public-private partnerships involve cooperation between public and private entities to invest in transport infrastructure. When working together, governments and private sector organizations can pool their resources and expertise to address the challenges facing the region and promote economic development, trade and investment in the region.

Thus, infrastructure investment, harmonization of regulations, development of regional transport corridors, promotion of multimodal transport and public-private partnerships are among the key opportunities for further transit and transport cooperation among ECO member countries. Taking advantage of these opportunities will be critical to promoting economic development, trade and investment in the region.

## **6. Potential impact on trade and economic relations**

The development of transport infrastructure in the ECO member countries has enormous potential and a significant impact on trade and economic relations between these countries. For example, improvements in transport infrastructure can lead to increased trade among ECO member states. When the transport infrastructure is efficient and well connected, it becomes easier and cheaper for businesses to transport goods and services across borders. As a result, businesses may be more willing to trade across borders, resulting in more trade. Moreover, by improving connectivity and reducing transportation costs, businesses can more easily access new markets and customers in the region. This can result in more opportunities for cross-border trade and investment.

In turn, countries with a well-developed transport infrastructure can be more competitive in world markets. Improved infrastructure can help reduce transportation costs, making goods and services more affordable and competitive in international markets. It can

also help attract foreign direct investment and support economic growth and create a more favorable environment for cross-border trade and investment.

Thus, the development of transit and transport infrastructure can increase trade volumes, improve access to markets, increase competitiveness, and promote closer regional cooperation among ECO member states. As a result, investment in transport infrastructure should be seen as a key component of efforts to promote economic development, trade and investment in the region.

## **7. Conclusion**

In conclusion, it is worth noting that the transit and transport infrastructure is a crucial factor in the formation of trade and economic relations between ECO member states. Infrastructure improvements can increase trade, improve access to markets, increase competitiveness, and foster regional cooperation. While there are serious challenges with the development of efficient and effective transport infrastructure in the region, there are also many opportunities for greater cooperation and better policies to ensure greater connectivity and integration.

One of the main problems in improving transport infrastructure in ECO member countries is a lack of investment and financing. Many countries in the region lack the financial resources to invest in large-scale infrastructure projects, which can limit progress toward greater interconnectivity and integration.

At the same time, there are many opportunities for further cooperation and progress in improving transit and transport infrastructure in ECO member countries. For example, development of regional transport corridors can improve connectivity and reduce transport costs, and adoption of common standards and regulations can facilitate cross-border trade and investment.

To achieve these results, ECO member states must work together to develop comprehensive transportation policies and strategies, increase investment in infrastructure, and harmonize policies and regulations. Through these efforts, ECO member countries can create a more integrated and connected region by supporting economic development, trade and investment in the region. In general, development of transit and transport infrastructure should be a key priority for ECO member states seeking to promote economic growth and integration in the region.

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## THE IMPACT OF TRANSPORT CORRIDORS ON THE ECONOMIC DEVELOPMENT OF AZERBAIJAN

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This paper examines the utilization of transport corridors for trade in Azerbaijan. It also highlights the impact of transport corridors on the economic growth of Azerbaijan. It also observes the country's efforts for economic development and emerging challenges. It is found that the journey of Azerbaijan's economic transformation has been started at the time of former president Heydar Aliyev and never seized up thereafter. The leadership of Azerbaijan took bold steps to steer the country out of vicious economic conditions and provided a new direction of development. To make an objective analysis, the paper takes in the reviews of different reports, published articles and news discussing the critical aspects of economic corridors, potentials and risks attached to their functioning. The last part of this paper presents some recommendations too.

**Keywords:** Transport, Corridor, Azerbaijan, Development, Economic.

## Introduction

The new technologies have transformed the sectors of trade, transport and cargo shipping. The countries located at the crossroads of Asia and Europe have gained particular attention as they appear the connect hubs. Azerbaijan is the vanguard of transport infrastructure as it has long corridors stretching from East to West and North to South. It has developed an extensive inland road network that is being used for domestic commerce and for international businesses. The country has constructed more than fifty major roads which are thousands of kilometres linking the outskirts with the centre of the country. Besides, a large number of bridges have been either constructed or renewed for international trade. The development of Azerbaijan can be understood in the context of Heydar Aliyev's vision who believed in a strong economy for a strong state. Following this vision, today's Azerbaijan appears as a land that is well-connected and open for business.

## Background

The personality cult of the former president of Azerbaijan Heydar Aliyev is so strong in the country that it cannot be missed anywhere in Azerbaijan. Being the "National Leader of the Azerbaijani people", he is ubiquitous. The popular leader's smiling portrait is almost everywhere in public places such as the airport in Baku, parks, performance halls, museums and streets are named after the former president Heydar Aliyev. His contributions to the progress of Azerbaijan are significant and he has become a memorable personality. In recognition of the great work done by the late president, this year 2023 marks the 100th anniversary of Aliyev's birth. The current president Ilham Aliyev has declared 2023 to be the "Year of Heydar Aliyev".

The late President Heydar Aliyev was a man who worked with the vision to make Azerbaijan a strong economy. The country made gradual progress largely due to the persistent policy of President Heydar Aliyev, who successfully completed his two presidential terms. The president steered the country out of a quagmire as the country was undergoing a tough time due to the war with Armenia. President Heydar Aliyev laid the foundations of effective policy agendas to accomplish the economic, social and political stability of the country. It would not be wrong to say that the leadership of Azerbaijan was cognizant of the complexities related to its relations with other countries at the time of independence. Hence, it started to balance its relations while it was in a state of war with Armenia. The country not only defended its position in regional and extra-regional affairs but also brought the nation on the path of progress and prosperity.

Certainly, the country went through a jerky period and gradually a considerable economic transformation changed its fate. The breakup of the Soviet Union was a great setback for the economies of the newly independent states; however, Azerbaijan quickly trounced the challenges and adopted a strategic roadmap. President Heydar Aliyev signed a remarkable agreement with Western energy companies, in 1994, to export oil and gas to Europe, paving the way for the economic boom (Eurasia, 2022). The president died in 2003, and the same year his son President Ilham Aliyev won elections and became president of Azerbaijan. It improved not only local but also international road networks with a view to stimulate economic growth, accelerating regional development and increasing the competitiveness of its products. The improved logistics and transport connectivity have contributed to the diversification of Azerbaijan's economy.

## Geographical Connectivity and Transformation of the Economy

Traditionally Azerbaijan relied on oil and gas exports, however; the growth of transport corridors has created opportunities for other sectors too such as agriculture, manufacturing, and tourism. The resourceful movement of goods with fewer trade barriers has stimulated trade and attracted foreign direct investment, supporting the country's economic diversification efforts.

Regional connectivity is an emerging trend in different regions of the world today. Many states are setting up different plans to benefit from it as connectivity through roads and connectivity through technology between remote areas enhance the capacity of states and boost the economy. Azerbaijan has also been playing a significant role in regional connectivity through transport corridors and economic development. The country's geographical position makes it a prominent point for connectivity. Many states such as Russia, China and Europe along with other Asian nations have been showing their interest in being linked with other countries through the routes passing through Azerbaijan as it is situated at the crossway of Asia and Europe. It has been investing in transportation infrastructure to improve connectivity with proximate regions and beyond. The growth of trade activities, through the developed transport corridors, has had a significant effect on the economic development of Azerbaijan. Certainly, Azerbaijan has actively engaged in regional initiatives initiated by China. Its participation in the Belt and Road Initiative (BRI) and the Ashgabat Agreement are the most prominent instances to show the readiness of Baku to further its economic corridors which would expand its economic reach and influence. The transport corridors in Azerbaijan are not only facilitating in linking of remote areas to developed areas but also increasing its international trade. The transformation of Azerbaijan's economy is the result of several years of effort and vision.

The country started to focus on the connectivity programs particularly when it joined the Central Asia Regional Economic Cooperation (CAREC) Program in 2003 (ADB, 2019) and strived to build regional prosperity in the post-Soviet space. Through CAREC, Azerbaijan has been working to promote growth and connectivity and to make the region a center of trade and commerce as global markets increasingly integrate. Soon after this, the Asian Development Bank (ADB) also facilitated the country in upgrading the energy and transport infrastructure. Besides, ADB promoted private sector development, helped in developing a clean water mechanism and set up modern sewerage networks (ADB, 2019).

The tireless efforts of the then government steered the country out of a difficult situation and finally, the Gross Domestic Product (GDP) started to grow in the first half of the 21<sup>st</sup> century. It is even listed as a high human development country by the United Nations Human Development Index (UNHDI) (Human Development Reports, 2023). The oil explorations were quick, and the export of oil became the main profit through which the economy of Azerbaijan grew at high speed during 2005–2010 (Aimee Hampel-Milagrosa, 2023). Though there was a short period of economic slowdown in the first half of the last decade; however, it regained its position.

## Infrastructure Building

Envisioning the demand for new supply lines due to vulnerable or war situations, the leadership of Azerbaijan has been focusing on the development of logistics and infrastructure needed to link regions. Since infrastructure is a crucial input for economic

production, it has become indispensable to conventional inputs, such as labor and non-infrastructure capital (Aimee Hampel-Milagrosa, 2023). United Nations Conference on Trade and Development held on October 21, 2021, emphasized that constructing economic corridors is a useful concept for integrated solutions (Youssef, 2023). In this context, Azerbaijan has not only been linking hard infrastructure such as roads, ports, railways, and warehouses, but also connecting soft infrastructure including institutions and technology. This is helping in the development of supply chains, and also boosting the tourism sector.

### **Economic Corridors**

The newly formed action plan of Azerbaijan for the strong economy of the country illuminates that the country is on a fast track of economic development. Along with measures, the country is focusing on regional connectivity and reaching out to new markets to overcome the binding constraints. There are many transport corridors that Azerbaijan has constructed such as the East-West Corridor, North-South Transport Corridor, and Baku-Tbilisi-Kars Railway. Besides, the government has been putting efforts into economic diversification and regional Cooperation.

One of the prominent transport corridors of Azerbaijan for international trade is the East–West Highway, which is 500 kilometers long and runs between the Caspian Sea and the Black Sea (CAREC). This corridor starts from the ports of the Caspian Sea and runs through Azerbaijan, Georgia, and Türkiye, providing a vital link between Europe and Asia. The importance of the East-West Transport Corridor or Trans-Caspian International Transport Route (TITR) is largely due to its connectivity of Europe to the Central Asian region. This corridor is the revival of the historic Great Silk Road. This project is to expand the volume of transport from China to Türkiye and European countries and vice versa (Alliance.net, 2023). In this respect, an agreement for the management and development of the route was signed in Azerbaijan in 2016. This corridor has greatly facilitated the movement of goods and trade, enabling Azerbaijan to serve as a transit hub for the region.

The country has made substantial investments in upgrading its rail infrastructure to link the economic centers to neighboring countries. In 2017, another transport corridor the Baku-Tbilisi-Kars (BTK) Railway was inaugurated. This corridor has significantly improved Azerbaijan's connectivity with Georgia and Türkiye and the capitals of the three states go connected and extended to Kars, a city in Türkiye. Notwithstanding, some obstruction in materializing the actual potential of the BTK, new opportunities for trade and transport are bringing hopes for further collaboration. Particularly landlocked Central Asian countries have shown their interest in connecting through the corridor as it offers an efficient route for their goods to reach European markets. The government of Uzbekistan has shown its interest in expanding bilateral trade with Georgia (Devonshire and Georgia, 2023).

A corridor with multiple modes of transportation, including railways, roads, and shipping is the North-South Transport Corridor, which connects Russia to India via Iran. Azerbaijan's geographic location and its investment in infrastructure development have made it an important state in this corridor but Azerbaijan is a bit reluctant to become an active link in this corridor due to multiple reasons.

Azerbaijan has also been making significant investments in the development of its ports, particularly the Baku International Sea Trade Port as the port of Azerbaijan in the Caspian Sea has played a crucial role in the economic development of the country. This port

serves as a crucial logistics hub, enabling the transshipment of goods between different modes of transport, including maritime, rail, and road. The modernization of the port infrastructure has increased its capacity and efficiency, attracting more trade and investment to the country.

The country is cognizant of developing ICT which is contributing to other sectors' development too. ICT is crucial for the improvement of the education system, health arrangements, and the tourism sector. So, it will boost the country's economic efficiency and international competitiveness. Moreover, the upgradation of the ICT sector will also help in developing software, mobile applications, and platforms of E-commerce. The only problem is that geographically Azerbaijan is away from the major global undersea fiber systems that cross the Pacific and Atlantic oceans (Yoon, 2023). Thus, it needs to set up overland fiber cables to access these networks. Besides, better ICT would fascinate foreign direct investment to upgrade technologies.

In summary, the development of logistics and trade, particularly through transport corridors, has had a transformative impact on Azerbaijan's economic development. Improved connectivity, enhanced trade flows, and increased regional cooperation have opened up new opportunities, diversifying the economy, and positioned Azerbaijan as a vital transit hub between Europe and Asia. The transport route starting from China crosses the land of the Central Asian region, then South Caucasus, Türkiye and entering Europe is one of the shortest routes connecting East and West. This route can also improve the devastating economies of the warring countries viz Azerbaijan and Armenia. This route can potentially connect the two states by establishing a new branch of the corridor the "Zangezur corridor" which would through Armenia. It is also possible to brace economic and trade relations through this corridor between the countries located in neighboring areas to give supplementary incentives to the development of the region as a whole (Gawliczek and Iskandarov, 2023).

The overall pattern of Azerbaijan's economic development suggests that being a resource-rich economy, it has always chosen optimal policy choices. However, the episodes of war with Armenia restricted its trade routes and caused diversification.

### **National Development Priorities 2030**

Since Azerbaijan entered a new phase after COVID-19- and the 44-day war, it is setting development priorities for the ongoing era till 2030. The government of Azerbaijan focused on long-term development through five national priorities (permitted by Presidential ruling) for this decade. The Gist of the priorities is as follows; a growing competitive economy, a society based on social justice, a great return to the liberated territories, competitive human capital and a clean environment (UNESCO, 2023).

### **Recommendations**

The trends and patterns of governmental plans started during the time of late President Heydar Aliyev, show that the leadership of Azerbaijan is cognizant of the fact that to build a country, it is important to build up the economy of the state. Notwithstanding, all the efforts of the government have been going in the right direction, this paper suggests a few points:

- The government of Azerbaijan should accelerate economic diversification to



upkeep the dynamic development of the non-oil sector.

- The favorable business environment modernized institutional framework and advancement of a national innovation system should be a continual feature of the governmental plans.
- Accelerate the capacity-building programs in the country by introducing modern technologies, by increasing the investment in education system and launching skill programs.
- The government should allow the private sector involvement in some sectors to improve the overall proficiency of infrastructure facilities.
- Oil business and accrued profits should be directed towards consolidating the non-oil sectors such as agriculture, tourism, education and IT. In this way, the benefits will be felt in many other directions.
- The IT-related services should be available in all parts of Azerbaijan.

## Conclusion

The year 2023 is marked as the year of Heydar Aliyev in Azerbaijan not only to commemorate his 100<sup>th</sup> birthday but also to infuse the spirit of the long haul in the nation. Heydar Aliyev holds a distinct position in the national history of Azerbaijan, he introduced diversity of thought in the country and also created a strong sense of competition. The legacy of his ideas is still reflected in the economic and political system of the country. The government of Azerbaijan has set out a new development plan to be connected with regional countries, for which it has become indispensable to strengthen the country's infrastructure, The country has already been recognized as an important transport and logistics hub. The East–West international transport route passes through the land of Azerbaijan which reduces the duration and distance of cargo. However, the trend of expanding transportation requires private investments too. So far, private investments are mostly in the oil and gas sector. It is also recognized that tourism, agriculture, and IT sectors are critical parts of the development design of Azerbaijan and need more participation.

Since the development of infrastructure is finance-intensive, a substantial share of national resources is needed. Likewise, the institutions and policies are needed to be updated for the planning of the right type of infrastructure. Although the spending on infrastructure in Azerbaijan is already up to the mark; however, the country should upkeep the pace to meet the demand level.

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## DEVELOPMENT OF TRANSPORT CORRIDORS AND THEIR INFLUENCE ON THE DEVELOPMENT OF THE ECONOMY OF THE REPUBLIC OF TAJIKISTAN

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The article examines the issue of the development of transport corridors and their impact on the economy in modern conditions. Special attention is given to Tajikistan in Central Asia, the establishment of international transport corridors, and their role in enhancing the efficiency of foreign trade and transit traffic, as well as fostering economic convergence and integration of countries into the global economic system. The article also examines the necessity of creating international corridors in Tajikistan. An analysis of various modes of transportation in Tajikistan during the period 2000-2021 is conducted, identifying trends in their development. The characteristics of the existing Asian highways of the Republic of Tajikistan, the CAREC corridors, the Europe-Caucasus-Asia (TRACECA) transport corridor, the International Asian Highways of the CAREC, the International Transport Corridors (ITC) of the European Agreement of International Highways passing through the territory of Tajikistan, the Silk Economic Belt the path that unites Tajikistan, China, India, Iran, Russia, Kazakhstan and other countries, the development of the North-South Corridor were discussed in the article. It has been established that the contribution of the ITC to the development of the economy is significantly increasing leading to the generation of micro and macroeconomic benefits, such as creating new job opportunities, offering modern transportation and logistics services, and providing access to new markets and seas for enterprises, as well as through the emergence of positive socio-economic effects associated with the improvement of indicators of transport security and accessibility of the Republic of Tajikistan in the context of economic integration.

**Keywords:** international transport corridors, modes of transportation, cargo volume, freight turnover, highways, investments, transportation and logistics complexes.

The transport complex holds a leading position in the national economy of any country and provides targeted spatial accessibility of territories, improvement in the quality of transportation services, freedom of movement for goods and services, facilitation of foreign economic activities, mobility and productive employment of the population, enhancement of production competitiveness, and deepening of transport and economic ties in the conditions of global competition.

In these circumstances, transportation becomes global and participates in strengthening interactions between various types of transport, developing supply chains for goods, integrating individual countries into the world system, establishing international standards, increasing the flow of cargo and passengers between countries and continents, protecting the environment, and promoting green economy development (NDS,2016; Rudneva, 2013; Tokhirjon, 2014).

Tajikistan, due to its natural geographical conditions, located in the center of Asia is a bridge in communication between peoples and entire civilizations and can become a link connecting the countries of Southeast Asia with the countries of the Middle East and Europe (Azimov, 2017; Boboyev, 2012). Therefore, the creation of international transport corridors (ITC) on the territory of Tajikistan is primarily associated with the need to improve the efficiency of foreign trade and transit traffic and ensure guarantees for their timely implementation, guided by the conditions of international documents (Kayumov,2013). ITCs in Tajikistan and in the region ensure convergence and integration of the countries' economies. However, there are many key problems that characterize the development of the ITC: "...remoteness from sea routes and developed world centers, limited access of railway transport to foreign countries and regions; weak connection of the ITC with the internal road network, as well as the lack of a network of transport and logistics centers; non-compliance with the requirements of international standards for the safety and operation of modes of transport, as well as the growth of air pollution in cities (and industrial zones) is accompanied by a lack of control by the relevant authorities over emissions from vehicles and the quality of checks for compliance of vehicles with environmental standards and regulations; lack of air communication within the republic and others" (Azimov, 2017; Raufi, 2008; Radjabov & Ashurov, 2022).

Solving these problems is considered a priority. Therefore, "... in the future, the Government of the country should take additional measures to further expand the network of transport corridors and strengthen the transport infrastructure, access to seaports, create border terminals and logistics centers, upgrade the material and technical base and the fleet of vehicles, as well as increase transportation of goods and products" (Rakhmon, 2018).

In the National Development Strategy of the Republic of Tajikistan for the period up to 2030, the following main priorities are identified: further development of transport corridors; development of transport infrastructure; expanding access to modern information and communication services and clarified the further development of transport corridors in order to develop transit transport corridors and access to seaports, build and reconstruct roads and bridges, create logistics centers, border terminals, improve relations with trading partners in Central Asia and others neighboring countries.

These issues were envisaged in the State Target Program for the Development of the Transport Complex of the Republic of Tajikistan for 2010-2025, the purpose of which is to form a reliable, efficient and economically integrated infrastructure and develop the

country's transport complex, including the creation of transport and transit corridors.

The strategic direction for the development of the transport structure is the expansion of the road and railway network (Boboyev, 2012; Radjabov & Ashurov, 2022). The total length of railways in the republic is 954.4 km and about 90% of external cargo transportation is carried out by rail. An analysis of the indicators of transport activity shows that the main volume of cargo work falls on road and rail transport. Therefore, it is important to study the dynamics of the main indicators of the transport of the Republic of Tajikistan for 2012-2021 (Tables 1 and 2).

Analysis of Table 1 shows that the volume of cargo transportation for 2000-2021 as a whole increased by 3.41 times. This trend is observed in all modes of transport, except for railway and air transport, and, accordingly, the volumes decreased by (100-45.58) 56.42% and (100-45.00) 55.0%. According to Table 1, there is also an overall increase in cargo turnover by 4.88 times, and in rail and air transport, respectively, cargo turnover decreased by (100-19.09) 80.91 and (100-65.12) 34.88%.

**Table 1**

*Dynamics of the total volume of transportation of goods and cargo turnover by modes of transport in Tajikistan for 2000-2021*

Indicators	Cond. design.	2000	2005	2010	2015	2020	2021	2021 to 2000 in %
The volume of cargo transportation - total, thousand tons		27677	38593,7	59327,4	74431,8	85381,9	94610,8	3.41 times
Cargo turnover – total, thousand t-km		1753	2902	5005,0	5995,5	7800,8	8566,3	4.88 times
Land transport, including:	<b>I</b>	27675	38590,0	59325,2	74429,7	85381,2	94610,9	3.41 times
	<b>II</b>	1748,7	2894,2	4952,3	5989,2	7799,0	8563,5	4.89 times
Automobile transport, including:	<b>I</b>	14573	26476	48879,6	68304,1	79075,9	88900,9	6.10 times
	<b>II</b>	422,7	1828,5	4143,9	5672,3	7525,6	8310,3	19.66 times
International transport	<b>I</b>	-	409,0	908,0	1126,4	1487,9	1994,2	4.88* times
	<b>II</b>	-	67,8	1498,2	2175,0	3001,2	3254,1	4.82* times
Railway	<b>I</b>	13102	12114	10445,6	6125,6	6305,3	5709,9	43.58
	<b>II</b>	1326,0	1063	808,4	316,9	273,4	253,2	19,09
Air	<b>I</b>	2,0	3,7	2,2	2,1	0,7	0,9	45,00
	<b>II</b>	4,3	7,6	5,3	6,3	1,8	2,8	65,12

Source: Compiled by the author based on the Statistical Yearbook (2022). \* Note: **I**- volume of traffic, **II**-cargo turnover.

**Table 2**

*The trend of changes in the volume of passenger transportation and passenger turnover by modes of transport in Tajikistan for 2000-2021*

Indicators	Cond. design.	2000	2005	2010	2015	2020	2021	2021 to 2000 in %
The volume of passenger transportation - total, thousand pas.		151,4	398,2	551,1	564,5	653,7	746,8	4,93 times
Passenger turnover – total, thousand pas.-km		1583	6481,7	9896,7	9230,1	8244,7	9079,9	5,73 times
Land transport, including:	I	151,2	397,7	538,7	563,7	653,4	746,5	4,93 times
	II	1280,8	5448,7	7121,5	7201,5	7443,3	8235,8	6,43 times
Automobile transport, including:	I	122,8	380,5	527,2	553,1	633,8	726,8	5,91 times
	II	1084,7	5330,3	7037,8	7137,2	7350,9	8144,1	7,50 times
International transport	I	0,3	0,3	0,4	0,1	0,1	0,01	3,33
	II	-	422,5	637,5	98,2	49,8	5,7	1,35
Railway	I	1,0	0,7	0,6	0,4	0,4	0,4	40,00
	II	73,0	46,1	50,9	48,3	21,4	20,6	28,22
Air	I	123,1	72,3	38,2	16,0	71,0	71,0	57,76
	II	302	1033,0	1914,6	2028,6	801,4	844,1	2,79 times
Electrical	I	27,4	16,4	10,9	10,2	19,2	19,2	70,07
	II	123,1	72,3	38,2	16,0	71,0	71,0	57,76

Source: Compiled by the author based on the Statistical Yearbook (2022). \* Note: **I**- volume of passenger transportation, **II**-passenger turnover.

The analysis shows that there have been significant changes in the dynamics of the shipment of certain goods by rail in the Republic of Tajikistan for 2000-2021 (Statistical Yearbook of the Republic of Tajikistan, 2022). The volumes of coal increased by 49.33 %, cement by 25.62 %, while oil cargoes, timber cargoes, grain and milled products and cotton respectively decreased by 99.67, 77.5, 79.33 and 82.35%.

According to Table 2, the total volume of passenger transportation for 2000-2021 increased by 4.93 times, by road transport by 5.91 times and by air transport by 2.0 times. However, international road transportation of passengers sharply decreased by 96.67% (100-3.33), railway transportation decreased by 60.00% (100-40.0), and electric

transportation decreased by 29.93% (100-70.07). Additionally, an analysis of the trend in passenger turnover shows an overall growth of 5.73 times, with road transportation growing by 7.50 times and aviation transportation by 2.79 times. However, railway transportation, international road transportation, and electric transportation decreased by 98.65% (100-1.35), 71.78% (100-28.22), and 42.24% (100-57.76) respectively.

The obtained analysis results show that the changes related to the decrease in performance indicators of some modes of transport are associated with the pandemic, aging of the existing fleet of vehicles, underdeveloped customs and terminal systems, inadequate development of international transport corridors, a low level of transition to digitization, inefficiency in utilizing commercial terms for goods delivery in foreign trade, choices of customs regimes, underdeveloped management system of the transport-road complex in the regions of the republic, an increasing role of regional economic integration, and others.

The analysis shows that the construction of international highways allowed Tajikistan to connect with the road networks of China, Afghanistan, Kyrgyzstan, and Uzbekistan. Furthermore, it was found that the share of the transport sector in the GDP structure in 2020 was 10.4%, which increased by 5.5 percentage points compared to the year 2000. The net output of the industry has outpaced the growth rate of the GDP. This was a result of implementing 44 investment projects in the field of transportation and its infrastructure. Over the period of 2002-2020, a total of 1.5 billion USD was utilized for these purposes, with the government of the country contributing 10.0%, grants and technical assistance providing 31.0%, and credits accounting for 59.0% of the funding (Statistical Yearbook of the Republic of Tajikistan, 2022).

In the context of Tajikistan, the sectors of transport and communications play a crucial role in the country's socio-economic development. Therefore, the strategic goal of the country is: a) the transformation of the Republic of Tajikistan into a transit country; b) the revival of the Great Silk Road; c) improving the condition of the following international transport corridors: 1. Central Asian Regional Economic Cooperation (CAREC No. 3, No. 5, No. 6C); 2. International Asian Highways (AN-7, AN-65, AN-66); 3. Transport Corridor Europe-Caucasus-Asia (TRACECA, T-23, T-34); 4. European agreements on international highways E-60 Termez (R. Uzbekistan) - Dushanbe - Vahdat - Lyakhsh - Karamik (Kyrgyzstan) - Sary Tash - Irkeshtam - China.

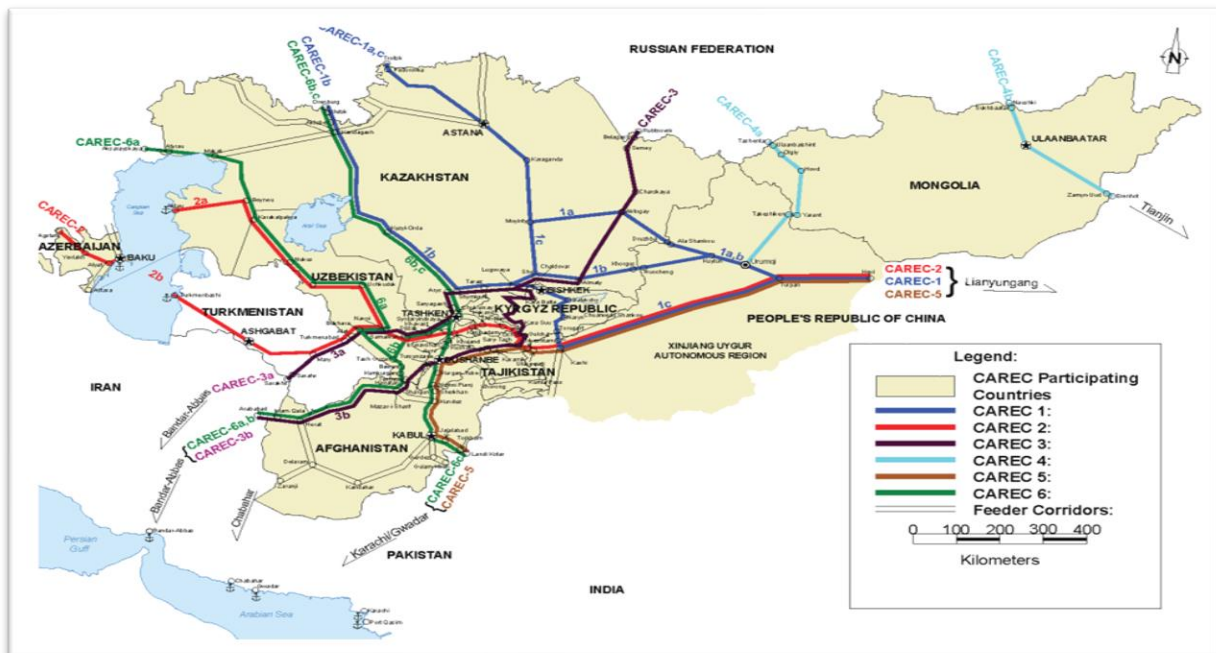
Tajikistan is located at the crossroads of commercial traffic and its strategic location serves as a bridge for the transit of goods and services between the PRC, Central Asia and the countries of South Asia and the Middle East, and three Asian highways pass through its territory (Fig. 1). Also, CAREC corridors pass through Tajikistan (Fig. 2), connecting the north with the south, Kyrgyzstan, Uzbekistan and serves as a window to South Asia, through Afghanistan and the Kulma Pass from the PRC (Asadov, 2012).

The analysis shows that in 1993 the European Union began to implement the transport corridor Europe-Caucasus-Asia (TRACECA), which allows strengthening the economic ties of Europe, through the corridors crossing the Black Sea, the Caucasus and the Caspian Sea, to Central Asia (Fig. 3).

**Figure 1.**  
*Operating Asian Highways of the Republic of Tajikistan*



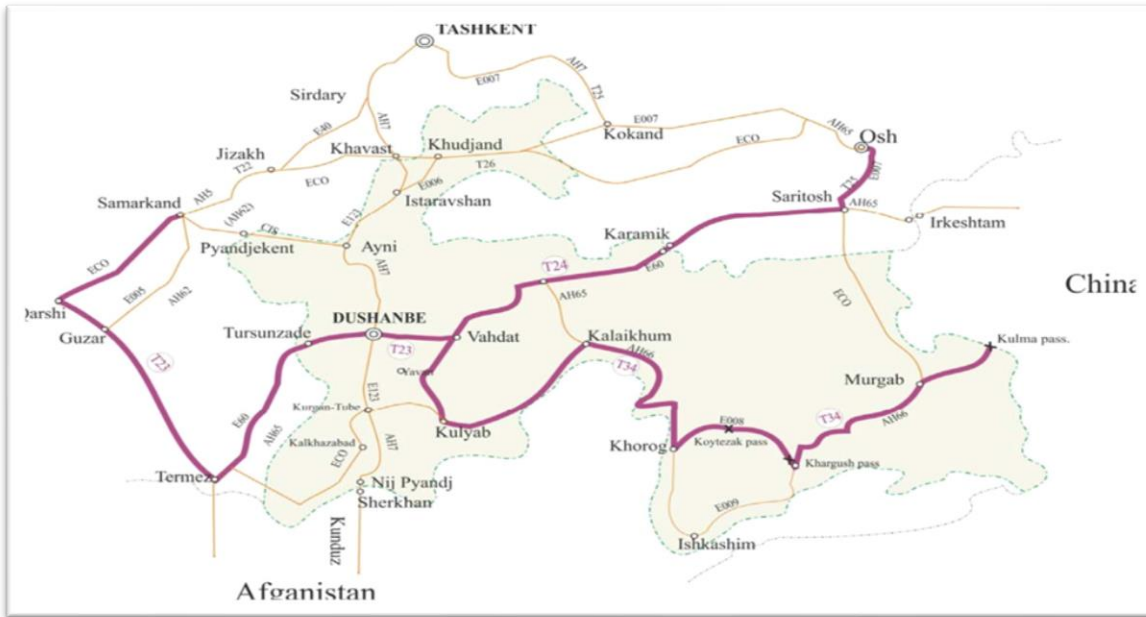
**Figure 2.**  
*Corridors of the Central Asia Regional Economic Cooperation (CAREC)*





**Figure 3.**

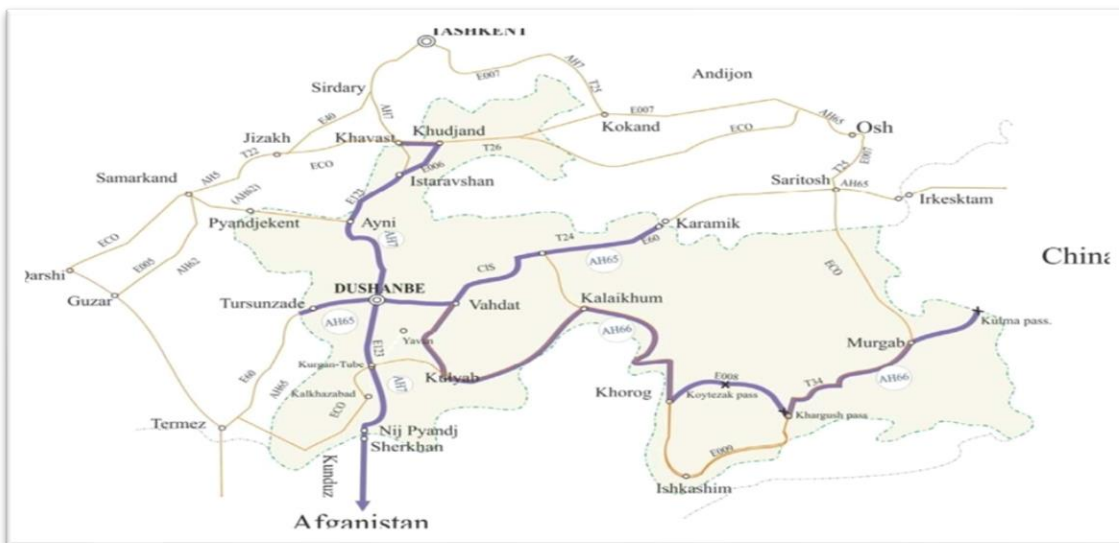
*Transport corridor Europe-Caucasus-Asia passing through the territory of Tajikistan (TRACECA) - T-23, T-34*



As can be seen from Figure 3, the multimodal system of land and sea routes of TRACECA plays an important role in improving connections between Eastern Europe, the Caucasus and Kazakhstan. Although Tajikistan's participation in TRACECA is insignificant, the implementation of this project will lead to improvement of the legislative framework, ensuring the safety of cargo traffic and environmental protection and harmonization of transport policy (Asadov, 2012).

**Figure 4.**

*International Asian Highways passing through the territory of Tajikistan*



Note: Highways An-7, An-65, An-66 (1. An7: Khavast (RU group) - Khojent - Dushanbe - Bokhtar - Nizhny Pyanj - border; 2. An65: Irkeshtam- -Sary-Tash – Karamyk (city of Kyrgyz Republic) – Dushanbe- Tursunzoda – Uzun; 3. An66: PRC - Kulma - Khorog - Kulyab - Vahdat - Dushanbe - Tursunzade – Uzun

In the conditions of Tajikistan, the role of the international Asian highways (An-7, An-65, An-66) (Fig. 4) and the Central Asian Regional Economic Cooperation (No. 3, No. 5, No. 6c) (Fig. 5) should also be highlighted in the development of transport links between Tajikistan and neighboring countries.

It is important to note that the “UN Economic and Social Commission for Asia and the Pacific (UNESCAP)” at the beginning of the new century launched the “New Global Transit Transport Cooperation Framework for Landlocked Developing and Transit Countries” (Asadov, 2012) and the Asian Development Bank have developed 6 CAREC corridors (See Fig. 2), 4 of which pass through the territory of Tajikistan.

**Figure 5.**

*International transport corridors of the CAREC, passing through the territory of Tajikistan (No. 3, No. 5, No. 6c)*

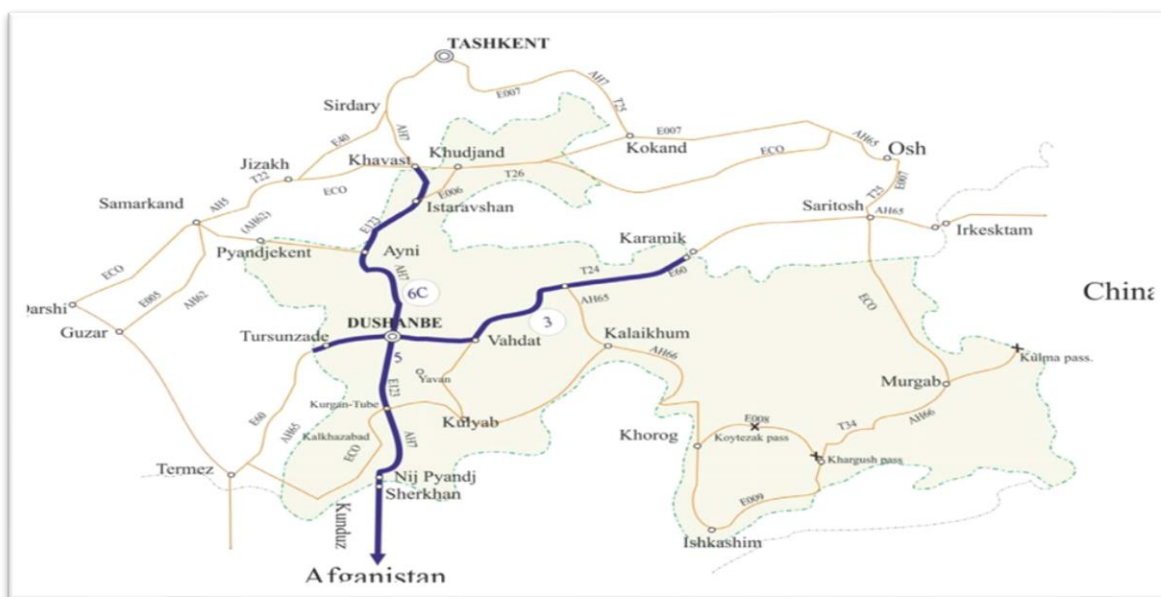


Figure 6 shows the three key corridors of the European Agreement on Main International Traffic Arteries.

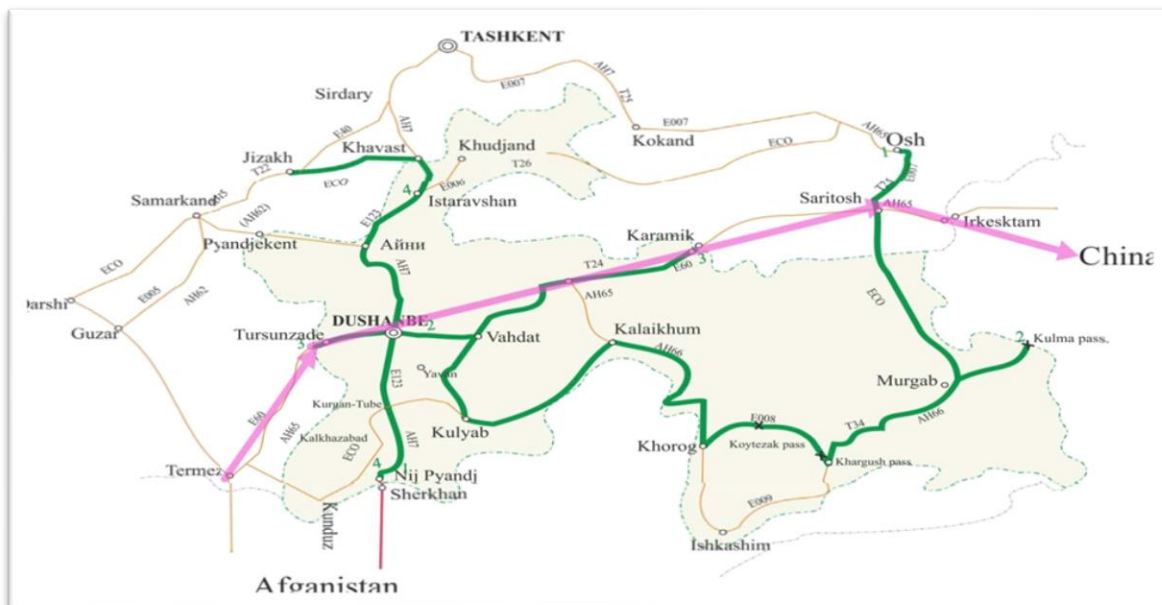
Analysis of Figure 6 shows that CAREC ITC 2 provides connectivity from China to Turkey via Georgia, Azerbaijan, Turkmenistan/Uzbekistan, Tajikistan and Kyrgyzstan, CAREC ITC 3 provides connectivity between the Russian Federation and the Gulf States via Kazakhstan, Kyrgyzstan, Tajikistan and Afghanistan, CAREC ITC 5 - connects the PRC, Central and South Asia, connects the PRC and Pakistan, runs along the route Kyrgyzstan and then Jirgital-Vahdat-Dushanbe and goes south towards Bokhtar, Afghanistan, Sherkhan Bandar/Kunduz and Kabul Jalalabad, Pakistan, CAREC ITC 6 - connects Europe with the Middle East and South Asia. The ITC starts from Russia Kazakhstan-Uzbekistan-Tajikistan and Afghanistan and is considered a transit route for moving goods from Pakistan and India to Russia and Eastern Europe.

In modern conditions, the priority project is considered to be the Silk Road Economic Belt, which unites China, India, Iran, Russia, Kazakhstan and other countries of Asia and Eastern Europe, allowing the development of transport and logistics networks, and for the Republic of Tajikistan this project contributes to the development of legislation, the

application of international standards, partnerships in the EAEU, SCO, as well as increase trade turnover with China, India, Iran, Eastern European countries, and attract foreign direct investment in the transport industry.

**Figure 6.**

*International Transport Corridors of the European Agreement on Main International Traffic Arteries*



Note: E-60 route: Termez (Republic of Uzbekistan) - Dushanbe - Vahdat - Lyakhsh - Karamik (Kyrgyzstan) - Sary Tash Irkeshtam - China

Another important project for the transport services market in Tajikistan is the North-South transport corridor. The development of the North-South corridor will allow Tajikistan to integrate into transport and logistics chains for access to the World Ocean (Nazarova, 2023). The North-South ITC will reduce the delivery time of goods by approximately 2 times. This will lead to an increase in the number of transportations and increase mutual trade between the countries of the Eurasian space. The development of infrastructure will have a positive impact on the economy of Tajikistan, and the shortening of transportation routes thanks to the new corridor will also reduce greenhouse gas emissions by up to 25%. For Tajikistan, the development of the Caspian region also brings positive aspects: an increase in trade, the hydropower industry by attracting investments to the region, as well as ties with Azerbaijan.

In general, the fundamental purpose of the ITC is to concentrate interstate transport flows. The creation of an international transport and logistics infrastructure and the removal of barriers serves the purposes of increasing the speed of freight and passenger transportation, reducing the cost of transportation and developing various types of transport and the use of international transport in the conditions of Tajikistan and its regions.

Thus, the implementation of the ITC is possible on the basis of the coordinated use of financial resources by participants in the transport complex, which allows for the economic development of the states through whose territory parts of the ITC pass. In addition, the contribution of the Ministry of Transport and Communications to the development of the

economy is significantly increasing, obtaining micro- and macroeconomic effects through the creation of new jobs, the provision of modern types of transport and logistics services, the entry of enterprises into new markets, as well as the emergence of positive socio-economic effects associated with improved performance of the transport security and accessibility in the Republic of Tajikistan.

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## PLACE AND ROLE OF RETAIL AND WHOLESALE TRADE IN THE FORMATION AND DEVELOPMENT OF THE CONSUMER MARKET

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This article explores the place and role of retail and wholesale trade in the formation and development of the consumer market. It was revealed that retail trade plays an important role in bringing goods to a specific consumer in the republic, and a common type is stationary trade, which includes all types of shops, stalls, tents and kiosks. The analysis shows that in the country and its territorial entities, there are significant changes in the total volume, structure and growth rates of retail trade, the level per capita, the degree of satisfaction of the effective demand of residents for food and non-food products.

**Keywords:** Retail trade, wholesale trade, consumer market, economy, Tajikistan, goods, taxes, customs.

Nowadays, the consumer market's primary importance lies in delivering goods to customers and establishing feedback, meaning that the market system of the organization should efficiently distribute consumer goods through various physical objects, terminals, logistic centers, and distribution complexes. Retail trade also plays a crucial role in delivering goods to specific consumers within the Republic. One prevalent form of retail trade is stationary trade, which includes all types of shops, stalls, tents and kiosks.

However, there are variations in retail trade as they are spread throughout the entire territory, their activities fall under the realm of small businesses, they are versatile, and there is also an increasing trend in the share of mixed stores. Nonetheless, the number of vegetable stores is decreasing because fruit and vegetable products are being sold in markets and through street vendors.

In modern conditions, market modernization has had an impact on the image of retailers, due to the privatization of trade and catering, which were used for other purposes, and this has negatively affected the provision of residents with everyday goods and the improvement of shopping services, especially in rural areas.

The analysis shows that there are significant changes in the total volume, structure and growth rates of retail trade, the per capita level of retail turnover, the degree of satisfaction of the solvent demand of residents for food and non-food products (Table 1).

**Table 1**

*Dynamics of the total volume of retail trade turnover in the Republic of Tajikistan for the years 2000-2020 (million somoni; at 2020 prices)*

Indicators	Years								
	2000	2005	2010	2015	2016	2017	2018	2019	2020
Total volume of retail trade turnover across all sales channels	2647,4	5356,0	8494,5	16025,7	17938,5	19068,6	20479,7	24948,3	27024,8
<i>including:</i> public sector	63,8	52,0	109,5	69,2	95,0	68,9	133,6	189,0	131,5
non-public sector, <i>including:</i>	2583,6	5304,0	8385,0	16853,9	17843,5	18997,3	20346,1	24683,5	26893,3
commercial trade	57,6	157,5	426,0	3837,7	4110,2	5084,3	6691,0	8448,8	9451,0
cooperative trade "Tajikmatlubot"	38,2	67,3	124,1	82,2	13,6	2,6	1,4	0,5	0,3
markets and other commercial structures	2487,8	5079,2	7834,9	10990,5	12364,7	13447,8	13653,7	16234,2	17442,0

Source: Author's calculations based on the statistical collection "Tajikistan: 30 Years of State Independence" and the Statistical Yearbook of the Republic of Tajikistan

Table 1 examines the development trends of the sources of formation of the retail trade turnover in Tajikistan across all sales channels for 2000-2020. Table 1 shows that in

2020, the total volume of retail turnover across all sales channels, including the state sector and non-state sector, increased by 10.2, 10.2, and 10.4 times, respectively, compared to the year 2000. However, cooperative trade represented by 'Tajikmatlubot' decreased by 127.3 times.

In Table 2, we have studied the trend of development of sources of retail turnover formation in Tajikistan across all sales channels for the years 2000-2020, considering their relative weight.

**Table 2.**

*Sources of formation of retail trade turnover through all sales channels in the Republic of Tajikistan for 2000-2020*

Indicators	2000	2005	2010	2015	2016	2017	2018	2019	2020
<i>Share, in percentage</i>									
Total volume of retail trade turnover across all sales channels	100	100	100	100	100	100	100	100	100
<i>including:</i>									
- public sector	2,2	1,0	1,3	0,4	0,5	0,4	0,65	1,0	0,5
- private sector, which includes:	97,8	99,0	98,7	99,6	99,5	99,6	99,3	98,9	99,5
- commercial trade	2,3	3,1	5,0	22,7	22,9	26,7	32,6	33,9	35,0
- cooperative trade "Tajikmatlubot"	1,7	1,5	1,5	0,	0,0	0,01	0,01	0	0
- markets and other commercial structures	93,8	94,4	92,2	76,4	76,5	72,9	66,7	65,1	64,5

Source: Statistical collection "Tajikistan: 30 years of state independence" and statistical yearbook of the Republic of Tajikistan. Dushanbe, 2021. - p.615-617

**Table 3.**

*Dynamics of the share of CIS countries in the retail trade (in current prices; in % of the total for the CIS)*

Countries	1991	2000	2005	2010	2015	2016	2017	2018	2019	2020
Total for the CIS	100	100	100	100	100	100	100	100	100	100
Azerbaijan	2,7	2,0	1,5	2,4	4,1	4,2	4,1	4,2	3,8	3,9
Armenia	1,7	0,7	0,5	0,5	0,5	0,5	0,5	0,5	0,5	0,5
Belarus	4,1	3,8	3,4	3,2	3,5	3,2	3,3	3,1	2,9	3,0
Kazakhstan	4,2	3,5	3,2	2,9	4,7	4,6	4,5	4,2	4,6	4,5
Kyrgyzstan	1,1	0,5	0,4	0,4	0,7	0,7	0,7	0,5	0,4	0,4
Moldova	1,3	0,4	0,5	0,5	0,3	0,3	0,3	0,3	0,2	0,2
Russia	61,8	72,4	75,7	78,3	73,8	73	70,0	71,5	62,1	60,9
Tajikistan	0,7	0,3	0,2	0,2	0,4	0,4	0,4	0,4	0,3	0,3
Uzbekistan	4,5	2,7	6,5	1,5	2,7	4,4	4,0	3,9	2,8	2,7
Ukraine	15,7	5,4	7,6	10,3	8,4	7,6	7,0	6,9	5,8	5,9

Source: Statistical collection of the Interstate Statistical Committee of the CIS (2021)

The data from Table 2 for the period under consideration shows that in 2020, the



share of government trade decreased to 110 percent, while there was a growth in the share of non-government trade, i.e., the private sector of consumer goods trade, which accounted for 99.5 percent.

In the context of a market economy, to assess the development of retail trade in the Republic of Tajikistan, it is necessary to conduct a comparative analysis with similar indicators of other CIS countries (Table 3).

According to Table 3, the share of the Republic of Tajikistan in the retail trade turnover in 2020 is 0.3% (compared to 0.7% in 1991), while the share of the population is 3.0% (Table 4).

**Table 4.**

*Change in the share of countries in the results for the CIS based on key socio-economic indicators (as a percentage of the total for the Commonwealth of Independent States)*

Countries	Population size				Gross domestic product				Industrial products			
	1991	2000	2015	2020	1991	2000	2015	2020	1991	2000	2015	2020
Azerbaijan	2,6	2,9	3,4	3,3	1,3	1,5	2,9	2,7	1,3	1,7	2,5	2,3
Armenia	1,3	1,1	1,1	1,1	0,8	0,6	0,6	0,7	0,6	0,2	0,3	0,2
Belarus	3,6	3,6	3,3	3,4	4,1	2,9	2,9	2,8	4,6	5,1	4,5	4,1
Kazakhstan	5,8	5,3	6,2	6,0	4,2	5,2	10,1	8,9	4,4	5,3	6,6	6,0
Kyrgyzstan	1,6	1,7	2,1	2,0	0,9	0,4	0,4	0,5	0,8	0,4	0,3	0,3
Moldova	1,6	1,5	1,3	1,4	1,3	0,4	0,4	0,5	1,1	0,3	0,2	0,3
Russia	52,5	52,0	51,7	52,1	67,7	73,7	72,0	71,3	65,1	70,6	78,6	76,5
Tajikistan	1,9	2,2	3,0	3,0	0,6	0,3	0,4	0,4	0,6	0,3	0,2	0,2
Turkmenistan	1,4	1,9	1,8	1,7	0,7	1,2	1,9	1,8	0,7	1,3	-	1,0
Uzbekistan	7,5	8,8	11,1	10,9	3,0	3,9	3,5	3,6	3,2	3,3	-	3,1
Ukraine	18,3	17,3	15,0	16,0	14,5	9,0	4,9	5,1	16,7	11,1	6,8	6,5
Countries	Agricultural products				Foreign trade turnover				Retail turnover			
	1991	2000	2015	2020	1991	2000	2015	2020	1991	2000	2015	2020
Azerbaijan	1,9	2,2	3,8	3,6	0,7	1,4	2,6	2,5	2,7	2,0	4,1	4,0
Armenia	1,2	1,0	1,5	1,4	0,5	0,6	0,6	0,6	1,7	0,7	0,5	0,6
Belarus	5,8	5,6	5,9	5,5	5,5	7,8	7,3	7,1	4,1	3,8	3,5	3,2
Kazakhstan	6,9	5,3	8,7	8,5	4,8	6,8	9,7	9,4	4,2	3,5	4,7	4,1
Kyrgyzstan	1,7	1,6	2,1	2,0	0,5	0,5	0,7	0,7	1,1	0,5	0,7	0,6
Moldova	2,2	1,2	1,0	1,1	0,8	0,6	0,8	0,7	1,3	0,4	0,3	0,3
Russia	50,1	48,9	57,5	58,1	66,2	67,1	68,0	65,6	61,8	72,4	73,8	73,1
Tajikistan	1,1	0,7	2,3	2,5	0,8	0,7	0,6	0,6	0,7	0,3	0,4	0,3
Turkmenistan	1,4	2,8	-	-	1,7	-	-	-	1,0	1,5	-	-
Uzbekistan	5,7	10,8	-	-	3,0	-	-	-	4,5	6,5	4,4	4,1
Ukraine	20,7	18,5	17,2	17,8	15,2	14,0	9,7	9,4	15,7	7,6	7,6	7,0

Source: Statistical collection "25 years of the Commonwealth of Independent States (1991-2015)" of the Interstate Statistical Committee of the CIS (2016)

Table 4 shows that the country has a tendency to reduce the share in GDP from 0.6% in 1991 to 0.4% in 2020, industrial products from 0.6% to 0.2%. At the same time, the share of the population increased from 1.9% in 1991 to 3.0% in 2020 of the total population of the CIS countries.

On the basis of comparative analysis, it was found that Tajikistan lags behind other countries in terms of per capita retail turnover. The results of the analysis are presented in table 5.

**Table 5.**

*Dynamics of retail turnover per capita in the CIS countries for the years 2000-2020 (as a percentage of the previous year)*

Countries	Years								
	2000	2005	2010	2015	2016	2017	2018	2019	2020
Azerbaijan	109,8	113,0	109,0	111,0	102,0	103,0	103,0	104,0	103,0
Armenia	116	109	100,8	85	98	106	101	108	106
Belarus	112	120	116	99	96	104	108	105	107
Kazakhstan	107	114	118	97	102	103	106	106	104
Kyrgyzstan	107	114	98	106	105	106	107	105	105
Moldova	115	105	105	99,5	103	103	108	128	112
Russia	109	113	107	90	95	101	103	102	103
Tajikistan	79	110	108	106	107	106	107	110	107
Uzbekistan	107,6	105,1	113,6	115	114	102	107	109	108
Ukraine	107,0	122,0	110,0	80,0	104,0	107,0	106,0	110,0	109,0
CIS average	106,4	112,51	108,54	98,85	102,6	104,1	105,6	108,7	106,4

Source: Statistical collection of the Interstate Statistical Committee of the CIS (2021).

**Table 6.**

*Dynamics of the structure of retail turnover in the Republic of Tajikistan by product groups across all sales channels for the years 2000-2020.*

Years	All goods	Food products	Non-food products	All goods	Food products	Non-food products
	(in prices of corresponding years) million somoni			as a percentage of the total		
2000	558,2	332,1	226,1	100	59,5	40,5
2005	2219,3	1120,7	1098,6	100	50,5	49,5
2010	5997,7	2836,2	3161,6	100	47,3	52,7
2011	7425,6	3550,7	3874,9	100	47,8	52,2
2012	9013,9	4164,4	4849,5	100	46,2	53,8
2013	11311,7	5180,7	6131,0	100	45,8	54,2
2014	12823,9	6168,3	6655,6	100	48,1	51,9
2015	14377,7	7045,1	7332,6	100	49,0	51,0
2016	16166,7	7921,7	8245,0	100	49,0	51,0
2017	18435,2	9144,1	9291,1	100	49,6	50,4
2018	20479,7	9891,8	10587,9	100	48,3	51,7
2019	24948,3	12099,9	12848,4	100	48,5	51,5
2020	27024,8	13053,0	13971,8	100	48,3	51,7

Source: Statistical collection "Tajikistan: 30 years of state independence" and statistical yearbook of the Republic of Tajikistan (2021)

From Table 5, it can be seen that in comparison with the corresponding indicator, the per capita retail turnover in the Republic of Tajikistan and other CIS countries as a percentage of the previous year was 7.0 percent of the average indicator for the

Commonwealth of Independent States in 2020. This indicates existing problems in accelerating the pace of development of retail trade in Tajikistan. It is also worth noting that there is a lag in the development of retail trade in other indicators.

At the same time, the retail trade sector is witnessing the growth of private ownership. The dynamics of the structure of retail turnover in the Republic of Tajikistan by product groups across all sales channels for the years 2000-2020 are presented in Table 6.

From Table 6, it can be seen that there has been an increase in the commodity-group structure of the country's retail turnover over the specified years. The share of non-food products increased from 40.5% in 2000 to 51.7% in 2020, while the share of food products decreased from 59.5% to 48.3%. This indicates a change in the country's trade structure.

At the same time, it should be noted that the conducted research showed that many stalls, tents, and kiosks in rural areas are unregistered. However, in cities they are filled with clothing and food markets, where there has been a growth of 2.0 times.

The problem of forming an effective consumer market and increasing its role in economic development is that there is no state control over the sanitary and epidemiological conditions of retail outlets, and cash registers were not applied. Nowadays, modern trade information and communication technologies are being introduced.

Under these conditions, it is necessary to strengthen the role of state control over the activities of retail trade enterprises to solve the tasks assigned to them, taking into account market operating conditions. One of the elements of the trade intermediary infrastructure is the wholesale market, which acts as an economic entity that provides services to all manufacturers, wholesalers and buyers. Having studied foreign experience, it was found that the manufacturer cannot have its own supply network to solve all the existing problems.

There is an undermining of the interests of domestic producers due to the importation of imported goods of poor quality and at low prices. In addition, the share of direct deliveries of consumer goods from the manufacturer to the consumer is increasing. Organized wholesale and wholesale retail trade is being squeezed out of the commodity circulation infrastructure, due to the fact that manufacturers and consumers want to save on intermediary costs.

Consequently, the wholesale link plays an important role in shaping competition in the consumer market. That is, it orders specific producers to produce certain types of goods, which creates appropriate competition in the consumer market where the goods will be promoted. In the Republic of Tajikistan, due to street trading that took place in the early years of economic reforms, wholesale trade was practically paralyzed.

The growth in the effectiveness of the consumer market suggests to the wholesale market the character of the dominant link in the system of commodity circulation, which is important in conditions where about  $\frac{3}{4}$  of the country's inhabitants live in rural areas, where there are no large producers, but there are small retail outlets located at a considerable distance from each other. At the same time, the wholesale market can provide all producers and consumers of their products with the opportunity to enter a competitive non-monopolized consumer market.

The wholesale market participates in the organization of information services for transactions, at prevailing market prices, quality control, product certification and a controlled taxation zone. However, these measures are currently not implemented systematically and comprehensively, which shows the importance of the problem of

development of the market.

Now the main role should be played by the wholesale market in the development of an orderly system of distribution of consumer goods, which are sold without address and without taking into account the real market conditions. Under these conditions, the wholesale link should develop based on the improvement of the institutional framework and the creation of trade associations in the regions and large cities of Tajikistan. At the same time, the coordination of wholesale and wholesale and retail trade and information support for participants in wholesale transactions is considered a priority.

Recently, small wholesale stores-warehouses of the "cash-and-carry" type have appeared in the country, using the experience of France, Italy, Spain, America and other countries. The results of the analysis show that stores-warehouses, especially small shopping centers, catering establishments, retail buyers, who purchase goods in small bulk for individual consumption, rationally use the existing material and technical base of the former state, as well as consumer cooperation, with minimal repair and reconstruction costs.

In addition, these stores alleviate the problems of wholesale development. It is important to devote to conducting marketing research in order to study consumer demand, develop advertising activities and collect the necessary information, organize conditions for storing goods and ensure optimal turnover of goods within seven days.

In recent years, super- and hypermarkets operating mainly in the cities of Dushanbe, Khujand and Bokhtar have been successfully developing. We can also observe the development of retail chains. "An important and effective economic mechanism, and the main element of the PR infrastructure is the commodity exchange, which performs specific functions".

In the conditions of the Republic of Tajikistan, exchanges began to operate in the early 90s of the last century. The main activities of the country's exchanges until the end of the 90s of the last century were transactions for light industry goods.

We have found that exchanges serve export-import operations and mainly act as regulators of the pricing system in the market while strengthening the role of exchange trading requires the development of an organizational mechanism for their functioning.

It is important to consider the issue of exchange specialization. It is important to note that exchanges established in regional and district centers should be versatile and should aim at cost-saving, particularly in terms of expenses, resources, and building facilities.

In the conditions of Tajikistan, commodity exchanges can be considered as a marketing center for market research to promote goods, supply and demand. Based on this, the main direction is the improvement of exchange activities, a developed material and technical base, their equipping with information and communication technologies, automated workstations, telecommunications networks and modern means of communication, as well as the creation of a data bank for the organization and management of exchange trading.

It is considered a priority to take into account the demonopolization of commercial and intermediary activities in the market, "the creation in regional centers and small towns of independent medium and small organizations such as agency, dealer and distribution firms, designed to free producers from organizing their own distribution network, additional costs, especially storage costs and direct their resources to the production of goods."

In the new conditions, an important role is assigned to the Chamber of Commerce

and Industry in the development of production, sales, and trade. The analysis shows that the Chamber of Commerce and Industry is becoming a center for promoting foreign trade activities, supporting innovative processes, legal expertise, and improving legislation. Moreover, its activities have contributed to establishing business contacts, organizing exhibitions and fairs, and enhancing information and communication work based on government support. Particular attention in the republic and its regions should be given to improving the supply of goods to the consumer market. In this regard, we consider it important to develop optimal routes and organize the transportation process within them.

In general, the rational functioning of the consumer market in the context of deepening market relations requires the formation of an extensive network of trade and intermediary infrastructure, based on compliance with modern global standards. It should be noted that when organizing trade and intermediary structures, it is necessary to take into account the territorial and geographical specifics of Tajikistan and its regions, as well as the shifts occurring in the activation of production and commercial activities of economic agents in the new conditions of digitalization.

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## THE CASPIAN-CENTERED COOPERATIONS AND THE INCREASING IMPORTANCE OF AZERBAIJAN AFTER THE CURRENT CRISIS IN UKRAINE

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After the current crisis in Ukraine, which started on February 24, 2022, the Northern Corridor was blocked and serious problems were experienced in logistics flows. The energy crisis that occurred after the crisis in Ukraine, on the other hand, had a profound effect on Europe. In this process, Europe turned to the search for alternative suppliers in order to end its dependence on Russian gas. In this context, on July 18, 2022, an agreement was signed between the European Union (EU) and Azerbaijan to increase transportation of 8 billion cubic meters of natural gas carried through the Southern Gas Corridor to 20 billion cubic meters annually until 2027. However, this figure is below the EU's needs. This is an important opportunity for the official Baku. Because the cooperation to be developed in the Caspian, both in logistics and energy, will allow Azerbaijan to increase its geopolitical and geoeconomic gains. Moreover, the environment of stability in the South Caucasus after the end of the Second Karabakh War made the Caspian-centered projects safe initiatives. Therefore, the interest of the West in the region is increasing. In this context, Azerbaijan is deepening its cooperation with Kazakhstan, Turkmenistan and Uzbekistan. In this article, the increasing geopolitical and geoeconomic importance of Azerbaijan in the context of Caspian-centered cooperation is examined. The limitation of the article is that Russia and Iran, which are under the pressure of sanctions despite being littoral to the Caspian Sea, are not included in the analysis.

**Keywords:** Azerbaijan, Kazakhstan, Turkmenistan, Uzbekistan, Caspian Sea, Middle Corridor.

## 1. Introduction

Azerbaijan, which gained its independence on October 18, 1991 after the collapse of the Soviet Union, thus achieved the dream of a free country that it had established since its independence on May 28, 1918 under the leadership of Mammad Amin Rasulzada, and managed to transform a respected actor in regional and global politics in the 32-year period. Undoubtedly, the successful policies implemented under the leadership of Heydar Aliyev had a great impact on this success of Baku.

As it is known, Heydar Aliyev has implemented constructive policies by increasing the friends of Azerbaijan, based on mutual respect, and shaped by the win-win logic, and pioneered the development of Azerbaijan through projects that put economic cooperation at the center.

After Ilham Aliyev became the President of Azerbaijan, the country combined the accumulation of the past with the dynamism of the youth. In particular, the liberation of Karabakh, which was occupied in violation of international law for 30 years, has transformed Azerbaijan into a highly respected actor both in the Turkic World, in the geopolitics of the South Caucasus and in global politics.

The processes initiated in the region after the liberation of Karabakh and centered on cooperation made the Middle Corridor, a joint project developed by the Turkic World in the dimension of energy and logistics, more important than ever. Because the liberation of Karabakh made it easier for the region to become a safe route.

As it is known, the Middle Corridor refers to the line that provides the connection between China-Central Asia-Caspian Sea-South Caucasus-Europe (Valiyev, 2023, p. 34). Therefore, as stated above, the stability and security environment provided in the region after the Second Karabakh War made Caspian-centered cooperation processes more important than ever. Because the aforementioned corridor offers the shortest, safest and lowest cost route for exporting the goods produced by China, which is the production plant of the world, to Europe (Çelik & Erol, 2019, p. 18).

At the same time, the Middle Corridor is also very important for the European Union (EU) countries, which are looking for alternative suppliers, especially due to the energy crisis that emerged after the current crisis in Ukraine that started on February 24, 2022. As a matter of fact, the President of the EU Commission, Ursula von der Leyen, visited Baku on July 18, 2022, and during this visit, an agreement was signed between Leyen and Ilham Aliyev, which stipulates that Azerbaijan will increase the gas supply to Europe to 20 billion cubic meters per year until 2027 (Askeroğlu, 2022). This reveals the importance of Azerbaijan in the eyes of the West. Especially after the current crisis in Ukraine, this importance seems to have increased even more. But the issue is not limited to this. Because in addition to its own reserves, Azerbaijan is also in an extremely important geopolitical position with its Southern Gas Corridor dimension.

As it can be understood, the constructive role undertaken by the official Baku under the visionary leadership of Ilham Aliyev in the Caspian-centered cooperation processes, is the role of Europe and Asia; that is, it contributes to the integration of the Europe and Asia, the East and the West, and this increases the geoeconomic importance of Azerbaijan in particular and the Turkic World in general.

There are significant opportunities for the countries of the Turkic World, especially for Azerbaijan, to increase their gains. Because the international conjuncture is quite suitable



for Caspian-centered cooperation. Due to the blockage of the Northern Corridor after the the crisis in Ukraine, China has turned to the Middle Corridor.

The fact that the status problem in the Caspian has been resolved to a large extent also offers a critical advantage to the countries of the region in order to become the main energy supplier of Europe. The end of the occupation of Karabakh and the steady, albeit slow, continuation of negotiations on the agreement that will ensure permanent peace by registering the rightful victory of Azerbaijan, gives confidence to all actors in terms of the security of the corridors.

At this point, it should be stated that, although the opening of the Zangezur Corridor is delayed, the said corridor will definitely be opened. This will enable the establishment of an uninterrupted land connection between Türkiye and the Turkic World. In such environment, the importance of the Caspian-centered cooperation becomes much more critical. In this article, the increasing geopolitical and geoeconomic importance of Azerbaijan in the context of the Caspian-centered cooperation is discussed in the context of the developments after the the crisis in Ukraine.

In the article, within the framework of the Caspian-centered cooperation, the issues related to Russia and Iran, which are littoral states of the Caspian Sea, are not included. Because these two countries, which the West imposes sanctions, do not have the status of member or observer in the Organization of Turkic States at the same time. However, in this study, an examination is made within the scope of the Turkic World. Therefore, this situation constitutes the limitation of the article.

In this context, the article examines the processes carried out by Azerbaijan with Kazakhstan and Turkmenistan through the Caspian-centered cooperation. At the same time, it is seen that Baku has recently developed serious relations with the official Tashkent in terms of energy and logistics. Therefore, the article also includes Uzbekistan. Therefore, the article consists of three parts and deals with the processes carried out by Azerbaijan with Kazakhstan, Turkmenistan and Uzbekistan, based on the Caspian Sea.

## **2. Azerbaijan-Kazakhstan relations in the context of cooperation seeking in the caspian**

The official Astana has a will as strong as Baku in expanding and deepening the Caspian-centered cooperation. Because one of the aspects of Kazakhstan's foreign policy, which has been carrying out a multi-dimensional and multidimensional foreign policy that observes the balances between power centers since the period it gained its independence, is the West (Yuneman, 2023, p. 149).

It is known that Kazakhstan, in particular, made reforms to strengthen the state-nation unity, and thus the center-periphery relations, after the protests in January 2022, which entered the literature as the "Tragic January Events". These reforms also include economic liberalization and the country tries to attract foreign investment directly and indirectly by getting closer to the West. In other words, the value given to the West in Kazakhstan's foreign policy has increased.

Of course, one of the driving factors in Kazakhstan's rapprochement with the West is the Caspian-centered energy resources and in this context, the Middle Corridor. Especially after the crisis in Ukraine, Kazakhstan has tended to position itself as an alternative supplier. This has seriously accelerated the pursuit of Caspian-centered cooperation in Kazakhstan-

Azerbaijan relations.

As a matter of fact, it can be said that on August 18, 2022, Kazakhstan's KazMunayGas Chairman of the Board Magzum Mirzagaliyev and SOCAR Chairman Rovshan Najaf came together in Baku to discuss Caspian-centered infrastructure projects (Askeroglu, 2022). At the same time, in the contacts between Mirzagaliyev and Najaf, not only in the logistics dimension of the Middle Corridor, it has been clearly seen that it has come to the fore in terms of energy supply and security.

In the following process, the search for cooperation between the parties continued and the visit of the President of Kazakhstan Kassym-Jomart Tokayev to Baku to meet with the President of Azerbaijan, Ilham Aliyev, took place on August 24, 2022 (Day.az, 2023). This has clearly demonstrated that the two countries are heading towards the Middle Corridor in terms of energy exports, foreign direct investment and regional and interregional integration processes (Basaran, 2023).

As it can be understood, strengthening the connection between Kazakhstan's Khorgos Port and Baku Port will increase the importance of Azerbaijan at the point of corridors (Saunders, 2019). Because Azerbaijan will not only remain as an exporting country, but will also turn into an important route country by increasing the capacity of the said corridor within the framework of the Southern Gas Corridor. This includes oil. Surely, studies are carried out to sell Kazakh gas to Europe via the Baku-Tbilisi-Ceyhan and Baku-Supsa Petroleum Pipelines (Report.az, 2022). This means the consolidation of Azerbaijan's geoeconomic gains. In fact, one of the aims of Aliyev's constructive policy that prioritizes mutual interests is to centralize his country geopolitically and geoeconomically.

### **3. Azerbaijan-Turkmenistan relations in the context of cooperation seeking in the Caspian**

As mentioned above, after the crisis in Ukraine, the West turned to alternative energy suppliers and signed an agreement with Azerbaijan. However, it is not easy for the energy to be supplied by the official Baku to meet the expectations of the West. Therefore, the West has an expectation and wants to use the Trans-Anatolian Natural Gas Pipeline (TANAP) and Trans-Adriatic Natural Gas Pipeline (TAP) connection, that is the Southern Gas Corridor, by transporting Turkmen gas to Azerbaijan via the Caspian Sea and increasing the capacity of existing pipelines.

In fact, Turkmenistan has acted in line with the rhetoric of "Gas of Asia to Asia" for many years due to both the status problem in the Caspian Sea and the desire not to attract the reaction of Russia. As a matter of fact, China has become the most important customer of Ashgabat in the natural gas market. However, recently, the status problem in the Caspian has been largely resolved and the "Serdar" and "Kapaz" problems between Azerbaijan and Turkmenistan have been peacefully settled within the framework of the "Friendship Agreement" (Rahimov & Varan, 2021). Russia, on the other hand, has lost its European market to Asia, in other words, it has turned to the customers of Turkmenistan, especially China (Spivak, 2023).

As the integration process of the Turkic World gained momentum during this period, the official Ashgabat began to show more interest in its relations with Baku than ever before. Therefore, the relations between the parties tend to expand and deepen. Moreover, the

policies of Turkmenistan, which has the status of "Permanent Neutrality", gives confidence to all actors in the region (Erol, 2012, p. 15). Because the President of Turkmenistan Serdar Berdimuhamedow consistently maintains his traditional policy of peaceful integration of his country with the world.

This situation offers opportunities for Azerbaijan to become an important route country as well as being an energy exporter. As a matter of fact, on February 6, 2023, the governments of Azerbaijan and Turkmenistan signed a decree approving the "Agreement on Trade and Economic Cooperation between the Government of the Republic of Azerbaijan and the Government of Turkmenistan" (Silk Road Briefing, 2023). Therefore, in the relations between the two countries, an energy-centered cooperation is developing, centered on the Caspian Sea. Undoubtedly, both Azerbaijan and Turkmenistan have the opportunity to achieve maximum gain here.

To summarize briefly, it is possible to talk about the existence of a pragmatic relationship in Azerbaijan-Turkmenistan relations. Undoubtedly, the energy-centered convergence spreads to other sectors as well. Of course, logistics is the main area that will come to the fore in this sense. As a matter of fact, the agreement in question confirms this.

#### **4. Azerbaijan-Uzbekistan relations in the context of cooperation seeking in the Caspian**

Azerbaijan-Uzbekistan relations constitute one dimension of the Caspian-centered search for cooperation. Because the relations on the Baku-Tashkent line tend to expand and deepen. As a matter of fact, Uzbekistan is going through reform processes just like Kazakhstan, and the President of Uzbekistan, Shavkat Mirziyoyev, sees the West as an aspect of his multi-faceted foreign policy understanding and attaches particular importance to the development of relations with the EU countries. Of course, the Middle Corridor has an important place in this policy as well. Therefore, after the crisis in Ukraine, Azerbaijan-Uzbekistan relations are shaped by a realist and pragmatic logic that focuses on cooperation opportunities in various fields, especially in energy.

In this context, on May 18, 2023, a delegation consisting of representatives of Uzbekneftegas company based in Uzbekistan met with the Azerbaijan delegation led by SOCAR President Rovshan Najaf in Baku. At the said meeting, the parties focused on strengthening partnerships. This means that the Caspian-centered energy projects come to the fore. In other words, although Uzbekistan is not a riparian to the Caspian Sea, it is preparing to strengthen its connection with Azerbaijan through Kazakhstan. Because at the meeting in question, cooperation opportunities in various fields, including joint development of gas fields in Azerbaijan, were discussed. In this context, it was decided at the meeting to develop and strengthen the partnerships between the parties (Day.az, 2023).

At this point, it should be emphasized that; A geopolitical axis is forming in the Uzbekistan-Kazakhstan-Azerbaijan line and a cooperation process is taking place at the center of energy geopolitics. For this reason, it would not be correct to read the cooperation processes on the Baku-Tashkent line independently from the developments in Baku-Astana relations.

On the other hand, it should be noted that the search for a strong cooperation between

Azerbaijan and Uzbekistan is not limited to energy. For example, according to the information reported by Uzbekistan-centered press organizations on May 19, 2023, the official Tashkent is preparing to build an ultramodern cargo port in Baku Port. Undoubtedly, this project reveals that the relations between the parties have a tendency to expand and deepen in logistics and thus also in the Middle Corridor dimension. This is extremely important as it indicates that the capacity and potential of the Middle Corridor will increase (UPL 24: 2023). As a matter of fact, Baku-Tbilisi Ceyhan and Baku-Supsa Oil Pipelines and Baku-Tbilisi-Kars Railway reveal a strong strategic mind that provides China-Europe connectivity in terms of energy and logistics.

## **Conclusion**

The crisis in Ukraine, which started on February 24, 2022, had two important consequences that were felt globally. The first of these is the energy crisis that European countries feel deeply. The second is the blockage of the Northern Corridor, disrupting global trade flows. Of course, this situation has made the routes of China, which is the production workshop of the world, with Europe, and thus the routes connecting the East with the West, more important than ever. This means an increase in the importance of the Middle Corridor. In terms of energy, it has been observed that European countries, which want to end their dependence on Russian gas, focus on Caspian-centered projects.

In this sense, the agreement between the EU and Azerbaijan is very important. However, it is possible to say that the relevant agreement is a start. The process is not only for Azerbaijan as a natural gas exporter; Being a route country in the context of the Middle Corridor, it has increased its geopolitical and geoeconomic importance.

When it comes to the Caspian-centered cooperation processes, the cooperation of Azerbaijan, Kazakhstan and Turkmenistan comes to mind, due to the sanctions of Russia and Iran. But Uzbekistan is also home to important natural gas resources. At the same time, Uzbekistan is part of the Middle Corridor. For this reason, while the official Baku is getting closer to Astana and Ashgabat; On the other hand, it seeks ways to expand cooperation opportunities with Tashkent. Here, too, the opening of Uzbekistan to the Caspian via Kazakhstan comes to the fore as an important option.

As a result, the stability in the South Caucasus after the Second Karabakh War and the normalization processes carried out in the region made the Middle Corridor one of the most stable routes. This has accelerated the Caspian-centered cooperation processes in energy and logistics, especially after the crisis in Ukraine. Undoubtedly, the geopolitical and geoeconomic gains of Azerbaijan in particular and the countries of the region in general are increasing.

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## THE INNOVATIVE IMPACT OF DIGITALIZATION ON THE DEVELOPMENT OF TOURISM IN AZERBAIJAN

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The purpose of the study is to generalize the theoretical and practical principles of the digital transformation of tourism and to substantiate the prospects of using digital innovations to optimize the development of the tourism sphere of Azerbaijan in the conditions of modern challenges. During the research, dialectical and abstract-logical methods, methods of system approach, comparison, observation, analysis, synthesis, induction, deduction, etc. were used. It is substantiated that the existing tourism potential in the country and the state policy aimed at supporting this industry and improving the efficiency of tourism industry entities create prerequisites for its growth and contribute to strengthening the country's position on the world tourism market.

It has been proven that modern challenges, determined by trends in innovative development and the COVID-19 pandemic, significantly affect the development of tourism and its digitalization. The further development of tourism in Azerbaijan depends on the consolidated efforts of government bodies, the public, and businesses; to determine the need to develop complex and systemic measures, as well as algorithms for their implementation. The continuation of the digital transformation of the tourism sphere and the active use of innovative resources is a promising direction for economic development.

**Keywords:** Tourism, digitization, digital technologies, innovation, social networks, internet marketing.

## 1. Introduction

Tourism is an important factor in socio-economic development and one of the priority directions of economic and cultural development of many countries. Under the influence of the processes of globalization and integration, which determine the patterns of development of the modern world, tourism is one of those sectors of the economy that demonstrate the greatest growth. At the same time, this type of economic activity is extremely vulnerable to any shocks (economic and political crises, wars, military unrest, terrorist attacks, natural disasters, etc.). Digitization becomes a tool that allows for minimizing such a security threat as reducing the competitiveness of tourist services due to their low innovation (Chvertko & Kyryliuk, 2021).

Tourism in Azerbaijan is developing as an important attribute of modern lifestyle and culture, a form of international relations. This sphere of the country's economy is recognized as one of the priority and promising ones. Azerbaijan's tourism potential contributes to the country's entry into the world tourism market. Azerbaijan has a rich cultural heritage (more than 6,600 cultural monuments), historical monuments, and natural resources that attract the attention of tourists from all over the world. Favorable climatic conditions, therapeutic mineral waters, oil, and mud create ample opportunities for the development of health tourism. The presence of state nature reserves and national parks contributes to the development of natural, ecological, and exotic tourism. At the same time, having prerequisites for the proper development of tourism, the country loses somewhat in the competition with other countries of the world. According to the Global Tourism Competitiveness Index, which is calculated based on fourteen aggregated indicators, in 2019, Azerbaijan ranked 71st among 140 countries (World Economic Forum, 2019). In 2021, the country's place in overall rating changed to 63rd place among 117 countries. At the same time, the overall scores range was 3.8 in 2019, and 4 in 2021 (World Economic Forum, 2022).

Various aspects of the development of tourism were reflected in the scientific works of famous scientists. The trends, regularities, and economic relations formed in the process of formation and development of entrepreneurial activity in tourism are the subject of research A. Azizov. The author substantiates the recommendations for the effective development of business activities in the field of tourism in Azerbaijan (Azizov, 2022).

The question of the impact of digital technologies on the development of tourism is one of the most discussed in the scientific environment today, which is highlighted in the scientific works of scientists T. Marusei, V Makhovka, Apelt H., et al., I. Khatri. Scientists prove that under the influence of transitive transformation factors, the tourism system changes and acquires new features and qualities, the mechanisms of its functioning are modified and new opportunities for further transformation are determined (Mazaraki et al., 2021). Scientists analyze the challenges and opportunities of digitalization in tourism, how these challenges and opportunities affect different stakeholder groups, and discuss how they might be addressed (Dredge et al., 2019). However, the outlined issues are relevant and require further study.

## 2. Setting objectives

The purpose of the study is to generalize the theoretical and practical principles of the

digital transformation of tourism, as well as to substantiate the prospects of using digital innovations to optimize the development of the tourism sphere of Azerbaijan in the conditions of modern challenges.

During the research, dialectical and abstract-logical methods, methods of system approach, comparison, observation, analysis, synthesis, induction, deduction, etc. were used.

### 3. The results

The development of tourism is primarily facilitated by an effective state policy aimed at supporting the industry. As a result of the implementation of the socio-economic policy strategy initiated at the turn of the century by national leader Heydar Aliyev, several successful reforms were carried out in the tourism sector, which contributed to bringing the industry out of recession, attracting investments to promote the country's tourism potential, developing tourism infrastructure, improving services, etc. The Law «On Tourism», adopted on June 4, 1999, created the legal framework and contributed to the determination of the main directions of the development of the tourism industry in the country. On September 25, 2001, the country became an equal member of the World Tourism Organization.

Significant attention is paid to the development of tourism by the current President of the Republic of Azerbaijan, Ilham Aliyev. In particular, an important step for uniting the tourism industry around a common goal was the creation of such public associations in the country as the Association of Hotels of Azerbaijan, the Association of Guides, the Association of Travel Agencies of Azerbaijan, and others. This contributes to solving the problems that these tourism market subjects have in the course of their activities, protecting their interests, participating in local and international events, etc.

One of the multi-vector ways that ensure the development of domestic and foreign tourism was the adoption in 2016 of the «Strategic Roadmap for the Development of the Specialized Tourism Industry in the Republic of Azerbaijan», the simplification of the procedure for issuing electronic visas and the creation of the «ASAN Visa» system (Independent Azerbaijan).

The adoption of the updated Law «On Tourism» (February 8, 2022) significantly expanded the opportunities for further mobilization of innovative potential and modernization of business models in the field of tourism. In addition, an important factor in the further development of the industry is the order of the President of the Republic of Azerbaijan on the approval of the strategy «National priorities of socio-economic development of Azerbaijan 2030» dated February 2, 2021.

Currently, the development of tourism in Azerbaijan and the world is largely determined by the impact of the COVID-19 pandemic. The so-called «economic quarantine» caused an unprecedented drop in GDP indicators and led to a global decline in tourism activity. In Azerbaijan, according to official statistics for 2020, the share of tourism in GDP decreased by 1.2%, and revenue from international tourism amounted to 0.3 million USA dollars, which is 83.3% less than the previous year. The share of tourism in total exports decreased by 85% and amounted to 2% or 0.3 million dollars USA (in 2019 – 9% or 2 million dollars USA). Strict quarantine measures, border closures, restrictions on tourist trips, and a decrease in the income of the population – all affected the tourism sector, and as a result, this sector of the economy fell by 90% (The World Bank). 1.6 million tourists visited



Azerbaijan in 2022 (in 2019 – a record 3.2 million people). The share of tourism in the GDP of Azerbaijan in 2022 was 1.6% (2.4% in 2019). According to government data, in 2022, the expenditure of foreign tourists who visited Azerbaijan amounted to 788 million dollars USA (+2.7 times the rate of 2021). However, this is significantly less than the record figure of pre-pandemic 2019, when foreign tourists spent more than 1.7 billion dollars USA in Azerbaijan.

Because the economy will remain under the influence of this new reality for some time, the key direction of modernization of the tourism sphere at the current stage is the digital transformation of the tourism industry. Overcoming existing modern trends in tourism, formed under the influence of threats to its development, necessitates the active use of innovations, among which special attention should be paid to digital technologies and the informational positioning of the tourism sphere in the virtual space.

Digital transformations of the tourism system are embodied in: the formation of online platforms that act as information brokers and intermediaries (Expedia, Trip Advisor, Booking, etc.); the use of blockchain technology, and mobile applications; development of social media and distribution of tourist content through them; spread of corporate management systems of tourism business entities; introduction of virtual and augmented reality technologies (Mazaraki et al., 2021).

A radical change in technology, primarily in the field of the Internet, digital, mobile, and social platforms, leads to significant changes in customer requirements, patterns of behavior, and decision-making. This is facilitated by a significant increase in the number of users of the global Internet network and an increase in the volume of the Internet services market. In 2022, 66% of the world's population, or 5.3 billion people, will be Internet users (International Telecommunication Union, 2023).

The rapid development of innovative information technologies has significantly changed the behavior of consumers of tourist services. Nowadays, the vast majority of tourists are technically experienced, able to experiment and use an individual approach to shaping their trip. Promotion of their services by manufacturers on the Internet helps to find the necessary information aimed at the development of tourist experiences and meeting the needs of consumers. The strategic activity of the subjects of the tourism industry should be aimed at the immediate satisfaction of the demands of service consumers, and the formation and implementation of competitive services by diversifying and expanding their sales channels. Quick adaptation to innovative changes with the use of modern information technologies and digitalization elements, and improvement of the general model of communications contribute to attracting customers, improving the quality of service, and increasing the competitiveness of services. Information support of the tourist business and the use of digital technologies allows for optimizing and improving the processes of service production, changing the forms, and methods of offering, and providing services, to master new opportunities for the formation of competitive services.

The use of digital technologies ensures individuality, flexibility, availability of tourist products and services, fast communication between consumers and producers, and improves the quality and speed of receiving services, taking into account the individual needs of tourists. The implementation of digital technologies at the stages of the formation, promotion, and consumption of tourist products and services creates conditions for increasing the level of income from tourism, significantly improves services, and expands opportunities for all participants of the tourism market.

The use of new digital technologies and websites has greatly accelerated forms of human interaction through instant messaging, online forums, social networks, etc.

The toolkit of social networks is the most effective means of multilateral communication due to the provision of all possible means of interaction - videos, chats, images, blogs, etc. The use of social networks contributes to the promotion of tourism services due to proximity to the consumer, the possibility of receiving feedback, ease of use of networks, friendly interface, high efficiency, etc.

Consumers of travel services constantly use social networks to collect information about objects, services, and events, identify sellers, analyze and evaluate services, search for reviews, and compare prices. Through social networks, the image of business entities and destinations is formed, and operational communication and information exchange between them and service consumers are ensured, which helps to quickly satisfy the personal requirements of customers.

For consumers of travel services, social networks containing user-generated content are an important source of information that greatly influences their decision to purchase a service. Social networks allow users to join thematic communities and blogging platforms. In this way, tourists can find like-minded people, get to know each other, discuss all issues related to the topic of travel, exchange impressions, present and view photo reports, and help each other in choosing a service.

The development of social networks has completely changed the media landscape and advertising models, as the target audience has moved from the role of content recipients to its creators, distributors, and commentators (Rodinova, 2021). Thanks to the growing popularity of social networks, prerequisites are created for the emergence of new channels for the distribution of advertising messages about goods, services of the tourism and hospitality industry, and communication barriers are leveled.

One of the ways to optimize the marketing activities of enterprises in the tourism industry is the use of Internet marketing, in particular, marketing in social networks. Its main advantage is interactivity, targeting accuracy, and the possibility of detailed analysis, which allows you to significantly increase site conversion.

Implementation of Internet marketing tools: search optimization (SEO); contextual advertising; media advertising; SMO and SMM; viral marketing; direct marketing using e-mails and RSS feed and their adaptation to the components of the marketing policy allows the tourism industry to increase the number of orders, increase the productivity of personnel, improve the service system, reduce certain categories of costs, increase competitiveness.

It should be noted that the implementation of digital technologies largely depends on success in solving problems that hinder digital trends in the development of the national economy in general.

Among the factors hindering the development of digital technologies in the field of tourism in Azerbaijan, the following stand out: normative and legal (lack of normative and legal space regulating the contact of subjects in the process of transition to the digital field); financial and economic (it is very difficult for small and medium-sized tourism businesses to invest large amounts of money in the digitalization of this field of activity, and support and incentives are not provided); stability of the general situation (dissimilarity in the political and financial resources of the regions for unification in the digital space);

insufficient level of welfare of the population (impossibility of purchasing multifunctional gadgets, use of paid Internet services during tourist trips); digital illiteracy of the population (a significant number of people have no idea about the great possibilities of digital technologies or have incomplete knowledge). Eliminating all of the above factors will contribute to the sustainable development of digital technologies in the field of tourism in Azerbaijan (Azizov, 2022).

The development of the tourist market, based on the paradigms of the digital economy, can be implemented only if legislative, institutional, and fiscal barriers are removed; widespread use of tools for encouraging innovative activity, including state support through tax and financial instruments, etc.

#### **4. Conclusions**

The conducted research allows us to state that the development of the tourism industry depends significantly on the influence of external and internal destructive factors that create relevant risks and threats. The tourism industry must constantly adapt to new challenges, and find and improve appropriate mechanisms that will contribute to ensuring its integrity and sustainability. Further development of the national tourism sphere, and ensuring its security largely depends on the consolidated efforts of state bodies, the public, and business. Overcoming existing negative trends requires the development of complex and systematic measures, as well as algorithms for their implementation with the use of legal, financial, and innovative tools of influence on the tourism sphere. Active use of innovative digital resources will minimize security threats and increase the competitiveness of tourist services.

The continuation of the digital transformation of the tourism sphere and the active use of innovative digital resources is a promising direction for the development of Azerbaijan's economy shortly. Digitization of tourism business processes will become an effective lever capable of satisfying the interests and needs of all participants in tourism relations and contributing to the achievement of sustainable development goals.

The effectiveness of the implementation of digital technologies in the field of tourism is largely determined by the success of solving institutional, infrastructural, governmental, and other problems that hinder the digitalization of the economy of Azerbaijan in general and require a radical solution.

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## CHOOSING AN ORGANIZATIONAL AND ECONOMIC MECHANISM TO ENSURE THE FINANCIAL SECURITY OF GAS DISTRIBUTION COMPANIES

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The purpose of the article is to develop a scientific and methodological approach to the selection of an organizational and economic mechanism for ensuring the financial security of gas distribution enterprises, which takes into account the combination of their status as natural monopoly entities and enterprises, and to substantiate practical recommendations for its implementation.

A set of methods of scientific cognition was used, namely: the fundamental provisions of the theory of finance, probability theory and mathematical statistics, and the method of adaptive forecasting.

A scientific and methodological approach to the selection of an organizational and economic mechanism for ensuring the financial security of gas distribution enterprises is proposed, which, unlike the existing ones, is aimed at consistent and targeted implementation of a set of preventive, stabilization and radical measures, which allows for the prevention of financial danger, timely assessment, forecasting its level, as well as developing, implementing an appropriate program and monitoring its implementation.

The implementation of the proposed scientific and methodological approach in the practical activities of gas distribution enterprises involves the preparation of substantive information, analytical and methodological support, which consists in a comprehensive analysis of financial security.

**Keywords:** gas distribution companies, financial security, capital flow, threats, organizational and economic mechanism, adaptive forecasting.

## 1. Introduction

The fundamental changes in the natural gas market associated with the implementation of the requirements of the EU's Third Energy Package affect the activities of each market participant, including those of gas distribution companies.

The current conditions of functioning of gas distribution companies, namely, the presence of regulatory restrictions in determining tariff levels, which narrows the range of tools available to the management of enterprises to ensure the efficiency of functioning, the high social significance of these entities, trends in the implementation of energy efficiency programs and unsatisfactory financial condition, necessitate the diagnosis of problems of activity, identification of the most significant factors influencing its results, formation of forecasts for the development of gas distribution companies.

## 2. Literature review

Approaches to assessing the financial security of enterprises, the issues of methodology for forming a mechanism for ensuring their efficiency were considered in the scientific works of Ukrainian authors such as: G. M. Azarenkova (2006), O. I. Baranovsky (2009), T. G. Vasylytsiv (2012), O. I. Vivchar (2019), V. V. Lukyanova & Y. V. Shutyak (2013), S. I. Melnyk (2020), O. V. Nusinova (2011), A. S. Poltorak (2019), O. V. Susidenko (2015), A. V. Cherep (2013), O. V. Cherevko (2019), T. V. Momot (2015).

The following scholars have made a scientific contribution to the study of the functioning of natural monopolies in the oil and gas industry: V. B. Kropyvnytska & D. Magas (2022a), Y.A. Slyusarenko (2021), I. Chukaieva (2021). The following scientists have studied the issues of assessing the efficiency of gas distribution enterprises and developing recommendations for the formation of their development strategy: R. V. Mann et al. (2022), V. A. Topylo (2022), Z. M. Matsuk (2021).

The purpose of the article is to develop a scientific and methodological approach to the choice of an organizational and economic mechanism for ensuring the financial security of gas distribution enterprises, which takes into account the combination of their status as natural monopoly entities and enterprises, and to substantiate practical recommendations for its implementation.

## 3. Materials and Methods

A set of methods of scientific cognition was used to ensure the conceptual unity of the study. The methodological basis is the resource and functional approaches to the study of economic processes and phenomena, as well as the fundamental provisions of the theory of finance and probability theory and mathematical statistics.

To develop a scientific and methodological approach to the selection of an organizational and economic mechanism for ensuring the financial security of gas distribution enterprises, which takes into account the combination of their status as natural monopoly entities and enterprises, the method of adaptive forecasting is used.

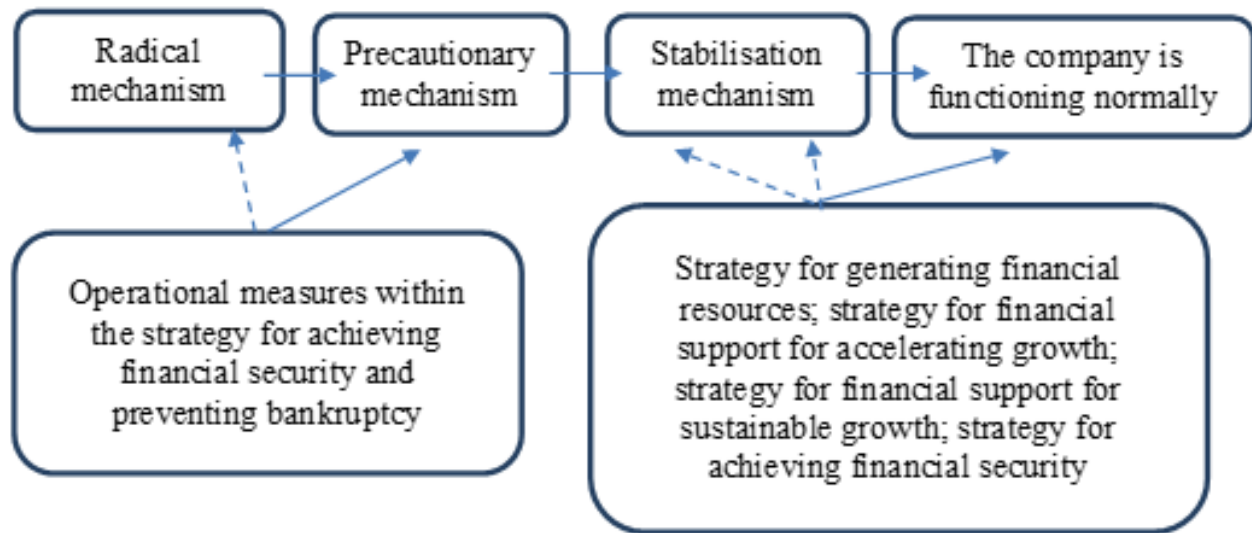
The information base of the study is the annual financial statements of gas distribution companies of Ukraine; scientific works of Ukrainian and foreign scientists on ensuring financial security on the issues of this study.

#### 4. Results

Taking into account the depth of the crisis at the enterprise, it is necessary to choose a defining strategy aimed at achieving the main goal - normal functioning. The choice of the optimal type of crisis management mechanism at the researched enterprises is proposed to be carried out taking into account the mechanism of phased withdrawal of the enterprise from the crisis (Figure 1).

**Figure 1.**

*Flowchart of the phased recovery of gas distribution companies from the crisis*



Source: Own Research

If they are used effectively, the company proceeds to implement the preventive mechanism; if they are ineffective, it is necessary to review the measures or proceed to the liquidation procedure (V. B. Kropyvnytska & D. Magas (2022b)).

Similarly to the previous stage, in case of effective application, the transition to a stabilization mechanism or a radical one. There are three models used in financial analysis to identify the anti-crisis potential of gas distribution companies (Table 1).

In the process of financial diagnostics of the crisis state of enterprises, it is very important to study the dynamics of key performance indicators over a certain period, most often the last 5-8 years. This is so important because it allows you to identify the time when the company began to deteriorate its performance. Hence, it is relatively easier to find the causes of the crisis, since the approximate time period is known.

The harmonic weights method is an adaptive forecasting method based on the principle of different information values of individual levels of the dynamics series for calculating the forecasted indicator. Unlike the exponential smoothing method of Bitil Shosh, Romeo Mano, and Armel Anamali, the harmonic weights method uses a moving trend rather than a moving average.

Before applying the harmonic weights method, it is necessary to check the initial series of dynamics for the absence of sharp jumps and the sufficiency of the information base for forecasting.



**Table 1.**

*Basic models of financial analysis to identify anti-crisis potential at gas distribution companies*

Model name	Structural elements	Advantages of use
Descriptive (descriptive) models	It is based on financial statements: vertical and horizontal analysis of financial statements, building a system of balance sheets, and a system of analytical ratios.	They are the most commonly used in financial analysis.
Normative models	It is based on the necessary calculated indicators against which the actual results obtained are compared, i.e. there is a system of standards that defines the desired and satisfactory state of the enterprise as the goal of activity, and the analysis of the results obtained allows to determine the degree to which the enterprise has achieved this state	They are used mainly for internal financial analysis.
Predictive models (forecasts)	Situational analysis models, dynamic analysis models, critical models	They allow you to investigate the impact of various factors on the final results, the possibility of obtaining break-even financial statements.

Source: Compiled according to scientific approaches (Aditi N. Kamath et al., 2022; Jarmila Horvathova et al., 2022; Yeletskiyh S. Ya, 2014)

The first step in implementing the harmonic weights method is to form phases. A phase consists of  $k$  (usually 3 or 5) levels of the initial dynamics series. The first phase is formed by the levels  $y_1, y_2, \dots, y_k$ , the second phase  $y_2, y_3, \dots, y_{k+1}$ , and the last phase is formed by  $y_{n-k+1}, y_{n-k+2}, y_n$ . Obviously, the number of phases formed will be equal to  $k = n - k + 1$ . For each phase, we use the least squares method to find linear regression equations (fluid trend equations):

$$y_i(t) = b_{0i} + b_{1i}t \quad (i = \overline{1, K}; t = \overline{1, 1 + K - 1}). \quad (1)$$

Based on the found trends, the average values of the current trend are calculated at the points  $i = \overline{1, n}$ . To perform the next steps, it is necessary to test the assumption that deviations from the fluid trend are random and represent a stationary process. For this purpose, an autocorrelation error function is used. If the above assumption is met, the next step in implementing the harmonic weights method is to calculate the average increments. First, the increments are calculated using the following formula:

$$w_{t+1} = \bar{y} * (t + 1) - \overline{y(t)}. \quad (2)$$

Then we find the average growth using the formula:

$$\bar{w} = \sum_{t=1}^{n-1} C_{t+1} * w_{t+1}. \quad (3)$$

Values  $C_{t+1}$  – harmonic coefficients, which are calculated on the basis of harmonic

weights. To determine the harmonic weights, use the ratio:

$$m_{t+1} = \sum_{i=1}^t \frac{1}{n-i}, \quad (4)$$

$$m_{t+1} = m_i + \frac{1}{n-t} \quad (t = \overline{1, n-1}). \quad (5)$$

The earliest information is given weight  $m_2 = \frac{1}{n-1}$ . The harmonic coefficients are determined by the formula:

$$C_{t+1} = \frac{m_{t+1}}{n-1}. \quad (6)$$

The point forecast is calculated as the sum of the last value of the trend series and the average growth:

$$y_{t+1}^{\text{прогноз}} = \bar{y}(t) + \bar{w}. \quad (7)$$

The confidence interval of the predicted value is found using the Chebyshev inequality for a random variable  $w_{t+1}$ :

$$P|w_{t+1} - E(w)| > a\sigma_w < \frac{1}{a^2}, \quad (8)$$

where  $a$  is a given positive integer;

$\sigma_w$  is the standard deviation of a random variable estimated to be:

$$\sigma_w = \sqrt{\sum_{t=1}^{n-1} C_{t+1} (w_{t+1} - \bar{w})^2}. \quad (9)$$

The confidence limits for the forecast value of the indicator will be as follows:

$$y_{n+\tau}^{\text{прогноз}} - A(\tau)\sigma_w \leq y \leq y_{n+\tau}^{\text{прогноз}} + A(\tau)\sigma_w, \quad (10)$$

where  $\tau$  is the forecasting horizon.

The value of  $A(\tau)$  is calculated using the formula:

$$A(\tau) = a \sum_{t=1}^{t+1} C_{n-t+1}. \quad (11)$$

The application of the mathematical apparatus and the proposed algorithm for phased withdrawal of an enterprise from the crisis state makes it possible to calculate the forecast values of the integral indicator of efficiency of the crisis management mechanism, which will demonstrate the state of enterprises in the absence of active anti-crisis actions and inert functioning (Bitila Shosha et al., 2022; Omolayo Sunday Kayode et al., 2022; Maksym W. Sitnicki et al., 2022).

The results of the calculations are presented in Tables 2-5.

**Table 2.**

*Calculation of Forecast Values of the Integral Indicator of Efficiency of the Crisis Management Mechanism at PJSC “Vinnytsiagas”*

Year	Integral indicator (y)	Phases of the current trend	$a_0$	$a_1$	$\bar{y}_t$	$\overline{w_{t+1}}$	$m_{t+1}$	$C_{t+1}^n$
2013	0,499				0,458			
2014	0,445			0	0,504	0,046	0,143	0,020
2015	0,635	2012 2013 2014	-136,19	0,068	0,593	0,089	0,310	0,044
2016	0,604	2013 2014 2015	-158,79	0,079	0,620	0,026	0,510	0,073
2017	0,644	2014 2015 2016	-8,151	0,004	0,663	0,043	0,760	0,109
2018	0,767	2015 2016 2017	-162,84	0,081	0,726	0,063	1,093	0,156
2019	0,645	2016 2017 2018	-0,413	0,001	0,693	-0,033	1,593	0,228
2020	0,689	2017 2018 2019	79,004	-0,04	0,661	-0,032	2,593	0,370
2021	0,660	2018 2019 2020	-14,312	0,007	0,672	0,011	3,593	0,513
2022	0,710	2019 2020 2021	-20,673	0,011	0,697	0,025	4,593	0,656
2023	0,705	Forecast	0,71					
2024	0,728	Forecast	0,73					
2025	0,752	Forecast	0,75					

Source: Compiled from the financial statements of gas distribution companies (PJSC “VinnytsiaGas”, 2023; PJSC “Chernihivgaz”, 2023; PJSC “Kharkivgaz”, 2023)

The results of Table 2 indicate a negative trend in the development of crisis phenomena at PJSC “Vinnytsiagas” and confirm the need for a radical mechanism of crisis management.

The results of Table 3 indicate a negative trend in the development of crisis phenomena at PJSC “Chernihivgaz” and confirm the need for a radical mechanism of crisis management.

**Table 3.**

*Calculation of the Forecast Values of the Integral Indicator of the Efficiency of the Crisis Management Mechanism at PJSC “Chernihivgaz”*

Year	Integral indicator (y)	Phases of the current trend	$a_0$	$a_1$	$\bar{y}_t$	$\overline{w}_{t+1}$	$m_{t+1}$	$C_{t+1}^n$
2013	0,293				0,304			
2014	0,356				0,328	0,024	0,143	0,02
2015	0,353	2012 2013 2014	-59,842	0,030	0,386	0,058	0,310	0,04
2016	0,552	2013 2014 2015	-197,10	0,098	0,540	0,154	0,510	0,07
2017	0,630	2014 2015 2016	-277,08	0,138	0,589	0,049	0,760	0,10
2018	0,484	2015 2016 2017	69,297	-0,034	0,553	-0,036	1,093	0,15
2019	0,753	2016 2017 2018	-123,88	0,062	0,688	0,135	1,593	0,22
2020	0,837	2017 2018 2019	-354,58	0,177	0,868	0,180	2,593	0,37
2021	0,850	2018 2019 2020	-96,317	0,048	0,862	-0,006	3,593	0,51
2022	0,880	2019 2020 2021	-42,194	0,021	0,877	0,015	4,593	0,65
2023	0,879	Forecast	0,879					
2024	0,881	Forecast	0,881					
2025	0,883	Forecast	0,883					

Source: compiled from the financial statements of gas distribution companies (PJSC “VinnytsiaGas”, 2023; PJSC “Chernihivgaz”, 2023; PJSC “Kharkivgaz”, 2023)

The results of Table 4 indicate a negative trend in the development of crisis phenomena at PJSC “Kharkivgaz” and confirm the need to apply a stabilization mechanism of crisis management.

With a view to selecting crisis management tools that are adequate to the state of crisis phenomena at enterprises, the article proposes an interpretation of the boundaries of the integral indicator of efficiency of the crisis management mechanism.

**Table 4.**

*Calculation of Forecast Values of the Integral Indicator of Efficiency of the Crisis Management Mechanism at PJSC “Kharkivgaz”*

Year	Integral indicator (y)	Phases of the current trend	$a_0$	$a_1$	$\bar{y}_t$	$\overline{w_{t+1}}$	$m_{t+1}$	$C_{t+1}^n$
2013	0,549				0,567			
2014	0,711				0,709	0,141	0,14	0,02
2015	0,761	2012 2013 2014	-212,74	0,106	0,727	0,018	0,310	0,04
2016	0,615	2013 2014 2015	96,96	-0,048	0,680	-0,046	0,510	0,07
2017	0,811	2014 2015 2016	-49,13	0,025	0,764	0,084	0,760	0,11
2018	0,714	2015 2016 2017	-98,81	0,050	0,695	-0,069	1,093	0,16
2019	0,529	2016 2017 2018	284,63	-0,141	0,611	-0,085	1,593	0,23
2020	0,791	2017 2018 2019	-77,31	0,039	0,717	0,106	2,593	0,37
2021	0,580	2018 2019 2020	-51,17	0,026	0,659	-0,058	3,593	0,51
2022	0,570	2019 2020 2021	223,55	-0,111	0,536	-0,123	4,593	0,66
2023	0,539	Forecast	0,539					
2024	0,541	Forecast	0,541					
2025	0,543	Forecast	0,543					

*Source:* compiled from the financial statements of gas distribution companies (PJSC “VinnytsiaGas”, 2023; PJSC “Chernihivgaz”, 2023; PJSC “Kharkivgaz”, 2023)

The use of an integral indicator of the effectiveness of the crisis management mechanism makes it possible to increase objectivity in assessing the probability of bankruptcy of gas distribution companies in Ukraine by taking into account non-financial indicators that directly affect the financial condition of the company (Dica Lady Silvera et al., 2022; Enni Savitri et al., 2021). The dynamics confirms the real state of enterprises and correlates with the results of the methods of assessing the probability of bankruptcy, which are most appropriate for Ukrainian enterprises (Isabel Alzate et al., 2022; Novice Patrick Bakehe et al., 2021).

## 5. Summary and Conclusion

If the value of the integral indicator of the effectiveness of the crisis management mechanism of gas distribution enterprises is within the range  $[0-0.3]$ , it is recommended to use the following preventive tools:

- support for investment in production processes;
- motivation of shareholders;
- justification of the feasibility of investment projects;
- maintaining solvency by controlling customer payments;
- optimization of production costs;
- revision of the financial management system; formation of reserve funds to accumulate financing for the necessary increase in current and non-current assets to ensure high production growth rates;
- controlling the dynamics of short-term liabilities; increasing own funds by issuing shares or attracting investments.

If the value of the integral indicator of the effectiveness of the crisis management mechanism of gas distribution enterprises is in the range of  $(0.3-0.6]$ , it is recommended to use the following stabilization tools:

- balancing the ways of attracting financial resources to minimize risks and ensure the expansion of sales volumes;
- selection of investment projects by payback period that matches the market growth rate;
- management of accounts receivable and accounts payable;
- limiting the growth of short-term liabilities compared to long-term ones;
- improving the efficiency of current production activities;
- increasing the share of equity in working capital; maintaining solvency by controlling customer payments;
- optimization of production costs;
- revision of the financial management system;
- formation of reserve accumulation funds;
- selection of flexible methods for renewing production assets;
- reduction of payments made from profits;
- optimizing the structure of assets and achieving high intensity of their use;
- diversification of suppliers;
- increasing the intensity of resource use;
- optimization of pricing policy;
- restructuring of the short-term loan portfolio with a part of them being converted to long-term loans.

If the value of the integral indicator of the effectiveness of the crisis management mechanism of gas distribution enterprises is within the range  $(0.6-1]$ , it is recommended to use the following radical tools:

- saving investment resources by selecting promising business projects and conserving capital-intensive ones;
- insurance of financial risks to cover the equity capital deficit;
- achieving rhythmic cash flows;
- limiting the growth of current liabilities;
- increasing the share of quickly liquid assets;
- saving, reducing and strictly controlling operating expenses;
- maintaining the efficiency of capital use;
- reduction of payments from profits;
- taking measures to collect receivables;
- reducing the volume of financial transactions in the most risky areas of activity;
- covering losses, preventing their accumulation, selling unused assets; prolonging financial liabilities;
- liquidation of the portfolio of short-term financial investments; implementation of anti-crisis rehabilitation and restructuring).

The projected values of the integral indicator indicate the effectiveness of the mechanism at all enterprises, except for PJSC “Chernihivgaz” and PJSC “Lvivgaz”, so recommendations for the latter should be based on prompt anti-crisis actions. The results of the calculations make it possible to conclude that in the absence of adequate anti-crisis measures, the functioning of enterprises will be negatively affected.

For PJSC “Kharkivgaz”, the forecast values are minimal, but the results indicate the presence of crisis phenomena and the inability to overcome their consequences on their own. Thus, based on the forecasted values of the integral indicator of the effectiveness of the crisis management mechanism, it is recommended to apply a radical crisis management mechanism for PJSC “Vinnytsiagaz” and PJSC “Chernihivgaz”; and a stabilization crisis management mechanism for PJSC “Kharkivgaz”.

The results of the study indicate the existence of crisis phenomena at enterprises during the analyzed period and the need to implement a crisis management mechanism, which is confirmed by the forecast values of the indicators.

The development of measures aimed at achieving efficient operation involves, at the first stage, the preparation of substantial information, analytical and methodological support, which consists in a comprehensive analysis of the activities of a gas distribution enterprise by its financial, economic, technical, technological, socio-economic indicators. Based on the results of the analysis, it is determined that at the current stage of development of gas distribution enterprises, the mechanism for ensuring the efficiency of functioning is a system of interrelated goals, objectives and measures to improve the efficiency of each subsystem of enterprise management.

Taking into account energy sector development trends caused by the spread of energy efficiency programs and harmonization of legislation with the requirements of the Third Energy Package, conducting a comprehensive analysis of financial and non-financial performance indicators and their interpretation, monitoring the dynamics of factors affecting the income and expenses of enterprises and their forecasting constitute conceptual approaches to the development of a mechanism for ensuring the efficiency of gas distribution companies. Ensuring the effectiveness of enterprise personnel management,

transformation of the gas distribution network infrastructure, and transition to incentive-based tariff setting are the main areas of the mechanism development, the coordinated implementation of which is aimed at achieving the efficiency of gas distribution enterprises. At this stage, the efficiency of gas distribution companies primarily depends on the implementation of systemic changes, including the transition to a new tariff setting model and the attraction of non-tariff investments for network development.



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## DEVELOPMENT OF LOGISTICS AND TRADE, THE IMPACT OF INTERNATIONAL TRANSPORT CORRIDORS ON THE ECONOMIC DEVELOPMENT OF STATES

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The article discusses the concept, goals of creation and general characteristics of international transport corridors. The authors provide a brief description of the prerequisites for the formation and development of international transport corridors and also consider the contribution of international transport corridors to the development of the national economy of the states participating in the transport system in terms of micro and macroeconomic indicators.

**Keywords:** Transport corridors, transit trade, scientific-technical cooperation, free industrial economic zone, world economy.

## 1. Introduction

By the 21st century, as a result of the process of globalization, the transport logistics system and international transit trade routes began to gain significant geostrategic importance. Therefore, connecting the international transit corridors of Central Asia with trade routes in the Middle East region has become an increasingly important issue in recent years. To establish a single transit corridor connecting Central Asia and the Middle East region and to show the prospects of this strategic trade route, the transport of countries in the Middle East region such as Oman, Qatar, UAE, Kuwait, Bahrain, and Saudi Arabia it will be appropriate to analyse the logistics system. It is well known that there are more than forty countries in the world that do not border the oceans. Uzbekistan and Liechtenstein are not only landlocked but only Border States that are also landlocked. Transport is an important link in the economy of any country. Even though Uzbekistan does not have direct access to the sea, the country is trying to actively participate in world trade. The world experience of developed countries shows that the maximum efficiency in the development of the transport and logistics sector can be provided by special complexes of infrastructure facilities and services, which today are called "logistics centres" and "transport terminals". This creates new opportunities and challenges. Uzbekistan is well located in terms of transit flows, the historical Silk Road passes through it, connecting Asia, the Middle East, and Europe. At the moment, several Central Asian states are positioning themselves as transit countries, but these countries need to cooperate and coordinate their efforts with each other. This means a careful approach to the choice of corridors in which funds are invested. In addition, countries should focus not only on international corridors, but also on local transport connectivity, or the so-called logistical interconnection, between hotel cities, enterprises, and also between countries in the region.

The general economic development of any region largely depends on the level of its transport development. And there are very important international transport corridors here. They connect different countries, providing economic, cultural, and scientific-technical cooperation. But international transport corridors - no here and now will be only economic benefits. It is also a guarantee of security and successful development of the country for many years to come. Uzbekistan has an excellent location in terms of transit flows, the historic Silk Road connecting Asia, the Middle East, and Europe passes through it. Currently, several countries in Central Asia see themselves as transit countries, but they should cooperate and unite their efforts. This means that investment channels should be chosen carefully. In addition, these countries should pay attention not only to international corridors but also to local transport connections, that is, connections between individual cities, enterprises, and countries in the region. Uzbekistan is one of the leading countries in terms of fruit production per capita, but establishing exports remains a problem. Uzbekistan has to pass through the territory of at least two countries to access the sea, and this hurts entering the world market. A country cannot change its geographical location, but the government can solve it by implementing an effective transport policy aimed at reducing transport costs and increasing the speed of transport.

Although some developed countries have been pursuing a policy of economic protectionism in recent years (for example, the current government of the USA), in practice, the process of globalization in the world economy has not slowed down. Major changes in the world market require not only Uzbekistan but also our entire region to be ready for the

changes taking place. Countries such as China and India, whose position in the world community is growing, are also increasing their role in the global economy. The fact that our region is in the center of an important transport corridor connecting Asia with Europe is both an invitation and an opportunity for us. Projects like One Location - One Road will be an opportunity to improve our infrastructure together with partners, to develop several areas related to transport and logistics, and at the same time, it will be a challenge for local manufacturers to increase their competitiveness. 42,530 km of highways and 4,500 km of railways (150 km per 10,000 km) pass through the territory of Uzbekistan and connect to important transport corridors of the region. As a transit country, it is especially important for Uzbekistan to enter the Islamic Republic of Afghanistan (Trans-Afghan international transport corridor) and to enter the Republic of Tajikistan through Afghanistan to the ports of Bandar Abbas and Chobahar. Andijan-Osh-Saritosh-Irkeshtom-Kashgar corridor, which is increasing in importance every year, is one of the biggest projects in the history of the world and is part of the Belt and Road Initiative (BRI) proposed by the People's Republic of China. for proper participation and to connect China with other regions through the roads passing through the territory of our country.

Analyzing the development of the system of international economic relations, one cannot ignore the phenomenon of international economic organizations. Today, there is hardly a country that does not participate in the activities of one or another international economic organization. The development of the countries of the world community is characterized by the constant expansion of their mutual economic ties. This process led to the creation of an international economy - a multifaceted and complex phenomenon that expresses the highest stage in the development of social production and functions as a systemic entity at the international level. The countries participating in the development of the international economy naturally play different roles in this process and solve different problems. However, in this case, as a rule, the main goal is pursued - to maximize the benefits of the total economic potential of the world community. International economic organizations have become a global, all-encompassing phenomenon that has a multifaceted impact on the world economy and politics (Arifdzhanova, 2022).

## **2. The main forms of foreign economic relations and transport corridors**

The active development of the foreign economic relations of the Republic of Uzbekistan in many cases depends on the solution of the existing problems faced by the entire Central Asia regarding the development of the foreign trade cargo transportation system. After the collapse of the USSR, the number of landlocked countries reached 29, and the Republic of Uzbekistan occupies a special place in this, as it is one of the two countries in the world separated from the world ocean by at least two national territories. Before becoming independent, Uzbekistan could carry out its foreign economic relations through the following three seaports - ports in Ilichevsk (exit to the Black Sea), St. Petersburg (exit to the Baltic Sea) and Vladivostok (exit to the Far East ports), from the republic the distance to these ports was 3,000, 4,300 and 8,000 km, and the cost of shipping would increase. However, during the years of independent development of the country, thanks to the purpose-oriented policy of the state leadership, the situation in this direction has changed radically. As a result of the active measures of the Government of the Republic of Uzbekistan and the coordinated work of official ministries and agencies in the search for alternative

transport corridors for the transportation of foreign trade goods and their effective use, a network of international transport corridors was established and is being improved (Arifdzhanova, 2021).

Currently, foreign trade cargo transportation of the Republic of Uzbekistan is carried out through the following main transport corridors:

Corridor 1 - in the direction of the ports of the Baltic countries (via transit from Kazakhstan and Russia) — Klaipeda (Lithuania), Riga, Liepaja, Ventspils (Latvia), Tallinn (Estonia);

Corridor 2 - in the direction of European Union (EU) countries, through Belarus and Ukraine (via transit from Kazakhstan and Russia) — the border of Chop (Ukraine) and Brest (Belarus);

Corridor 3 - to the Ukrainian port of Ilichevsk (via transit from Kazakhstan and Russia), with exit to the Black Sea;

Corridor 4 - in the direction of the Transcaucasian Corridor, known as the TRACEKA Corridor (via transit from Turkmenistan, Kazakhstan, and Azerbaijan), with exit to the Black Sea;

Corridor 5 - to the Iranian port of Bandar Abbas (through transit from Turkmenistan), with exit to the Persian Gulf;

Corridor 6 - through the Kazakhstan-China border in the eastern direction (Dostiq/Alalshankou) to the eastern ports of China, as well as to Nakhodka, Vladivostok, and other ports of the Far East;

Corridor 7 - with access to Chinese ports (through transit from Kyrgyzstan) to the Yellow, East China, and South China seas;

Corridor 8 is a southern alternative transport route from Afghanistan through transit to the ports of Bandar Abbas, Chakhabhar (Islamic Republic of Iran, EIR), Gwadar, and Karachi (Islamic Republic of Pakistan, PIR) in connection with the settlement of the Afghan issue.

Also, to have reliable exit corridors to the seaports of the Republic of Uzbekistan in several directions, to realize the transit opportunities of the economic-geographical region by connecting with regional transport systems in different parts of Europe, Turkmenistan in the field of transport, Kazakhstan, the Russian Federation, China, Azerbaijan, Georgia, Iran, Oman, and other countries are establishing extensive cooperation. The first Termiz Mazari Sharif railway in the territory of Afghanistan, built with the help of our country, was the first stage of creating the shortest transport exit from Uzbekistan to the ports of the world ocean in the southern direction. Unfortunately, the instability of the geopolitical situation in Afghanistan has indefinitely suspended the construction of transport highways planned from the territory of this country to the Indian Ocean.

The strong ties of friendship and brotherhood of the peoples of Uzbekistan and Azerbaijan emanating from the depths of centuries, and the proximity of cultures, languages, religions, and traditions serve as a good basis for broad and mutually beneficial cooperation between the countries. The establishment of long-term and sustainable trade and economic relations is in the mutual economic interests of the two countries. In the future, additional measures will be taken to ensure that the level of trade, economic, scientific, and technical, as well as bilateral cooperation in other areas, is consistent with the potential and opportunities of the dynamically developing market economies of Uzbekistan and

Azerbaijan. At the same time, it was noted that the development of direct ties between the economic entities of the parties will be encouraged by creating favorable economic, financial, and legal conditions for entrepreneurial activity, increasing the opportunities for goods and services to enter world markets, as well as supporting the organization of business forums aimed at strengthening contacts between entrepreneurs two countries. Noting that mutual investment is one of the factors of economic cooperation, the heads of the two states agreed to support, protect and develop investments in energy, trade, industry, engineering, agriculture, transport, and communications, as well as in other areas of mutual interest. Today, Uzbekistan supplies vehicles, non-ferrous metals, electrical and mechanical devices, various optics, and agricultural products to Azerbaijan, and provides services in transport, tourism, and other areas. Azerbaijan's export to Uzbekistan mainly consists of mechanical devices, medicines, plastics, sugar, confectionery, various organic and chemical compounds, tanning, and dye extracts. In the field of civil aviation, the two countries are actively cooperating in such areas as the supply of spare parts for aircraft, the repair and maintenance of aircraft, and the training of flight and engineering personnel. The investment potential of the Navoi Free Industrial Economic Zone also provides good opportunities for deepening cooperation between the two countries. The joint construction of new production facilities here, and work in the field of intercontinental air transportation in the future will be especially beneficial for Uzbekistan and Azerbaijan (Vahabov, 2014).

### **3. Conclusion**

Uzbekistan is a developing independent state with a rich historical and cultural heritage. A big plus is the development of the economy of Uzbekistan and the establishment of the state as a full partner in the world community. It would be finding the shortest way to access the maritime shipping route. Transit transportation and the ever-increasing pace of development of Chinese industry suggest that today, more than ever, the way is important, the new great Silk Road connecting Europe and Asia. Of course, this will strengthen the position of the Republic of Uzbekistan in the world market. Azerbaijan and Uzbekistan are linked by relations, the roots of which go back centuries. Potential opportunities in the economy and other areas of the two countries are used both for mutual development and regional development. Azerbaijani entrepreneurs take part in various tenders held in Uzbekistan. Active business cooperation is also traditional in the production of building materials.



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## A CAUSAL RELATIONSHIP BETWEEN ENERGY CONSUMPTION AND ECONOMIC GROWTH IN TURKMENISTAN

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This study investigates the impact of energy consumption (EC) and economic growth (GDP) using econometric approaches for Turkmenistan. Annual data from 1992 to 2019 are used. The relationship between economic growth and electricity consumption variables is investigated using the cointegration test and Granger causality test. The results indicate the existence of a unidirectional causal relationship between economic growth (GDP) to electricity consumption (EC) and there is no long-run relationship between electricity consumption and economic growth in Turkmenistan. In this case, it is recommended to save energy and export electricity surplus.

**Keywords:** Energy consumption; economic growth; cointegration; Granger causality, unit root.

## 1. Introduction

Electricity is a popular and convenient source of energy with a low environmental impact. A continuous increase in electricity consumption is a key indicator of improving people's standard of living.

The energy policy of Turkmenistan aims to become a major international energy provider by further exploiting its large reserves of major hydrocarbon resources while continuing to promote clean and efficient domestic energy production. Turkmenistan is one of the most energy-rich countries in the world, with the sixth-largest reserves of natural gas and the world's fourth-largest reserves of oil. The Government of Turkmenistan has implemented a range of measures and initiatives to expand its energy sector and attract foreign investment.

There are four different types of relationships between electricity consumption and economic growth. The first type suggests that electricity consumption causes economic growth. If this assumption is correct, then a decrease in electricity consumption does slow economic growth. The second type concludes that economic growth causes electricity consumption. In this case, it means that measures to save electricity consumption do not affect economic growth. It also characterizes the low dependency of the economy on energy. A constant increase in economic growth leads to a constant increase in electricity consumption. A third type concludes that there is a bi-directional causal relationship between electricity consumption and economic growth. A two-way likelihood ratio means that the two are influenced by each other. A fourth type argues that there is no causal relationship between electricity consumption and economic growth. In this case, electricity consumption conservation measures mean that there is no effect on economic growth, or that economic growth also has no effect on electricity consumption.

## 2. Literature review

There have been numerous studies that have examined the relationship between energy consumption and economic growth. Many of these studies find that there is a strong correlation between these two variables, with higher levels of energy consumption being positively associated with higher levels of economic growth. These studies have provided evidence both for an “energy-led” growth model and an “endogenous” growth model, in which energy is an input for economic growth. Further studies have examined how changes in energy prices affect economic growth and different types of energy sources influence economic performance. The results of these studies have been used to inform policy decisions related to energy and economic growth.

Ibrahim & Sumaya (2021) tested the existence of short-run and long-run causality between, residential electricity consumption, industrial electricity consumption, and economic growth in the Kingdom of Saudi Arabia. They found a unidirectional relationship, running from economic growth to industrial electricity consumption by adopting Granger causality and cointegration analysis. They found that an energy-conservative policy would have little or no effect on economic growth. Therefore, they recommended policymakers consider expanding their energy-mix alternatives, to cope with the future industrial electricity demand arising from

increased economic growth. Farzana & Mohammed (2016) examined the causal relationships between energy consumption, income, and energy prices for African countries using Johansen's maximum-likelihood test of cointegration and error-correction model. A long-run cointegrating relationship found the existence of bidirectional Granger causality for Ethiopia, Morocco, and Mozambique. The result suggested unidirectional Granger causality running from income to energy consumption for Angola while no Granger causality for the case of Tanzania. They suggested that countries regardless of their level of income and development should direct their energy conservation policies based on the energy-output causality relation. Kalyoncu et al., (2013) investigated the relationship between energy consumption and economic growth in Georgia, Azerbaijan, and Armenia during the period 1995–2009. They employed The Engle-Granger cointegration and Granger causality tests to analyse the causal relationship between energy consumption and economic growth. For Georgia and Azerbaijan, found these two variables are not cointegrated. In the case of Armenia, two variables were cointegrated and causality analysis found that there was unidirectional causality from per capita GDP to per capita energy consumption for Armenia. Khan, Mudassir et al., (2015) examined the relationship between electricity consumption and its major determinants; particularly economic growth, the number of electricity customers, electricity prices, and electricity shortages in Pakistan using time series data from 1972 to 2012. They employed the Johansen co-integration test to examine the relationship between electricity consumption and its determinants. They found that determinants of electricity consumption function are cointegrated and economic growth, the number of electricity customers is positively related to electricity consumption, while electricity price and electricity shortages were negatively related to electricity consumption in Pakistan. However, bidirectional causality was found between electricity consumption, economic growth, and electricity customers except for electricity prices. They suggest revising the electricity pricing policy and finding alternative renewable sources to generate low-cost electricity and further need to enhance energy management expertise to cope with crises efficiently.

**Table 1.**  
*Analysis between electricity consumption and economic growth*

Study	Method	Countries	Result
Ibrahim & Sumaya (2021)	Cointegration and Granger causality	Saudi Arabia	EG>EC
Farzana & Mohammed (2016)	Cointegration and Granger causality	Ethiopia Morocco Mozambique Angola Tanzania	EG< >EC EG< >EC EG< >EC EG> EC EG-EC
Kalyoncu et al., (2013)	Cointegration and Granger causality	Georgia, Azerbaijan Armenia	EG-EC EG-EC EG> EC
Khan, Mudassir et al., (2015).	Cointegration and Granger causality	Pakistan	EG< >EC

### 3. Data and methodology

#### 3.1. Model

The following simple linear regression model was used for testing whether economic growth causes electric power consumption or not:

$$Y = f(x) + \varepsilon \quad (1)$$

$$GDP = f(EC) + \varepsilon$$

$$GDP = \alpha + EC + \varepsilon$$

Where,

$Y$  – linear function of  $x$ ;

$GDP$  – Gross Domestic Product (Current manat) of Turkmenistan;

$EC$  – electric power consumption (kWh) of Turkmenistan;

$\varepsilon$  – error term.

#### 3.2. Methodology

This study aims to examine the relationship between economic growth and electricity consumption variables through both cointegration and a Granger causality test. Firstly, a unit root test was conducted to check the stationarity of the series and to ensure that further tests are applicable Dickey (1979). Upon establishing this, a cointegration test was conducted to determine if a long-run relationship between the two variables does exist. Lastly, a Granger causality test was implemented to measure any directional relationship between the two variables. This would allow for a better understanding of the nature of the relationship between economic growth and electricity consumption.

We hypothesize that electricity consumption and economic growth are related and causal to each other. To test this hypothesis, we employed the Johansen cointegration and Granger causality tests over REVIEWS 13 software. Checking the stationarity of both variables under study was the first step of the analysis. The basic idea behind the cointegration relationship is, if in the long-run two or more series move closely together, even though the series themselves are trended, the difference between them is constant. For this purpose, the augmented Dickey-Fuller test (ADF) was applied. The second step is to investigate the long-run relationship between the variables by conducting cointegration tests before establishing a causal relationship between electricity consumption and economic growth. We test for cointegration between the variables, which helps to detect the existence of a relationship between economic growth and electricity consumption. There are two tests widely used for cointegration: The single equation based on Engle and Granger's (1987) test and the systems based on Johansen's (1988) tests. In this paper, Johansen cointegration tests were used. Finally, to test the causality relationship, this paper applies the Granger

causality test introduced by Granger in 1969. For the estimation in this study, annual data from 1996 to 2019 has been used. All data are from the UN, World Bank Group, and CIA. GDP (current LCU) expressed in manats and Electricity consumption in Quadrillion British Thermal Units (QBTU).

#### 4. Empirical analysis and results

##### 4.1. Unit root test

The ADF unit root test formula used in Eviews 13 is the Augmented Dickey-Fuller (ADF) test. This is a test for testing whether a time series is non-stationary or stationary against the null hypothesis of a unit root, which is the presence of non-stationary behavior in the series (Dickey, 1979). The test equation for the ADF test is:

$$ADF(T, D) = \Delta T + \Phi_1 \Delta T_{-1} + \Phi_2 \Delta T_{-2} + \dots + \Phi_D \Delta T_{-D} + \eta T \quad (2)$$

Where:

$\Delta T$  = The first differences of the time series

$\Phi_1, \Phi_2, \dots, \Phi_D$  = Coefficients to be estimated

$\eta T$  = Error term

D = Non-seasonal lag order

We test the hypothesis of the existence of a unit root. The null and alternative hypotheses can be formulated as follows:

$H_0$ : unit root exists

$H_1$ : unit root does not exist

At Level ADF unit root test with constant & trend for EC and GDP are not significant (P-values are 0.5004 and 0.8509 relatively). This means that we can't reject the null hypothesis and are not significant for both EC and GDP. They both have the unit root and are non-stationary at a level. At first difference, d(EC) and d(GDP) has P-value of 0.0114 and 0.0827 relatively which are statistically significant at the 10% level. So null hypothesis is rejected and d(EC) and d(GDP) have no unit root and are stationary at the first difference.

**Table 2.**

##### Unit root test results

Unit root test results table (ADF)			
Null Hypothesis: the variable has a unit root			
	At Level	GDP	EC
With Constant & Trend	t-Statistic	-1.3559	-2.1427
	Prob.	0.8509	0.5004
		no	no
At First Difference			
		d(GDP)	d(EC)
With Constant & Trend	t-Statistic	-3.3355	-4.2977
	Prob.	0.0827	0.0114
		*	**
<b>Notes:</b>			
a: (*) significant at 10%; (**) significant at 5%; (***) significant at 1% and (no) not significant			
b: Lag Length based on SIC			
c: Probability based on MacKinnon's (1996) one-sided p-values.			

## 4.2. Cointegration test

The Johansen cointegration test is an important test used to identify the long-run relationship between two or more variables in an economic time series. It tests the hypothesis that at least one of the variables is cointegrated with a linear combination of the other variables. If cointegration is present, it implies long-term equilibrium between the variables. Lag order selected by Eviews as 1. The Eigenvalue at the rank is the critical value used to test the null hypothesis of no cointegration. The significance level is usually set at 5% or 1 %, depending on the level of confidence required. But here we take it as 10% because of few data points. In our case, as in Table 3, the Eigenvalue at rank 0 is 0.275630, and the associated probability is 0.1812 at 0.05 level. This means that the null hypothesis of no cointegration cannot be rejected at the 5% level of significance. The Eigenvalue at rank 1 is 0.129373 and the associated probability is 0.0627 at 0.05 level. However, at the 10% level of significance, the null hypothesis can be rejected since the probability is less than 0.10. So, there is a long-run relationship between D(EC) and D(GDP) at the 10% level of significance.

**Table 3.**

*Result of Johansen test for cointegration*

Hypothesized	Eigenvalue	Cointegration rank test (Trace value)			Cointegration rank test (Max-Eigen value)		
		Trace statistic	Critical value	Prob.	Max-Eigen statistic	Critical value	Prob.
None	0.275630	11.52488	15.49471	0.1812	8.061337	14.26460	0.3725
At most 1**	0.129373	3.463544	3.841465	0.0627**	3.463544	3.841465	0.0627**

*The max-eigenvalue test indicates no cointegration at the 0.05 level*  
*\* denotes rejection of the hypothesis at the 0.05 level*  
*\*\* denotes rejection of the hypothesis at the 0.1 level*

**Table 4.**

*Pairwise granger causality tests*

Sample: 1992 2019						
Lags: 1						
Null hypothesis	Obs.	lag	F-statistic	p-value	Decisions	Results
DGDP does not Granger Cause DEC	26	1	10.1576	0.0041**	Rejected	DGDP Granger cause DEC
DEC does not Granger Cause DGDP	26	1	0.02821	0.8681	Do not reject	DEC cause to DGDP

*Notes: (\*\*) Significant at 5%.*

## 4.3. Granger causality test

The Granger Causal results presented in Table 4 provide strong evidence for a unidirectional causality running from DGDP to DEC, as evidenced by the probability value of 0.0041\*\*, which is statistically significant at the 5% level. This supports the first null hypothesis, which states that an increase in economic growth (DGDP) leads to an increase in electricity consumption (DEC). Regarding the second null hypothesis which states that an increase or decrease in DEC does not affect DGDP, the probability value of 0.8681 is not statistically significant at the 5% level. Thus, this hypothesis can

not be rejected, indicating that electricity consumption in Turkmenistan does not lead to the economic growth of Turkmenistan.

### **Conclusion**

This study investigates the causal relationship between energy consumption and gross domestic product (GDP) in Turkmenistan during the period 1992-2019. To do this, the Vector Error Correction Model (VECM) technique was applied to test for the presence of a long-run relationship between energy consumption and GDP in Turkmenistan through the Johansen cointegration test. After establishing a long-run relationship between the two variables, the Granger causality test was used to further explore the causal direction between GDP and energy consumption in Turkmenistan. The results of the cointegration analysis revealed the presence of a long-run relationship between GDP and energy consumption in Turkmenistan. Following the cointegration test, the Granger causality test was employed to attain further insights into the causal dynamics between the variables. The results suggested the presence of unidirectional causality running from GDP to energy consumption.

These empirical findings suggest that energy consumption has a marginal effect on the economic growth in Turkmenistan. Moreover, increased energy production would bring about sizable economic returns for other sectors of the economy. As such, greater investment in the energy sector could be beneficial for the economic development of Turkmenistan.



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