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The Main Areas of Development of the Non-Oil Sector in the Republic of Azerbaijan

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Abstract: The Republic of Azerbaijan, historically reliant on its oil sector for economic growth, now seeks to diversify its economy to ensure sustainable development. This study aims to pinpoint key opportunities for bolstering Azerbaijan's non-oil sectors. Through analysis, historical review, and forecasting, it becomes evident that Azerbaijani authorities are increasingly prioritizing economic diversification. This shift is seen as essential for fostering economic resilience, generating employment opportunities, and mitigating vulnerability to fluctuating energy prices. Government initiatives play a pivotal role in supporting non-oil sectors, with significant investments channeled through state programs aimed at enhancing sectoral attractiveness and competitiveness. Efforts to improve infrastructure, particularly through projects like the Zangezur and Middle Corridor developments, are crucial for expanding transport and transit capacities, thereby facilitating economic diversification. Public-private partnerships (PPPs) are also highlighted as effective mechanisms for nurturing specific industries and creating robust infrastructure to benefit both economic development and the populace at large. Analysis reveals promising trends within Azerbaijan's non-oil sectors, underscoring ongoing advancements and successes. Ultimately, the findings of this study provide valuable insights for shaping national economic policies, particularly in fortifying Azerbaijan's non-oil economy. By leveraging these insights, policymakers can strategically steer the country towards a more diversified economic landscape, reducing dependence on oil revenues and fostering sustainable growth across various sectors.

Keywords: economic diversification; public policy; small and medium-sized enterprises; international relations; investments. JEL Classification: O11; Q34; L52.

Introduction

The country's dependence on one sector is detrimental to the economy. Excessive dependence on world prices, increased vulnerability to global crises, often even limited opportunities to provide all the basic functions of the state, lack of development of important strategic industries: all this can occur if the state overly specialises in a certain sector within its functioning. Thus, it is not surprising that the state policy of the countries of the world is most often aimed at supporting national producers and creating favourable conditions for them to do so. This allows the economy and all its regions to develop evenly, albeit at the expense of a higher price level in the country. Nevertheless, due to the changing global environment, there is a need to create new opportunities for the qualitative development of individual sectors of the economy; their identification still remains relevant.

For Azerbaijan, the oil sector is one of the main ones for ensuring the functioning of the economy (Ismayil-Zada 2023). This indicates that all the main problems that arise in this regard are typical of this country. Thus, for its more sustainable development, it is important for the country to ensure the development of the non-oil component. This is especially important to reduce the country's dependence on trends in foreign markets in the oil markets (in prices, supply, and demand for oil and petroleum products). In other words, such economic diversification will allow the country to achieve more sustainable development in the long term. In this regard, it remains relevant to consider and evaluate the main areas of the non-oil industry of Azerbaijan, find opportunities for its development, and identify current problems and challenges (Bunch *et al.* 2020; Ferraz *et al.* 2021; Serhiienko and Kaniuka 2023).

Quite a substantial number of people have been engaged in examining the modern features of the development of Azerbaijan. Thus, Karimov (2024) assessed the current problems in the field of light industry in the country as one of the promising ones for future development to diversify the economy. Researchers consider it an important component to increase the competitiveness of the industry, especially given the availability of raw materials in the country. Xu and Abbasov (2021), in turn, assessed the specifics of the impact of the COVID-19 pandemic on small and medium-sized enterprises (SMEs) in Azerbaijan, drawing attention to existing problems related to the lack of resources for their high-quality functioning. However, little attention was paid to the possibilities of state support for SMEs. Hajiyeva (2021), in turn, conducted a study on the problems and prospects of e-commerce development in the country. The author noted some difficulties in the development of this area: in particular, described high customs duties, difficulties in taxation, Pürhani et al. (2022) examined the trends of human capital development in Azerbaijan. Researchers proposed individual actions that can improve the state in terms of human capital development in the country; they also showed that for this purpose, it is worth paying special attention to the possibilities of improving the standard of living in the country (social welfare) since it directly correlates with the quality of human capital. In turn, the peculiarities of the formation of the non-oil sector in the liberated territories were considered using the example of the tourism sector by Agayeva and Aliyev (2023). The researchers note that the liberated territories have substantial potential for development due to their natural resources. Despite the destruction of substantial amounts of infrastructure, it is subject to restoration, and the territory itself has the potential for the development of various sectors of the economy.

Thus, the purpose of the study was to assess the possibilities of developing the non-oil sector of the Azerbaijani economy in its various manifestations. This will allow identifying opportunities to adjust the country's long-term development strategy and increase its effectiveness.

1. Literature Review

Azerbaijan is focussing more on the non-oil industry as it aims to diversify its economy beyond oil and gas exploitation. Scholars such as Hasanov *et al.* (2023) emphasise the importance of financial development in encouraging non-oil economic growth in CIS oil-exporting nations like Azerbaijan. The authors believe that financial development helps to channel oil rents into non-oil industries, hence supporting long-term economic growth. Azerbaijan's attempts to diversify its economy are especially crucial given the unpredictability of global oil prices, which has traditionally impacted the country's economic stability. Azerbaijan's aim to reduce its reliance on oil exports revolves around the development of businesses like agriculture, industry, and information technology.

Aliyev et al. (2024) examine how tax policies affect the growth of Azerbaijan's non-oil industry. Their research shows how the government's economic policies have aided the growth of small and medium-sized businesses (SMEs) and encouraged investment in non-oil industries. The findings indicate that well-designed tax incentives may successfully raise industrial production and increase the country's economic competitiveness. Despite these encouraging improvements, challenges remain in areas such as access to finance and the formation of a favourable regulatory environment for SMEs, both of which are vital for economic diversification.

Seyfullayev (2023) examines the effect of financial development on non-resource economic growth using empirical evidence from Azerbaijan. The author argues that financial growth is a critical driver in the shift from an oil-dependent economy to a more diverse structure. This study supports the findings of Hasanov *et al.* (2023), which highlight the role of financial institutions in encouraging growth in non-oil sectors such as agriculture and industry. Financial accessibility enables enterprises in these industries to expand their operations and contribute more to the national economy.

Comparative studies from other locations, such as those conducted by Konyeaso *et al.* (2023) and Ogunjumo (2024), illustrate the dynamic significance of renewable energy and financial development in promoting non-oil sector growth. Although these studies are about African nations, their conclusions are relevant to Azerbaijan's situation, particularly in terms of supporting sustainable energy solutions and improving financial infrastructure to encourage economic diversification. These studies demonstrate how investments in renewable energy may support non-oil businesses, resulting in long-term economic stability.

Furthermore, Wu *et al.* (2024) emphasise the relevance of policy implications in agricultural sector development, offering insights pertinent to Azerbaijan's non-oil sector growth, particularly in agriculture. Azerbaijan's attempts to promote agro-industries and create agroparks are consistent with these findings, which call for a policy-driven approach to increasing agricultural production and exports. These measures serve to improve food security and offer new work possibilities, adding to the overall objective of economic diversification.

Raid *et al.* (2024) conducted research on Saudi Arabia to provide a comparative view on the obstacles that oil-dependent countries confront in growing non-oil businesses. Saudi Arabia, like Azerbaijan, is working to diversify its economy by lowering reliance on oil earnings and encouraging industries such as services, tourism, and manufacturing. This research emphasises the need for institutional changes and public-private partnerships in promoting non-oil economic growth, which is a strategy that Azerbaijan is pursuing to improve its non-oil industry.

The literature on Azerbaijan's non-oil sector growth extensively explores the roles of financial development, tax policies, and institutional changes in encouraging economic diversification. However, much of this research focusses on broad economic indicators rather than the specific dynamics of sectoral development, particularly the growing importance of non-traditional industries such as IT, technology parks, and renewable energy, which are critical to Azerbaijan's long-term strategy. Furthermore, while some studies provide insight on the role of institutional sectors and financial development, there is a significant gap in comprehensive cross-sectoral analyses that assess the interdependence of various non-oil industries, such as agriculture, manufacturing, and tourism, in the context of public-private partnerships (PPPs) and infrastructure development.

The novelty of the current research lies in that it focusses on the intersection of emerging sectors (IT, ecommerce, renewable energy) and more traditional ones (agriculture, manufacturing, tourism), as well as an indepth analysis of Azerbaijan's evolving transport infrastructure and public-private partnership models. This study will provide new insights into how cross-sectoral synergies and strategic infrastructure investments might speed up the growth of Azerbaijan's non-oil economy by examining their integration within the context of the country's larger economic diversification policy. Furthermore, this study aims to address a gap in understanding the direct and indirect effects of regional transit efforts on non-oil sector growth, which has been mainly disregarded in previous studies.

2. Materials and Methods

The study used some statistical data to assess the role of the oil and non-oil sectors in Azerbaijan. This is how information from the TradeMap website was used to evaluate the country's exports in the context of the oil and non-oil sectors, and certain types of goods (List of products... 2024). Brent crude oil price data was also analysed (as a general indicator of oil price dynamics): this kind of information was taken from the Investing source (Past data – Brent, 2024). Oil volumes were adjusted considering price changes to include these oil prices in the review. For this purpose, indexes were calculated for each year, depending on how much the price level in this period is higher than in the base year (2003). Subsequently, the volume of the country's oil exports was divided into these indices, which allowed subtracting the factor of oil price changes from accounting for the dynamics of changes in exports of products. Notably, this technique is not accurate, but it still allows for the partial offsetting of the role of changes in oil prices, which makes the calculation of the country's level of dependence on exports of these products more accurate. The study also used information from the State Statistical Committee of the Republic of Azerbaijan (2024) to analyse data in the context of investments in various sectors of the country's economy. Information from the Macrotrends website (Azerbaijan Inflation Rate, 2024) was used to assess trends considering the inflation rate. All the calculations were done using Microsoft Excel.

A large number of different research methods were used as part of the study. One of them was the analysis, which allowed evaluating various kinds of data, including quantitative ones, that characterise the development of the non-oil sector of the economy in Azerbaijan. In addition, the historical method was used, which allowed evaluating historical data on how the non-oil sectors developed in Azerbaijan. Forecasting allowed concluding about how the sphere of the non-oil sector can develop in the future, considering all estimated current trends. In addition, the description method was used to characterise all the main terms and factors that were used in the study. Abstraction, in turn, allowed evaluating only the most substantial factors influencing the object of the study, without considering the components that are indirectly related to the development of the non-oil economy. The deductive method allowed assuming what benefits Azerbaijan will be able to receive with a more active diversification of the economy, based on an understanding of what features of functioning such countries have (heavily dependent on oil exports) and how, in general, diversification affects the development of the economy. The comparison allowed for a more comprehensive assessment of the data both between different time periods and different indicators in general (the dynamics of investment and trade in different areas of economic activity of the country).

3. Research Results

The non-oil sector itself is a set of sectors of the economy that are not related to the extraction and processing of oil and gas. Unlike the oil and gas sector, which is often a key source of income for Azerbaijan, the non-oil sector includes a variety of industries such as agriculture, manufacturing, services, IT and technology, tourism. The development of the non-oil sector is important for economic diversification, reducing dependence on fluctuations in world oil and gas prices, creating new jobs, and stimulating sustainable economic growth. It also contributes to improving the country's competitiveness at the international level, expanding its export potential beyond the commodity sector and strengthening financial stability (Babayev and Sabzaliyev 2024).

At the moment, the government of Azerbaijan is actively seeking to diversify its economy to reduce dependence on the oil and gas sector, which is subject to fluctuations in world prices for hydrocarbons (Guerras-Martín *et al.* 2020; lqbal *et al.* 2021; Khan *et al.* 2021; Korsunska *et al.* 2022). In recent years, substantial efforts have been made to develop industries such as agriculture, tourism, information technologies, and manufacturing. Tourism is also becoming an increasingly important industry, especially with the development of infrastructure on the Caspian coast and in mountainous areas such as Shahdag and Tufandakh (Abdunurova *et al.* 2020). The country itself is known for its diverse natural and climatic zones and several resort areas, such as Ganja, Nakhichevan, Gabala, and Sheki, which have rich historical importance. The development of resorts and attracting tourists to visit cultural and historical monuments are among the main goals of modern tourism enterprises in the country (Mayis *et al.* 2021). The government has initiated several tourism development programmes, which have had some success.

At the moment, Azerbaijan has made substantial progress in minimising the oil sector's role in the country's gross domestic product (GDP) (Ismayil-Zada 2022). Agriculture is considered one of the leading sectors at the moment: it receives the largest investments from the state. In particular, the cotton, grape, silkwater, and tobacco industries are notable for their growth. Azerbaijan's expanding winemaking industry stands out, with significant efforts directed toward sustainable viticulture practices. This approach aims to create a productive vineyard landscape that ensures both environmental and economic sustainability, fostering long-term viability in the agricultural sector (Salimov et al., 2024). In general, government programmes in these areas have proved to be guite effective, enabling the country to increase its export potential and increase the innovative potential of SMEs by introducing intensive farming methods. Actions were also taken to create agroparks - entities that combine production, processing, logistics, and services needed by companies in one place in a single facility. These parks, of which about 40 are currently being developed, aim to increase profitability, ensure environmental sustainability, and support the development of various agricultural sectors. Attention should be also drawn to the pivotal role of micro-enterprises within the agricultural production and consumption cycle, as they offer substantial potential to advance sustainable development, rural employment, and self-sufficiency. For example, Malik et al. (2023) suggest that regional policies would benefit from prioritizing support and development for family farms and small agricultural businesses to strengthen food security and promote economic stability in rural areas.

Industrial production, including chemical, food, and light industries, has also become an object of attention as part of the diversification strategy. The food industry is directly related to agriculture and, therefore, also receives a lot of attention from government authorities (Maharramova 2023; Tkachuk *et al.* 2024). On the part of the state, active actions are being taken to modernise the production facilities of the sphere, introduce new technologies, and improve quality standards. Azerbaijan's light industry includes textile, clothing, leather, and

footwear industries. Although the country has great opportunities for independent development in this area, it actively imports products from abroad (Dankevych *et al.* 2023). Light industry is one of the oldest branches of industrial production with great potential and rich labour traditions, it plays a substantial role in the country's economy and is an attractive investment sector of the economy, especially given the availability of raw materials in Azerbaijan (Veliev *et al.* 2018). In this regard, the intensification of government activities in the area of supporting this industry is relevant. The IT sector is also developing in Azerbaijan, with the creation of technology parks and innovation centres to support start-ups and research (Huseynov *et al.* 2023).

The Azerbaijani government has also stepped up efforts to attract foreign investment in the non-oil sector and improve the business environment through reforms aimed at simplifying business registration procedures, reducing taxes, and protecting investors' rights (Hamidova *et al.* 2022). Nevertheless, despite these efforts, the transition to a diversified economy is a complex and long–term process that requires further reforms, investments in education and infrastructure, and the creation of favourable conditions for the development of the private sector.

At the moment, the formation of the Zangezur and the Middle Corridors plays an important role in the economic development of Azerbaijan (Hamidova and Samedova 2024). Their development is important for the Azerbaijani economy, especially for stimulating the growth of the non-oil sector and the development of transport and transit relations between Central Asia, Azerbaijan, and Europe. The Zangezur Corridor is a transport link that connects Azerbaijan with its Nakhichevan exclave through the territory of Armenia. This corridor can become a key element in the development of regional transport infrastructure, facilitating access to European markets and, in particular, the Turkish market (Shahini *et al.* 2024). The implementation of this project can substantially reduce transport distances and stimulate trade and investment in the region. The Middle Corridor, also known as the Trans-Caspian International Transport Route, connects China with Europe via Kazakhstan, the Caspian Sea, Azerbaijan, Georgia, and Turkey (Karimli *et al.* 2024). This route offers an alternative to traditional sea routes and can play an important role in the development of international trade and logistics, including for Azerbaijan, as it will substantially increase the opportunities for the development of foreign trade in the country, especially products of the non-oil sector.

The impact on the non-oil sector and transport and transit relations of these corridors is multifaceted. Thus, substantial investments in Azerbaijan's transport infrastructure, including roads, railways, and ports, will be required. This, in turn, will create new opportunities for the non-oil sector, including construction, manufacturing, and services. In addition, these corridors will strengthen Azerbaijan's role as a key transit hub between Europe and Asia, contributing to the growth of trade flows through the country. This can stimulate the development of export-oriented and logistics enterprises in Azerbaijan. Improving transport accessibility and logistics infrastructure will make Azerbaijan more attractive to foreign investors interested in accessing the markets of Central Asia, the Caucasus and Europe; it can also contribute to the development of tourism and services, providing new opportunities for local businesses (Musayeva *et al.* 2024). In the end, this will help diversify the economy, strengthen economic ties between different parts of Azerbaijan, and provide new transport routes for international trade.

One of the ways to improve the quality of the logistics sector is a public-private partnership. In general, this is a form of cooperation between the public and private sectors, the purpose of which is the implementation of projects or the provision of services traditionally administered by the state (Gulaliyev *et al.* 2017). In other words, within its framework, the state and private authorities combine their efforts (capital, knowledge) to achieve common goals. Quite often, the final goal of cooperation within the framework of public-private partnerships is to improve the quality of infrastructure, which is also an essential part of the development of the transport and logistics industry (Parkhomets *et al.* 2023). Currently, the state authorities are paying a lot of attention to the development of this area. Billions of dollars have been allocated for the development and modernisation of transport infrastructure, including roads, railways and ports. This is how the Baku-Tbilisi-Kars railway was built, aimed at connecting Europe with Asia and a new international maritime trade port complex in Baku. These projects play an important role in turning Azerbaijan into a regional transport hub, improving the efficiency of trade routes, and promoting economic development. The country has also focused on improving the quality of transport services by modernising airports. Public-private partnership also plays a vital role in this process (Public-private partnership, 2022).

Some actions can be applied to increase the effectiveness of this process. In this way, it is possible to create more simplified and transparent rules for the implementation of public-private partnership projects to attract large amounts of investment in this area: this may include, among other things, tax incentives, guarantees, actions aimed at protecting investors. Joint work on solving problems related to institutional development is also

relevant: this will ensure an improvement in the quality of the judicial system (creation of a more effective dispute resolution mechanism) and more active capital raising. The introduction of more digital technologies is also important. In this context, Azerbaijan should direct its efforts to develop the Internet infrastructure, improve and expand access to high-speed Internet throughout the country, create opportunities for a higher level of education and better training of specialists. Thus, in this context, it is the influence and stimulation from the state that is important. A separate component of digitalisation is the development of e-commerce (Onifade 2022; Saviotti *et al.* 2020; Abdullayev *et al.* 2023). At the moment, it is facing a number of problems, including an incomplete legal framework, monopolies in various sectors, high customs duties, lack of uniform pricing mechanisms, low use of plastic cards, problems with the security of online payments, and insufficient quality and coverage of Internet services (Hajieva 2021; Moutinho *et al.* 2020; Wang *et al.* 2024). Despite all this, there are certain positive trends in this context, namely the increase in income and the growing popularity of online commerce among young people, which generally indicates the existence of development prospects in this area. Thus, it is relevant to solve these problems to develop a legal framework, improve the pricing mechanism, more actively implement tax policy, create conditions for regulating Internet providers, and increase awareness among the population about the benefits of using e-commerce.

One of the most important components of the development of entrepreneurship in the country and the development of the non-oil sector is to stimulate the development of SMEs (Musayeva *et al.* 2022). The need to stimulate the development of small businesses is growing worldwide, and in Azerbaijan, more attention has recently been paid to this as well. Currently, the Azerbaijani government is implementing various programmes and initiatives to support SMEs, including financial support, training, and consulting services (Jafarov and Babayev 2024). In the country, companies of this kind are becoming more digitally certified and trying to enter international markets. In addition, the government's current strategies include improving the legal framework for e-commerce, improving Internet infrastructure and introducing digital technologies to integrate SMEs into global value chains. Despite these efforts, problems such as access to finance, high interest rates, and collateral requirements persist, which affect the growth of SMEs. Recommendations for improving SME growth include consolidating government subsidy programmes, lowering business loan rates, encouraging banks to accept movable property as collateral, adjusting mortgage and loan guarantee fund policies, and providing SMEs with market information for local production and import substitution.

It is possible to partially assess the success of the development of the non-oil sector in Azerbaijan by evaluating individual statistical data. Thus, assessing the role of the non-oil sector in the country's exports, the change of its dependence on petroleum products can be assessed (Figure 1)

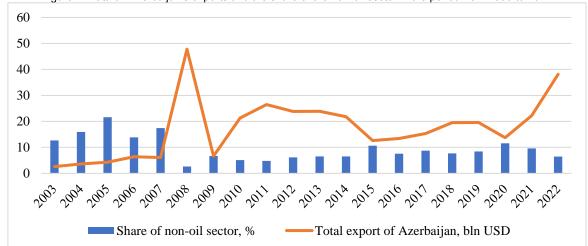
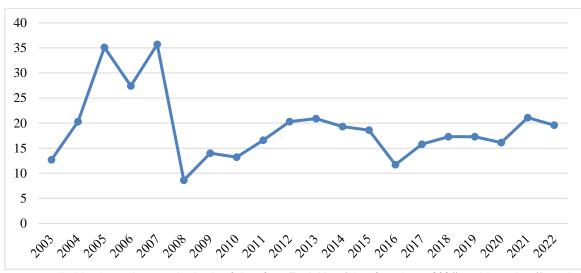


Figure 1. Data on Azerbaijan's exports and the share of the non-oil sector in the period from 2003 to 2022

Source: compiled by the authors based on the TradeMap data (List of products... 2024).

As shown in Figure 1, Azerbaijan's total exports increased between 2003 and 2022 but the share of the non-oil sector did not increase. However, it was noted that the data on oil sector exports and oil prices are substantially correlated (at the level of 0.73, that is, with an increase in oil prices, its exports also increased substantially). Thus, it was decided to recalculate, however, considering the change in oil prices. The results are presented on Figure 2.

Figure 2. Assessment of the share of the non-oil sector in Azerbaijan's exports, considering changes in oil prices between 2003 and 2022, %



Source: compiled by the authors on the basis of data from TradeMap (List of products, 2024) and Investing (Past data – Brent, 2024).

As demonstrated in Figure 2, the non-oil sector had the smallest share in 2008 and the largest in 2005-2007. However, compared to 2008, the share began to recover, which is generally a positive factor. It is also worth assessing which areas of export of non-oil sector products in Azerbaijan are the fastest growing. The data shown in Table 1 should be considered to do this.

Table 1. Data and dynamics of the largest non-oil export groups of goods of Azerbaijan for the period from 2003 to 2023, million dollars

Products	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Edible fruits and nuts; citrus or melon peel	43.3	33.8	146.4	98.7	124.5	152.3	142.2	112.5	153	208
Edible vegetables and some root crops and tubers	5.7	12.2	26.2	33.3	39.1	63.6	50	42.3	78.3	56
Aluminium and products made of it	25.8	48.9	53.6	71.3	91.7	122.3	12	2.7	12.7	94.9
Cotton	35.3	38.8	44	43.1	39.9	24.9	28.3	15.9	20.7	23.4
Fertilisers	0.1	0	0	0	0	0.7	0.6	0	0.4	0.6
Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metals, and products made of them; jewellery; coins	0	0	0	0	0	0.1	15.2	0.9	1.4	0.7
Organic chemicals	12.2	21	25.1	28.3	21.4	36.4	19.6	33.3	53.2	39.7
Iron and steel	25.6	42.3	37.6	29.8	44.7	49.9	20	77	94.3	58.7
Nuclear reactors, boilers, machines, and mechanical devices; their parts	26.6	18.1	21.2	31.3	39.6	36	23.2	28.1	26.4	21.8
Salt; sulfur; earth and stone; plastering materials, lime, and cement	0.4	1.2	1.6	2.4	3.3	3.9	4.7	8.1	11.4	13.9
Products	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Edible fruits and nuts; citrus or melon peel	173.5	192.2	220.2	243.8	292.7	325.5	362.6	353.1	410.1	448.7
Edible vegetables and some root crops and tubers	77.3	98.9	91.7	129	210.1	233.3	243.2	254.4	220.2	218.9
Aluminium and products	82.8	86.8	86.1	98.1	117.7	112.2	128	113.4	188.5	217.6

Products	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
made of it										
Cotton	31.8	14.5	19.5	24.2	52	108.3	158.5	156.8	273	213.8
Fertilisers	0.4		1.9	2.4	2.2	0.5	19.9	11	121.3	210.7
Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metals, and products made of them; jewellery; coins	0.5	0.2	0.4	0.4	127.6	146.7	174.4	198.6	205.6	190.2
Organic chemicals	34.7	49.5	59.9	43.1	67.3	64.6	66.9	57.9	99.8	138.5
Iron and steel	42.9	9.1	18.3	39	37.7	32.9	39.4	29.7	88.8	90.2
Nuclear reactors, boilers, machines, and mechanical devices; their parts	28.5	39.1	36.1	27.3	36	43	43.9	49.8	36.8	77.6
Salt; sulfur; earth and stone; plastering materials, lime, and cement	9	9.2	9.9	15.2	25.2	26.2	31.7	27.1	38.6	58.7

Source: compiled by the authors based on the TradeMap data (List of products, 2024).

Table 2. Data on changes in the level of investments in different spheres of activity in Azerbaijan in the period from 1995 to 2022

Indicator (thsd. manat)	2000	2022	2000	2022	Change, %	Change including inflation, %
Agriculture, forestry, and fishing	6,469.6	408,041.6	0.39	1.63	9,190.13	8,072.14
Industry	670,142.7	7,172,066.4	40.91	28.63	6,770.88	5,947.19
Mining	481,059.5	4,983,789	29.37	19.9	652.71	568.89
Manufacturing	80,088.8	1,202,143.6	4.89	4.8	4,151.98	3,618.81
Electricity, gas, steam, and air conditioning supply	83,864.3	689,831.8	5.12	2.75	4,128.48	3,598.32
Water supply, sewerage, waste management, and remediation activities	25,130.1	296.302	1.53	1.18	1,494.05	1,302.19
Construction	112.953	3,523.728.4	6.90	14.07	6,970.35	6,122.4
Trade, repair of transport means	32,311.1	157,411.9	1.97	0.63	20,181.01	17,725.97
Transportation and storage	44,099.4	4,617,372.8	2.69	18.43	43,031.56	37,796.72
Accommodation and food service activities	3,633.1	88,419.9	0.22	1.35	391.62	341.33
information and communication	45.284	399,986.2	2.76	1.6	30,507.68	26,796.38
Financial and insurance operations	139.6	348,448.2	0.01	1.39	4,570.29	3,983.4
Real estate activities	1,107.5	8,130.8	0.07	0.03	28.3	24.66
Professional, scientific, and technical activities	205.1	42,676.6	0.01	0.17	1,298.31	1,131.58
Administrative and support service activities	3,583.4	58,098.2	0.22	0.23	496.8	433.01
Public administration and defence, social security	6,517.8	609,871.8	0.4	2.43	30,245.58	26,361.6
Education	3,534.5	272,328.1	0.22	1.09	41,993.54	36,884.97
Human health and social work activities	29.190	85,181.6	1.78	0.34	2,597.95	2,264.34
Arts, entertainment, and recreation	6,666.9	33,724.8	0.41	0.13	12,254.65	10,680.98
Other service activities Total	1,983.4 1,637,963.8	52,677.8 25,050,231.5	0.12 100	0.21 100	98.30 10,988.04	86.34 9,651.33

Source: compiled by the authors based on data from the Azerbaijan Inflation Rate 1992-2024 (2024).

Table 1 shows the main types of products that are exported by Azerbaijan and are not related to the oil sector. As can be seen, many of them substantially increased their volumes between 2003 and 2010: for example, the export of fertilisers increased 2,000 times, vegetables – 38 times, and salt, sulfur and other minerals – 145 times. Notably, among the types of goods shown, most are resources related to the primary sector of the economy (agriculture, extractive industry). This indicates that the Azerbaijani authorities should pay more attention to the development of the processing industry and the service sector to ensure a higher level of exports of these types of products. This will have a positive impact on the quality of the country's economic development.

To identify the areas of the non-oil sector that have the greatest potential to actively develop in the future, individual data on investment flows into the components of this area can be considered. This information is shown in Table 2.

Table 2 shows information on the level of investment in certain areas of activity in Azerbaijan as of 2000 2022, and an increase in the level of investment (with and without inflation). As can be seen, the sectors of transportation and storage, construction, information and communication technologies, finance and insurance, and agriculture are the most promising for the non-oil industry of Azerbaijan. It can be concluded that they are the ones that the state should pay special attention to when forming its long-term policy aimed at developing economic diversification. The general dynamics of direct investment can be seen in Figure 3.

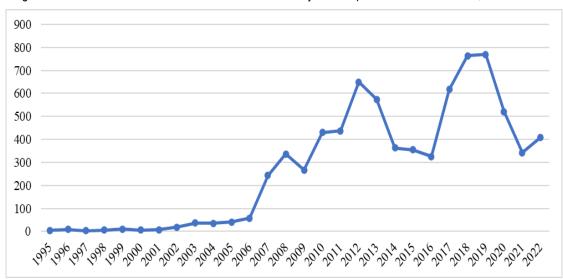


Figure 3. Data on the volume of direct investments in Azerbaijan in the period from 1995 to 2022, million manats

As shown in Figure 3, investment volumes increased up to 2012, followed by a decline, recovery after 2016, and a decline again in 2020, primarily due to the onset of the COVID-19 crisis. Recovery after this event began only in 2022. This pattern emphasises the essential role of economic diversification in mitigating commodity-related risks. The increase of investments in non-oil industries implies that diversification initiatives are starting to pay off. Investments in infrastructure, agriculture, technology, and transportation not only help to maintain economic stability but also increase Azerbaijan's appeal as an investment destination. The country may encourage more investment in these areas by lowering entrance barriers, streamlining laws, and increasing public-private partnerships.

Despite the positive developments, a number of obstacles persist. The investment climate may be further enhanced by increasing transparency, improving investor safeguards, and eliminating corruption. To encourage entrepreneurship and innovation, access to funding must be improved, particularly for medium-sized enterprises (SMEs). Implementing capital accounting practices that comply with International Financial Reporting Standards (IFRS) in Azerbaijani commercial enterprises can greatly improve financial transparency, increase appeal to investors, and strengthen global competitiveness endivev (Mehdiyev, 2024). Investments in human capital are equally important. By prioritising education and vocational training, Azerbaijan can create a qualified workforce capable of supporting innovative businesses and attracting high-tech investments (Guliyeva and Azizova 2022). Furthermore, ongoing development of digital infrastructure would promote the expansion of the IT industry and ecommerce, in line with global economic movements towards digitalisation.

One of the goals for the Azerbaijani authorities at the moment is the restoration of the territories that were liberated in 2020. Like any post-occupation reconstruction process, it can be described in several stages:

Source: compiled by the authors.

preparation, initial, and main stages of reconstruction, repatriation, and adaptation. Construction and restoration work is currently underway, including the development of infrastructure, electrical substations, and the international airport in Füzuli. There are also actions aimed at developing international cooperation, especially in the construction of electric power infrastructure and the creation of high-tech parks. The economic development of the liberated territories should focus on using local natural resources and characteristics to create innovative business structures in both production and services. The main areas worth paying attention to in these territories are the creation of building materials, gold and copper mining, logistics, tourism, renewable energy sources, agriculture, medicine, and the textile industry. It is also worth encouraging the development of small and medium-sized enterprises in all sectors, where possible, since this allows the region's economic development to be more flexible, obtaining many benefits due to additional jobs. In general, work in this area should be comprehensive and be especially related to the development opportunities of non-oil sectors.

The findings provide a complete overview of Azerbaijan's initiatives to diversify its economy away from the oil and gas industry, which is crucial given the fluctuation of global hydrocarbon prices. Agriculture, manufacturing, IT, tourism, and logistics are among the non-oil industries that the government has actively encouraged. These industries are critical to driving long-term economic growth and minimising dependency on uncertain energy markets. Despite significant growth in these areas, there are obstacles to increasing the non-oil sector's contribution to Azerbaijan's GDP and exports. A thorough examination of the agricultural sector reveals a considerable emphasis on state-sponsored programs, such as the establishment of agroparks and intensive farming practices. While such measures have significantly expanded export potential and SMEs' innovative capacities, one major problem remains: the concentration of exports on basic commodities such as fruits, vegetables, and cotton. Even outside of the oil industry, Azerbaijan's export structure remains focused on raw materials rather than value-added items (Maharramova and Maharramov 2023). This suggests that, although the agricultural sector is growing, there is a need to enhance the processing industry in order to increase export value and minimise external market vulnerability.

Similarly, modernising initiatives have increased industrial output, particularly in the food and light industries. However, the light sector, which includes textiles and clothing, is underdeveloped, with the majority of commodities imported. This highlights the need for investing in local production capacity and employing existing resources, particularly raw commodities like cotton, to promote domestic manufacturing. Strengthening this industry may result in a more stable export base and help to Azerbaijan's wider goal of developing a strong, varied economy. The development of technology parks and innovation centres bodes well for the growth of the IT industry. This may position Azerbaijan as a regional innovation hotspot, but the business faces problems such as limited infrastructure, particularly high-speed internet access, and a lack of a robust legal framework for digital commerce. Addressing these difficulties is critical for the IT industry's long-term competitiveness, as well as encouraging e-commerce, which has tremendous potential due to rising demand among younger clients.

Transportation and logistics are essential components of Azerbaijan's strategy, particularly the development of the Zangezur and Middle Corridors. These corridors might greatly strengthen Azerbaijan's position as a transit hub between Europe and Asia, increasing non-oil exports by improving access to international markets. The successful execution of these projects would also create opportunities for businesses including construction, manufacturing, and services. However, major infrastructure investments will be required to fully realise these benefits, and public-private partnerships may be important in securing the necessary resources and knowledge. In order to encourage foreign investment, the Azerbaijani government has implemented measures to simplify business procedures and strengthen investor rights. While these initiatives have prompted investment in certain regions, numerous obstacles remain, particularly in terms of regulatory clarity and high business costs. Expanding SMEs' access to capital and eliminating monopolistic arrangements in certain industries may further enhance the business environment. Based on these findings and the current situation of Azerbaijan's economy, numerous recommendations could be offered for further development of the non-oil sector:

1. Enhancement of value-added production. Azerbaijan should prioritise investments in processing industries, including agriculture and manufacturing. This would enhance the export of value-added products rather than raw resources, as well as the expansion of food processing, textile, and chemical manufacturing facilities.

2. Improving financial assistance for SMEs is vital. This may be accomplished by decreasing interest rates, increasing access to finance, and promoting the use of moveable assets as security. Government subsidies and increased market knowledge can help SMEs expand and participate in global value chains.

3. Expansion and modernisation of infrastructure. Azerbaijan's investment in transportation, logistics, and digital infrastructure, such as technology parks, innovation centres, and high-speed internet, will accelerate IT, logistics, and e-commerce growth and attract foreign and local investors.

4. Support of PPPs. Establishing PPPs can improve infrastructure development, especially in transportation and logistics. Simplifying PPP implementation requirements, as well as providing tax incentives and investor protection, can help to attract more money to infrastructure projects.

5. Support tourism and service industries. Promoting Azerbaijan's diversified landscapes, historical monuments, and resort locations may help diversify the economy. Investments in tourism infrastructure, such as hotels and cultural preservation, will provide jobs in both rural and urban regions.

6. Fostering investment in renewable energy. Supporting the growth of renewable energy sectors such as wind, solar, and hydroelectric power may supplement the oil and gas industry by attracting green investments and helping to long-term sustainability.

7. Investment in human capital. Improving vocational training, education, and innovation initiatives to generate a competent workforce will be crucial for promoting the expansion of high-tech businesses and IT sectors, which are critical to Azerbaijan's economic future.

By following these ideas, Azerbaijan may diversify its economy, lessen dependency on oil, and position itself for long-term, steady growth in the global market. These policies are consistent with the country's continuous attempts to modernise its economy and use its strategic position and resources outside the oil and gas sector. Azerbaijan's diversification strategy is reasonable but transitioning from a hydrocarbon-dominated to a more balanced and varied economy would need long-term investment, regulatory changes, and support for high-growth sectors such as IT, manufacturing, and logistics. The focus should now be on fostering value-added enterprises, ensuring infrastructure development, and enhancing the regulatory framework to support innovation and entrepreneurship, particularly in the non-oil industries that are expected to succeed.

4. Discussions

Thus, to ensure the efficient use of Azerbaijan's non-oil sector and ensure sustainable economic development, the government of Azerbaijan could adopt a comprehensive strategy focused on diversification, innovation, and inclusive growth. It may include some recommendations, in particular, increased support for agriculture; more active development of the innovation component, education, healthcare, and services; changes in the legislative framework and more active interaction in the framework of public-private partnerships. In addition, it is important to increase the volume of support for such industries and the quality of the selection of companies that will receive this support. Using such a strategy will allow achieving good results in the field of economic diversification.

The findings imply that in order to further neutralise these risks, Azerbaijan should take a more comprehensive strategy for supporting the non-oil sector, with an emphasis on innovation, value-added output, and infrastructure development. This aligns with Matallah's (2020) conclusions, which emphasise the need for resource-rich countries to diversify their economies to avoid the pitfalls of the "resource curse" and ensure long-term growth. In his analysis of economic diversification in the oil-exporting countries of the Middle East and North Africa, Matallah proved that oil rents substantially and positively impact the growth of oil-exporting countries in the Middle East and North Africa. Moreover, they also contribute to difficulties associated with dependence on oil and gas revenues. In this regard, the author concludes that maximising the income earned by the country can only be achieved through competent management of the diversification of the country's economy, that is, by stimulating the development of other areas besides oil. As part of the current study, it was also concluded that there are conditions in Azerbaijan that allow receiving sufficient benefits from the export of petroleum products. However, this also creates a certain danger due to the fact that they make the country overly dependent on exports of such products. Thus, this once again confirms the importance of securing a sufficiently high level of economic diversification to reduce the negative effects of dependence on exports of one type of product.

Furthermore, this research highlights the importance of long-term, sustained efforts in achieving economic diversification. The complexities of transitioning from an oil-dependent economy to one that is more balanced across various sectors are evident in the challenges faced by other resource-rich countries, as discussed by Lashitew *et al.* (2020). They noted that in resource-rich countries, there is an urgent need for economic diversification to mitigate the risks associated with unstable commodity prices and limited employment opportunities in the extractive sector. Despite this, achieving such a goal is quite a difficult task for statesmen. As successful examples of such diversification, researchers cite Oman, Laos, and Indonesia, linking them to human, social, intellectual capital and business potential. However, increased competitiveness has not always

accompanied improved diversification, especially in resource-rich countries (Nogoibaeva *et al.* 2024). The example of Oman illustrates the difficulty of achieving proper diversification: the country's manufacturing sector, despite rapid growth, still contributes a negligible share to GDP, and the country remains dependent on oil revenues. Thus, researchers conclude that there is a complex relationship between resource wealth and a country's competitive abilities and solving problems that arise in connection with resource wealth, which are quite difficult to eliminate. This study also noted that it is quite important for Azerbaijan to ensure a high level of economic diversification. This will reduce the risks that arise due to the too high level of dependence on the sale of petroleum products. However, this process itself is not simple and must be conducted over a sufficiently long period of time to show any results. Currently, it can be stated that Azerbaijan has managed to achieve certain results in this area for a fairly long time. However, to adhere to the same trend in the future, the state authorities should use the recommendations that were proposed above in the study aimed at supporting companies in the non-oil sector.

A study analysing the relationship between export diversification and renewable energy consumption was conducted by Shahzad *et al.* (2020; 2021). Researchers considered the consumption of renewable energy as a function of export diversification, economic growth, industrialisation, openness to trade, and natural resources. The results showed that policies promoting product diversification have a positive impact on the demand for renewable energy in both developed and developing countries. In addition, the paper confirms a non-linear relationship between export diversification and renewable energy consumption. Although this study has not paid attention to how economic diversification affects the development of renewable energy sources, nevertheless, it is worth recognising that such a relationship is one of the reasons why it remains an important component of the country's development.

A similar study was conducted by Fatima et al. (2021): The authors analysed the impact of export product diversification on the demand for renewable and non-renewable energy sources in the Persian Gulf countries from 1990 to 2019. The results showed that initially, product diversification reduces renewable energy consumption, but after a certain threshold, it increases the use of renewable energy sources, indicating an inverted U-shaped relationship between product diversification and energy consumption. This suggests that diversification can reduce dependence on oil and fossil fuels, which is consistent with the Sustainable Development Goals and promotes cleaner energy sources in the region (Guliyeva 2023). Researchers also noted the role of human capital, trade, and natural resources that affect energy consumption. Thus, it was recommended to support export diversification to increase the use of renewable energy sources, which can contribute to economic sustainability and the goal of combating climate change. This study did not pay much attention to the impact of economic diversification on the development of renewable sources. Nevertheless, it is worth noting that this interaction does exist. This has ambiguous consequences for Azerbaijan. On the one hand, the country's international specialisation is largely aimed at exporting petroleum products, which means that trends related to economic diversification (in other countries) are not beneficial for it. On the other hand, such trends are beneficial when conducted inside Azerbaijan since they can increase the stability of the economy from instability that can arise at any time, both inside the country and abroad. Thus, the formation of a policy of economic diversification is a truly effective method and an effective approach to achieving the main long-term goals of the country.

The short- and long-term asymmetric effect of oil prices and revenues from the sale of petroleum products on real GDP in oil-dependent economies was investigated by Charfeddine and Barkat (2020). Researchers noted that in the short term, Qatar's economy is more negatively affected by negative shocks to real oil prices than by the positive effects of oil revenues. This may indicate that in the short term, negative effects manifest themselves more clearly than positive ones. However, in the long term, the situation looks different since the positive effects have a relatively greater weight. In this regard, researchers recommend taking measures aimed at diversifying the economy to reduce asymmetry on the impact of the development of the country's economy from prices, supply, and demand for oil. Thus, the conclusions obtained in the framework of the study generally agree with those obtained: given the instability that may arise due to dependence on exports of petroleum products, it remains important to ensure a sufficient level of economic diversification. Therewith, this is typical for virtually all countries.

The findings of this study corroborate the premise that Azerbaijan's long-term economic performance is based on a well-executed diversification program. The country's priority should be to increase its non-oil industries' innovative abilities, enhance SMEs' access to finance, upgrade infrastructure, and invest in human capital. By addressing these crucial industries, Azerbaijan may achieve more sustainable growth while decreasing its reliance on the volatile oil and gas industry. The findings also call for continuous policy monitoring

and adaptation to keep the diversification process on track, with a particular emphasis on supporting value-added sectors and incorporating renewable energy solutions into the national economy.

Conclusions

As part of the study, it was shown that the modern development strategy of Azerbaijan is largely aimed at ensuring the diversification of the country's economy. This is crucial for sustainable economic growth, job creation, and reducing vulnerability to global fluctuations in hydrocarbon prices. The non-oil sector itself represents a fairly large range of industries, but agriculture, tourism, and information technology are the most actively developing among them in Azerbaijan.

The Azerbaijani authorities are currently actively working towards the formation of various programmes, the main purpose of which is the development of various sectors of the economy. Substantial investments were made in agriculture and brought quite extensive results, in particular, by increasing export potential and innovation opportunities. A similar situation is observed in industry, tourism, the information technology sector, and other areas. Attracting foreign investment and improving the business environment through reforms are central to this activity: government initiatives to simplify business registration, reduce taxes, and protect investors' rights are a major part of government policy in this area.

The study showed that the development of the Zangezur Corridor and the Middle Corridor also plays an important role in stimulating the growth of the non-oil sector and improving transport and transit relations. These projects not only contribute to the development of Azerbaijan's economy but also strengthen its position as the most important transit hub between Europe and Asia, offering new opportunities for construction, manufacturing, and services. Public-private partnership is also considered as one of the options, which will be especially effective in achieving the best results in the logistics sector, which will have a positive impact on other industries. The development of the legislative framework, solving problems in the field of e-commerce and assistance to SMEs will also achieve better results. With the active subsequent application of the already existing stimulation of the non-oil sector, it will be possible to achieve fairly good results in this area in the long term. In subsequent studies, it is important to examine the specific features of each of the non-oil spheres in more detail for their effective development.

Credit Authorship Contribution Statement

Kamran Abdullayev: contributed significantly to conceptualization, methodology, investigation, formal analysis, and writing activities.

Fikrat Guliyev: was involved in conceptualization, methodology, project administration, validation, and contributed to writing and editing.

Gunay Teymurova: participated in methodology, software, formal analysis, and visualization aspects.

Muslumat Allahverdiyeva: contributed to conceptualization, methodology, project administration, data curation, and validation.

Nigar Bagirova: played a key role in conceptualization, methodology, project administration, supervision, funding acquisition, and writing and editing tasks.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Declaration of Use of Generative AI and AI-Assisted Technologies

The authors declare that they have not used generative AI and AI-assisted technologies during the preparation of this work.

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