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Audit of the Effectiveness of Inter-Budgetary Relations: The Case of Tourism Industry

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Abstract:

At present, in the context of financial, socio-economic and political tension, in order to ensure the legal and effective conduct of the financial activities of the state, it is necessary to involve state audit, because its results precede the issuance of new laws and regulations, contribute to the effectiveness of public resource management, the adoption of competent management decisions, the right choice and setting of appropriate goals. To ensure the development of the tourism industry, comprehensive state support is needed, which includes the creation of a special system of legislative acts and the creation of favorable conditions for attracting investment and infrastructure development. Research and assessment of the public debt management system and the development of a methodology for their audit contribute to the improvement of control over the effectiveness of the formation, management and assessment of public debt. In general, the state audit for Kazakhstan is seen as a holistic and independent assessment effectiveness and activity of the audited objects, covering not only financial issues, but also all directions of their activities and with the presentation of effective recommendations based on the identified deficiencies and proposals for risk management. The article considers the organization of efficiency audit in the field of tourism, analyzes state budget expenditures in this service sector.

Keywords: audit; control; finance; services; tourism.

JEL Classification: G28; Z32; R11.

Introduction

At present, in the context of financial, socio-economic and political tension, in order to ensure the legal and effective conduct of the financial activities of the state, it is necessary to involve state audit, because its results precede the issuance of new laws and regulations, contribute to the effectiveness of public resource management, the adoption of competent management decisions, the right choice and setting of appropriate goals.

Improving the financial management and fiscal responsibility of countries is particularly facilitated by increased transparency and accountability in the management of public finances. In order to strengthen the budget process, it is necessary to strengthen the state financial control and audit.

Analysis of the effectiveness of inter-budgetary relations in the regional context of Kazakhstan is important for assessing the effectiveness of the distribution of financial resources between different levels of government and ensuring a balanced development of the region.

1. Research Background

As some scientists note, the development of state audit acts as an independent stage in the evolution of inter-budgetary relations (Safrygin 2019). The importance of this stage requires clarification of the object of state audit, as well as the definition of its main types, which make it possible to adequately assess various aspects of inter-budgetary relations.

The subjects of state audit are vested with the authority to carry out state audit in the field of inter-budgetary relations. The subjects of state audit are state bodies that carry out state audit of executive bodies, however, at the same time, they are not included in the system of executive power (Tolchinskaya 2020). The indicated bodies were created by legislative, representative bodies and represent an alternative source of information about the activities of the executive branch, both directly for the bodies themselves and for the entire population of the country (Savin and Al-Makzumi 2019).

Since the state audit of inter-budgetary relations is of a nationwide nature, it includes control and verification of all decisions that lead to certain financial results. The above predetermines the need to assign to the powers of state audit bodies the examination of financial and other results achieved in the process of executing the budget of the corresponding level, the examination of draft regulatory legal acts, including an assessment of the level of formation of the entire state in principle, its individual regions and some sectors of the economy.

Despite the importance of performance audit for the entire public audit system, discussions in the scientific literature regarding the understanding and internal content of this type of public audit do not subside (Zhukov 2018, Barykin 2018, Ozeryakov 2018, Ryabukhin 2018). The above is due to the fact that in the post-Soviet space performance audit is a new form of state audit, the need for which is dictated, as noted earlier, by the specifics of the implementation of the state budget policy in recent years.

In modern scientific literature and practice, the interpretation of the effectiveness of public audit does not have a single approach, so in some sources it is understood as the specifics of its implementation, due to the nature of such an institution (Burtsev 2019), while in other sources under the effectiveness of public audit the effectiveness of the activities of bodies authorized to carry out state audit is understood (Zel'dner *et al.* 2018).

At the same time, as stated in scientific sources, performance audit cannot be strictly regulated, since it is more of a research work that requires flexibility, imagination and a high level of analytical skills. Some researchers, in the framework of the discussion regarding the understanding and internal content of performance audit, focus on the fact that in order to eliminate the problems associated with the concept of "performance audit", as well as with the interpretation of the principle of efficiency, it seems appropriate to move away from a purely quantitative (economic) understanding of efficiency to understanding efficiency as a result (Tereshchenko 2021, Tonkikh 2018).

Sources of audit evidence for travel agencies include:
- primary documents of the audited organization; accounting registers and accounting (financial reporting);
- the results of the analysis of financial and economic activities, as well as the inventory of the organization's property;
- oral explanations of the administration and staff of the organization, customers, suppliers and other persons.

According to the nature of the relationship between the evidence and the objects of the audit, audit evidence is divided into:

- direct evidence - are those that the auditor can obtain from primary documents, registers of analytical and synthetic accounting, financial statements of the audited organization and which do not need additional confirmation of their reliability and sufficiency;
- circumstantial evidence - includes those that do not provide direct confirmation of the completeness and accuracy of the information in question.

Also, the audit evidence of travel agencies is divided into internal, external, mixed and obtained directly by the auditor, depending on the source of information:

- internal evidence - this is the information that the auditor receives from the client;
- external - if the evidence is obtained from third parties;
- mixed evidence (also found in the literature as combined evidence) includes evidence received from the client and confirmed by external sources; evidence obtained directly by the auditor is the result of an analysis of external or internal evidence (Khovanova 2020).

Analysis of the effectiveness of the use of public funds in tourism is an important tool for assessing the effectiveness and efficiency of government programs and investments in this industry. It allows you to evaluate the effectiveness of spending and the achievement of goals in the field of tourism.

When conducting an audit of the effectiveness of the use of public funds in tourism, the following aspects can be considered:

- *Objectives and strategies*: Assessing whether the objectives and strategies of state support for tourism are in line with the current needs and trends in the industry. This may include analysis of tourism development priorities, attraction of investments, development of tourism infrastructure, etc.
- *Budget and spending:* An analysis of the distribution of public funds and budget allocations in tourism. Evaluation of the effectiveness of spending on various programs and projects, as well as their impact on the development of the tourism industry.
- *Monitoring and evaluation*: Evaluation of the system for monitoring and evaluating the results of state programs in tourism. Analysis of data collection methods, indicators and metrics used to measure performance and achieve goals.
- *Results and achievements:* Evaluation of the achievement of goals and results of state support for tourism. Analysis of the impact of government programs on the development of the tourism industry, the level of tourist activity, the influx of tourists, economic performance and employment in the tourism sector.
- *Resource efficiency:* Assessing the Efficiency of Public Resource Use in Tourism. Analysis of the effectiveness of the use of funds, as well as resources in the form of land, infrastructure, natural and cultural heritage and other assets for tourism development.
- Recommendations and improvements: Formulation of recommendations and suggestions.

During the planning process, the auditor selects a result-oriented approach, problem or system, or a combination of both, to enhance the rationale of the audit plan. However, auditors need to focus on entities with high environmental, social, economic or political influence and visibility to identify areas, processes or systems that need improvement.

Vuymo (2018) studies foreign experience of performance reviews and explains that currently in economically developed countries different terms are used in relation to the definition of performance reviews:

- In the UK and Canada, the term "value for money audit" is used;
- In Sweden and Norway "Performance audit" or "Management audit" (effectiveness audit);
- In the US "operational audit" (operational audit).

Analyzing the content of these terms, we can conclude that there are practically no significant differences between them, since they characterize the processes of control over the activities of state bodies. Audit of the effectiveness of the use of public funds as a modern form of financial management that allows you to assess the feasibility and rationality of the use of budgetary funds (Sutopo *et al.* 2018). The issue of performance management in tourism and its role in improving the efficiency of tourism are practically not taken into account (Kapoguzov and Suleimenova 2018). The study emphasizes the importance of conducting a performance audit in tourism and its management.

For example, as an environmental management tool (Haiyan, Jiang 2021) considers the environmental audit of ecotourism, which plays an important role in the implementation of sustainable tourism development. However, an environmental audit of ecotourism cannot be formed overnight. In this long process, we need to work hard to improve it. The theory, methodology, practice of management accounting, analysis and audit is the

subject of scientific interest of such scientists as (Brandão, Costa, Buhalis 2018, Grosu, Anisie, Hrubliak, Ratsa 2019), who in their research reveal the issues of management accounting as an important component of an enterprise's accounting system.

The sphere of tourism has been studied by scientists in various aspects. New promising directions for the development of tourism and features of innovative types of tourism are considered in the works of (Koval, Mykhno, Antonova, Plekhanov, Bondar 2019, Scheyvens, Biddulph 2018, McKercher, Mak 2019) in his study conducts a comprehensive analysis and assessment of current trends in international tourism, identifying promising areas for its activation and further development.

The development of domestic tourism in the EAEU countries is dealt with by such scientists as (Rakhmetulina, Karipova 2019), innovative approaches to sustainable tourism are highlighted in the works of (Dagman 2019) as one of the types of post-industrial services in Kazakhstan within the framework of the economic growth model.

Many scholars are conducting research in the field of tourism, including the analysis of issues related to predicting the behavior of tourists based on models of their satisfaction. These studies consider different contexts such as resort tourism, river tourism, leisure tourism, DMZs, beach tourism (including hospitality development) and forest tourism (such as hiking).

One of the main factors determining the sustainable development of tourism in the country, as noted by (Tribe, Liburd 2019), is the creation of an information space in the tourism system and its continuous improvement. Therefore, to ensure the sustainable development of tourism in a given country, it is important to have a good understanding of the processes taking place in various contextual spaces. These spaces are places where tourists go and spend their time (destinations), or integrate their perception of the two previous spaces (information spaces)

The main task of state regulation of tourism activities, including in the field of inbound and domestic tourism, is to create the necessary legal, economic and social conditions for the formation of sustainable development of the industry that meets international standards with a high level of competitiveness.

2. Research Methodology

In turn, the performance audit is aimed at improving the activities of the subject of inter-budgetary relations and improving the quality of management, through the development and implementation of recommendations developed on the basis of analysis and evaluation of the effectiveness of the use of budgetary funds.

Figure 1. Target areas of the state audit of efficiency in the field of inter-budgetary relations
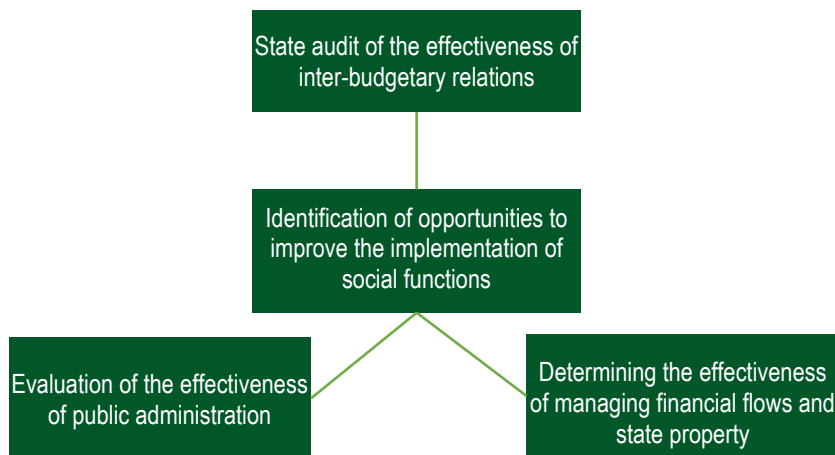
Source: compiled by authors

At the present stage of development of Kazakhstan, economic growth is a necessary but not sufficient condition for reducing income inequality and poverty. Performance audit involves checking the activities of all distributors of public funds, including within the framework of inter-budgetary relations, and state institutions in order to monitor the efficiency of resource use, achieving the best result in the use of budgetary funds and performance, *i.e.*, the degree of compliance of the obtained results with pre-planned ones.

Having considered a number of methods for assessing the effectiveness of inter-budgetary relations, we systematized them in Figure 2. An equally difficult task is an objective assessment of the spending needs of regional budgets. To solve it, the following approaches can be proposed:

- Indirect assessment of the spending needs of the regions based on factor analysis. This method can be used when there are factors that determine the demand or cost of providing public services in subnational entities. Experience with this method in Australia shows that it is much easier to isolate the quantitative impact of demand factors for public services than price rises due to more information and better opportunities to reach consensus with subnational authorities on this issue. On the other hand, studies show that individual factors of demand for public services have an impact on individual expenditure items, at the same time, by including factors that increase the cost of providing public services, it is possible to describe the inter-regional differentiation of the total amount of public spending;
- Estimation of spending needs of the regions based on existing targeted transfers. A similar approach is used in case of insufficient statistical information to analyze the influence of various factors on the amount of expenditure, but at the same time, a certain number of targeted grants are allocated from the national budget, the distribution of which can be considered fair in terms of their compliance with expenditure needs at the subnational level.

Efficiency in the use of budget funds implies the effectiveness of the implementation of the relevant budget programs within which they are allocated. Consequently, the effectiveness of the use of targeted transfers is determined by the achievement of the expected results stated in the passports of budget programs.

Figure 2. Systematization of methods for assessing the effectiveness of inter-budgetary relations
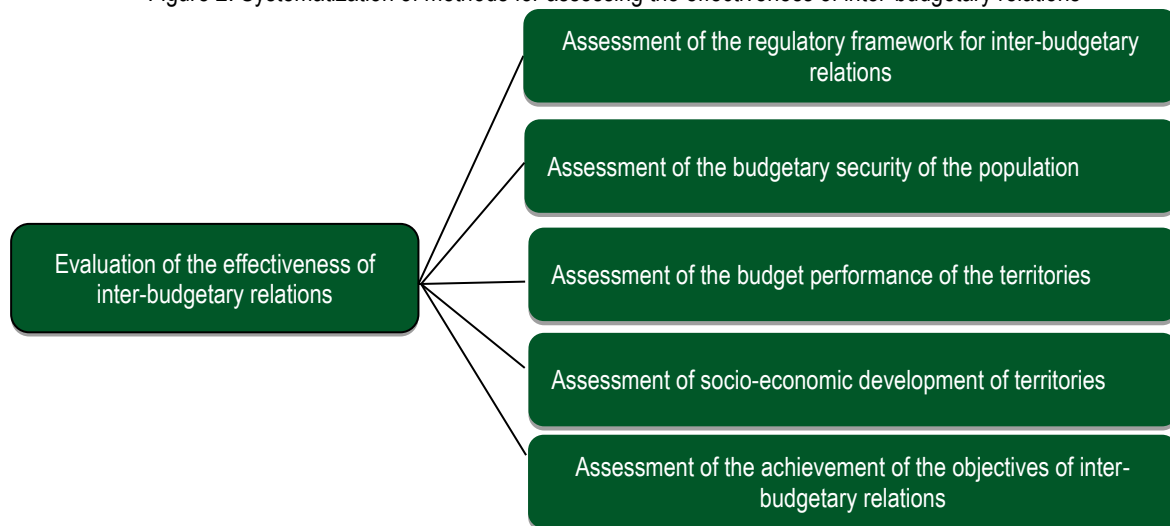
Source: compiled by authors

Figure 3. Types of analyzes of the effectiveness of the use of transfers, necessary when conducting a performance audit
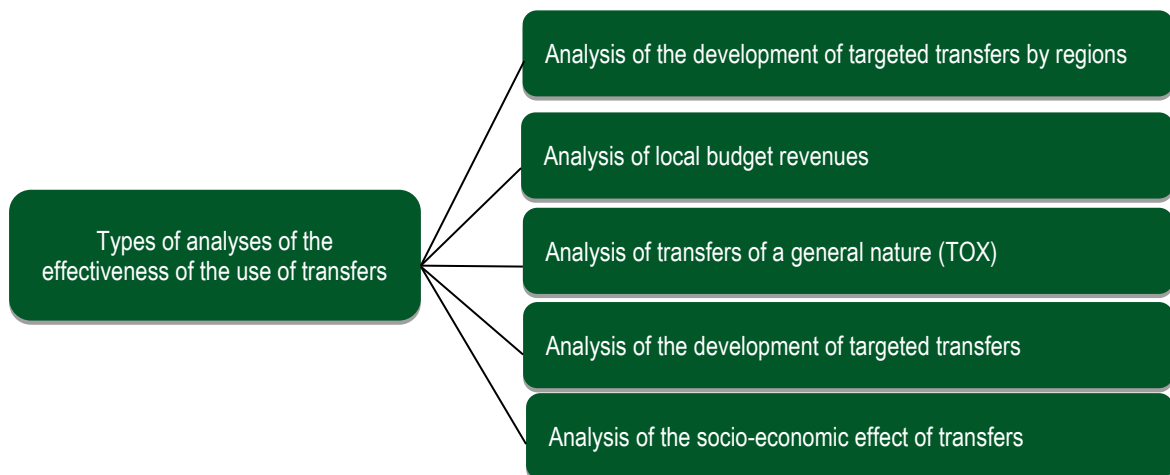
Source: compiled by authors

It should be noted that when evaluating performance, the methodology for assessing inter-budgetary relations, developed by a group of authors led by Doctor of Economics, Professor A.E. Suglobova. The proposed approach is based on four blocks of criteria features: the legal framework of inter-budgetary relations; financial condition of the budget; degree of intra-regional differentiation; financial assistance distribution system. The authors propose to assess the degree of justification of the concentration of resources in terms of equalizing the levels of budgetary security and socio-economic development of municipalities using scatter indicators (skewness range, dispersion, dispersion kurtosis, standard deviation and coefficient of variation).

3. Empirical Analysis

Within the framework of the state audit, expert and analytical activities are envisaged. The expert and analytical activities of the authorized bodies of external state audit and financial control of the Republic of Kazakhstan are carried out in the form of expert and analytical activities, as well as preliminary, current and subsequent budget estimates.

According to the recent evaluation of the draft Law of the Republic of Kazakhstan "On the Republican Budget for 2023-2025" by the Accounts Committee, one of the points was the assessment of expenses aimed at the formation of a national tourism product and its promotion in the international and domestic markets, carried out by the subject of the quasi-public sector, the Joint Stock Company "National the Kazak Tourism company, registered in 2017 and being a subordinate organization of the Committee of the Tourism Industry of the Ministry of Culture and Sports of the Republic of Kazakhstan.

JSC "NC "Kazakh Tourism" annually receives direct government funding in the amount of 1.5-2 billion tenge. Until 2022, these funds came in the form of a government assignment (Figure 4).

Figure 4. The amount of government assignments, JSC "NC "Kazakh Tourism", in billion tenge
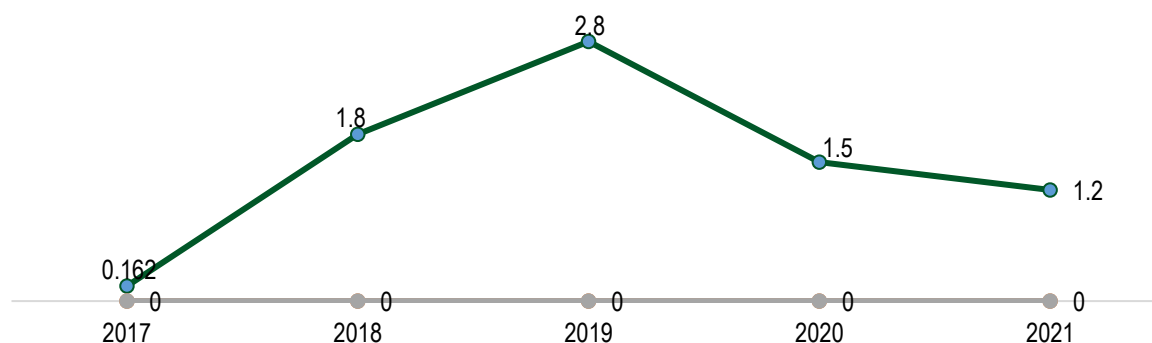
Source: compiled by authors

JSC "NC "Kazakh Tourism" conducted an audit for the period from 2017 to 2021, which revealed a negative balance of the tourism industry in the amount of 1.9 billion US dollars. This indicates significant errors in the use of the tourism potential of Kazakhstan. $7 billion and outbound tourism generated a loss of $8.9 billion. Excluding the 2020 pandemic, outbound tourism losses were $8.9 billion and inbound tourism revenue was $7 billion.

In addition, strategic guidelines in the development of the tourism industry have been overestimated. The target markets were chosen incorrectly, resulting in a low probability of arrival of tourists from most countries in the Middle East and Southeast Asia, as well as India, China and Iran. The situation is aggravated by the imperfection of the methodology for accounting for the number of tourists, which leads to a distortion of statistical data and makes it difficult to assess the contribution of tourism to the economy. This, in turn, leads to the adoption of poor-quality strategic decisions in the development of the tourism industry.

Financing of the national product is carried out through JSC "NC "Kazakh Tourism". On average, 30% of all allocated funds are directed to the maintenance of the company itself, including expenses for project groups, such as wages, travel expenses, rental of premises and communication services. The share of project groups' expenses for individual events related to foreign roadshows and conferences make up about 50% of the total budget of these events.

However, approaches to calculating the need for funds to pay project teams are not unified. In addition, there is no connection between the payment for the services of NC Kazakh Tourism JSC as an operator and the number of applications and paid subsidies for subsidizing air travel for underage passengers (Kids Go Free). At

the same time, up to 85% of the costs are directed to wages. The inclusion of operator services in the budget, even if there are no approved amounts to subsidize air travel in 2023.

Also, due to the insufficiently developed mechanism for subsidizing children's air travel, the demand from tour operators for this program remains low. For example, according to the plan for 2022, 24 thousand applications were received from tour operators for a total of 357.8 million tenge, but by September 2, 2022, only 380 applications were paid for the amount of 40 million tenge (or 11%). It has been noticed that every year there is a duplication of the same activities, such as the analysis of tourism potential, as well as activities of dubious effectiveness, such as roadshows, which do not have a direct impact on the development of tourism potential.

Financing of activities for the formation of the national product through JSC "NC "Kazakh Tourism" has several features and problems that require analysis:

▪ Distribution of funds: On average, 30% of all funds directed to Kazakh Tourism NC JSC are used for the maintenance of the company, including expenses for project teams, such as wages, travel expenses, rental of premises and communication services. The share of expenses of project teams may make up to 50% of the budget of some events related to foreign roadshows and conferences;

▪ Non-unified approach to calculating the costs of project teams: There is no unified approach to calculating the need for funds directed to the salaries of project teams. This can lead to an unbalanced distribution of funding and unreasonably high costs for some activities;

▪ No dependence of payment for services on the number of applications: There is no direct relationship between the payment for services of NC Kazakh Tourism JSC as an operator and the number of applications and subsidies paid to subsidize air travel for underage passengers (Kids Go Free). As a result, up to 85% of the costs are for labor, and the lack of approved amounts for air travel subsidies could lead to unjustified operator services;

▪ Low demand for the child air travel subsidy program: The child air travel subsidy mechanism is not well developed, resulting in low demand from tour operators for this program. For example, in 2022, 24 thousand applications were received from tour operators for a total of 357.8 million tenge, but only 380 applications were paid for the amount of 40 million tenge (or 11%);

▪ Duplication of activities and low efficiency.

Thus, the analysis of strategic guidelines in the development of the tourism industry of the Republic of Kazakhstan (RK) allows us to highlight the following main aspects:

▪ Target Markets: The 2026 Tourism Vision has identified target markets that include the Middle East, Southeast Asia, India, China and Iran. However, according to the analysis of the data, the probability of arrival of tourists from most of these countries turned out to be unlikely. This indicates the need to revise strategic guidelines and adapt to real market conditions;

▪ Insufficient assessment of the contribution of tourism to the economy: There is a problem of imperfection in the methodology for recording the number of tourists, which distorts the statistical data and does not allow a reliable assessment of the contribution of tourism to the economy. This hinders the development of high-quality strategic decisions for the development of the industry;

▪ Duplication of activities and low efficiency: There is annual duplication of the same activities, such as the analysis of tourism potential, as well as activities with low or questionable effectiveness, such as roadshows. The direct impact of these events on the development of the tourism potential of the Republic of Kazakhstan is not traced, which requires a revision and a more meaningful approach to the selection and holding of events.

In general, the analysis of strategic guidelines in the development of the tourism industry in the Republic of Kazakhstan shows the need to revise some areas and approaches. This includes revisiting target markets, improving the methodology for recording and evaluating the contribution of tourism, as well as more meaningful selection and evaluation of the effectiveness of activities.

Data from the Bureau of National Statistics of the ASPIR of the Republic of Kazakhstan over the past five years indicate that the tourism industry in Kazakhstan has not yet recovered from the pandemic. This is reflected, first of all, in the number of foreign tourists coming to the country. In 2019, more than 8.5 million non-residents visited Kazakhstan, while last year their number was 4.7 million (3 times more than in 2021). However, despite this jump, these figures are still well below pre-pandemic levels. In addition, this cannot be called an achievement in the field of tourism marketing, since part of the visitors were Russian citizens who came to Kazakhstan in connection with two migration waves (in February due to the start of the war and in October due to the announcement of partial mobilization in the Russian Federation), see Figure 5.

Figure 5. Number of visitors by types of tourism for 2017-2022, in million people
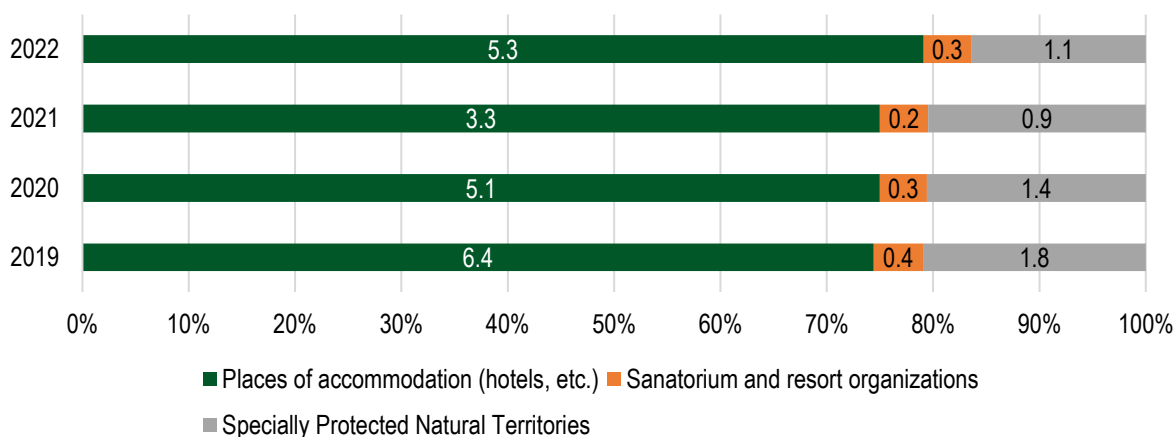

Outbound tourism ■ **Inbound tourism** ■ **Domestic tourism**
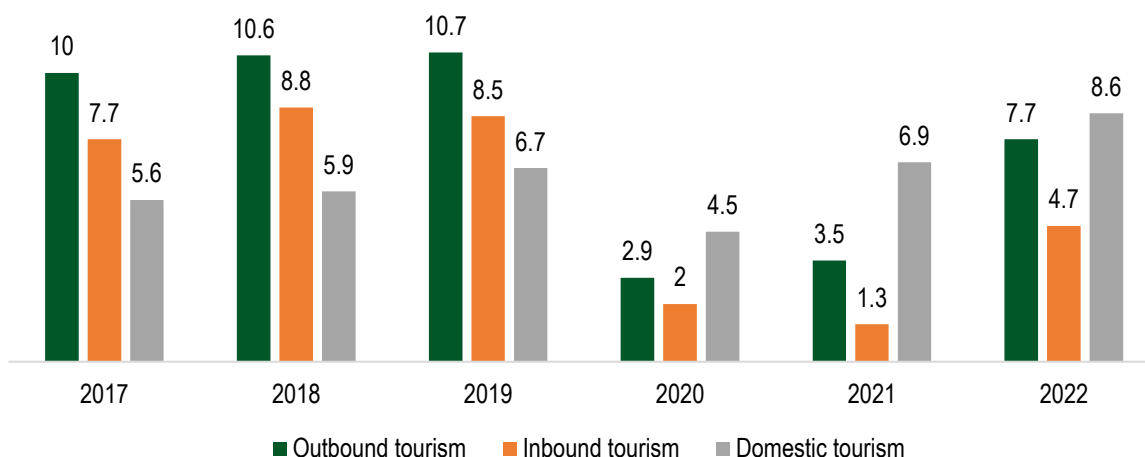
In 2022, out of 8.6 million so-called domestic tourists, 6.4 million people stayed in hotels, 1.8 million people visited nature reserves, sanctuaries and other specially protected areas, 378 thousand citizens visited sanatoriums. That is, only a small part (only a quarter, or 2.2 million people) were really vacationers who went to nature on vacation or to a sanatorium for recovery. In January-December 2022, out of more than 8.8 million domestic visitors, there were only 87% of such overnight visitors in the Republic of Kazakhstan, or 7.7 million people. Moreover, 66.7% of them, or 5.1 million people, stayed with relatives during their trip. Once again, more than two-thirds of all domestic tourists simply visited their families. A little more than 934 thousand citizens lived in rented apartments during their trips.

Those who went to sanatoriums, children's camps, camp sites, country houses or rented a chalet in the forest, in 2022 there were only 578.3 thousand people. And if we compare these figures with 2021, it turns out that the number of visitors to this category in 2022 has become not more, but almost half as much (578.5 thousand people, against 1 million people in 2021).

At the same time, the discussed increase in the number of domestic visitors falls precisely on those who go to visit relatives. In 2022, there were almost 767 thousand more such Kazakhstanis, or 17.5%. At the same time, according to surveys, there were 21.9% and 37.1% fewer visitors to hotels, motels and sanatoriums, respectively. The numbers speak for themselves: Kazakhstanis have begun to travel less to camp sites and sanatoriums, and even stay in hotels less often, but more often go to relatives and friends (Figure 6).

Figure 6. Number of domestic visitors served, in million people

■ **Places of accommodation (hotels, etc.)** ■ **Sanatorium and resort organizations**
■ **Specially Protected Natural Territories**

The most active increase in the costs of Kazakhstanis for tourism occurs precisely in the field of foreign recreation. Judging by the results of sample surveys, last year residents of the country spent 225.2 billion tenge on trips to other countries. This is 42.9% more than in 2021. Judging by detailed data, this was due to an increase

in the cost of accommodation in hotels (plus 65.2%), flights, transfers and tours (plus 30.6%), food (plus 46.5%). These are the main cost items for overseas tours. It is worth noting that there is a tendency to save on the services of travel agencies and dinners in restaurants (Figure 7).

Figure 7. Expenses of domestic and outbound visitors, in billion tenge

Source: compiled by authors according to https://www.energyprom.kz/
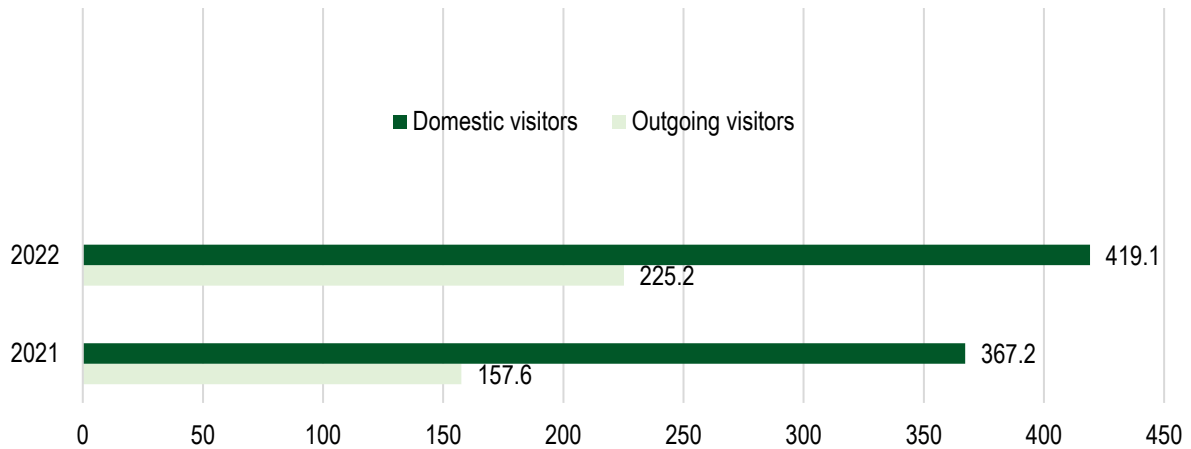
Of course, citizens spent more on trips within the country over the past year: 419.1 billion tenge, with an increase of 14.1% by 2021. But the structure of these expenses, in contrast to foreign holidays, was a little different. More than half of the travel budget for domestic tourists was paid for the road and the purchase of goods. Out of 419.1 billion tenge, Kazakhstanis spent 116.7 billion tenge on shopping. Resident travelers spent 54.1 billion tenge, or 12.9% of the total, directly on accommodation in hotels. By the way, it was on tourist services that traveling Kazakhstanis also saved last year. Travel agencies were paid only 217 million tenge for 2022, which is immediately 35.2% less than in 2021. Expenses for various medical and wellness procedures decreased by 6.5%, from 21.3 billion to 19.9 billion tenge. In general, the volume of services provided by accommodation places in the regions of the Republic of Kazakhstan indicates a positive trend after 2020 (Figure 7).

Figure 7. Volume of services rendered by accommodation places by regions, Republic of Kazakhstan, thousand tenge

Source: compiled by authors according to https://www.stat.gov.kz
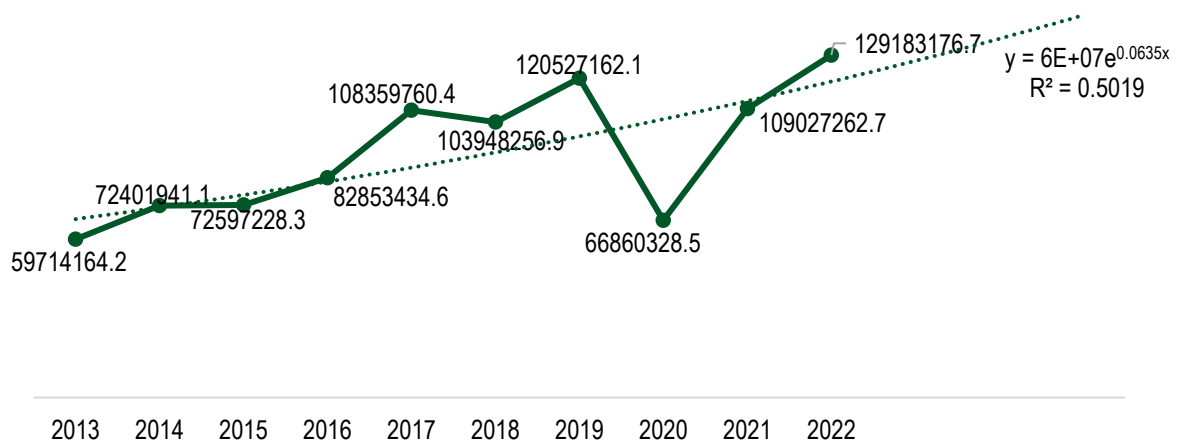
4. Assessment of the Degree of Financial Independence of the Turkestan Region

Consider the criteria for assessing the degree of financial independence of territories:

▪ Regional incomes have been declining for several years. This indicates that own and budgetary funds are used inefficiently, in addition, the territory lacks its own financial resources for development. The incomes of the regions are growing slightly - from 1 to 5%, which indicates a fairly rational use of their own and budgetary funds for the development of the territory. The incomes of the regions have grown over several years from 5 to

20%, which indicates a fairly rational use of their own and budgetary funds for the development of the territory. The territory's revenues have grown by more than 20% over several years, which indicates the effective use of own and budgetary funds for the development of the territory;

▪ With a share of own income of less than 30%, the financial independence of the territory is low, its financial position is completely dependent on the help of higher budgets. With the share of own income of the territory from 30 to 65%, the financial independence of the territory is average, *i.e.* The territory solves part of its problems at its own expense. With a share of own funds of more than 65%, the financial independence of the territory is high, almost all expenses are carried out by the territory at its own expense and does not depend on the funds of higher budgets;

▪ The share of intergovernmental transfers of the territory also confirms the financial dependence or independence of the territory. So, if the share of inter-budgetary transfers of the territory is less than 35%, then the financial independence of the territory is high, if the share of inter-budgetary transfers is from 35 to 70%, then the territory has an average financial independence; if the share of intergovernmental transfer is more than 70%, then the financial independence of the territory is low;

▪ If the territory's own income per 1 inhabitant decreases over several years, then we can talk about the low financial independence of the territory. If the territory's own revenues per 1 inhabitant increase by 1-20% over several years over several years, then we can talk about the average financial independence of the territory. If the territory's own income per 1 inhabitant increases by more than 20% over several years, then we can talk about the high financial independence of the territory.

Next, we will evaluate the effectiveness of inter-budgetary relations on the example of the Turkestan region (Table 1).

Table 1. Financial independence of the Turkestan region

Criteria for financial independence	2019	2020	2021	Average growth rate, %
Revenues, billion tenge	757,296	786,792	876,400	7,6
Share of tax revenues of the territory, %	8	9	11	17
Share of non-tax revenues of the territory, %	0,5	1	1	62
Share of own revenues of the territories,%	8	11	14	32
Share of received intergovernmental transfers, %	92	89	86	-3
Population	2,016,037	2,044,742	2,075,132	1,5
Inter-budgetary transfers, billion tenge	696,712	700,244	753,704	
Own income, billion tenge	60.584	86,548	122,696	
Own income per person, thousand tenge	31,8	41,9	57,2	34,2

Source: compiled by authors

The calculation data for the Turkestan region testify to the high financial independence of the territory, since the growth rate of the Turkestan region's own income per 1 inhabitant has increased by an average of 34.2% over several years.

Thus, it can be noted that over the years of independence, Kazakhstan has not had time to form an effective regional policy capable of ensuring uniform and harmonious socio-economic development throughout the country. In general, today we can distinguish the following constraining factors for the uniform development of regions:

▪ uneven distribution of resources;
▪ an economic strategy based on the priority development of the extractive sector;
▪ strong centralization of power;
▪ lack of understanding in local executive bodies of strategic guidelines for regional development;
▪ incomplete implementation of selective policy;
▪ budgetary policy that is not conducive to economic development;
▪ incomplete transparency of the actions of state bodies on the implementation of regional policy.

The real independence of local executive bodies is determined by their ability to mobilize resources to the relevant budgets and dispose of them in accordance with the needs of the territories. Meanwhile, the issues of autonomy of local budgets are traditionally debatable. This is due to the processes taking place in the sphere of inter-budgetary relations and the established practice of generating revenues for the republican and local budgets.

To improve the efficiency and effectiveness of planned transfers based on the volume of the local budget, the volume of tax revenues, the required level of gross regional product, we propose to use the economic and

mathematical model of a multilayer perceptron (MLP), since other models did not give us a correlation of indicators.

Model of a multilayer perception is a fully connected class of feed forward artificial neural networks (ANN). The term MLP is used ambiguously, sometimes in a broad sense to refer to any feed-forward ANN, sometimes strictly to refer to networks consisting of several levels of perceptron's (with threshold activation). Multilayer perceptron's are sometimes colloquially referred to as "vanilla" neural networks, especially when they have one hidden layer. As input neurons, we took 2 neurons: GRP and tax revenues, as outgoing - the projected amount of the transfer for a certain period. In the hidden layer of this multilayer perceptron, we inserted 100 hidden neurons. On the test data, we calculated the average absolute error of about 12.5 billion tenge and then presented the data obtained and received the corresponding graphs.

Figure 8. The results of the correlation of indicators for the Akmola region
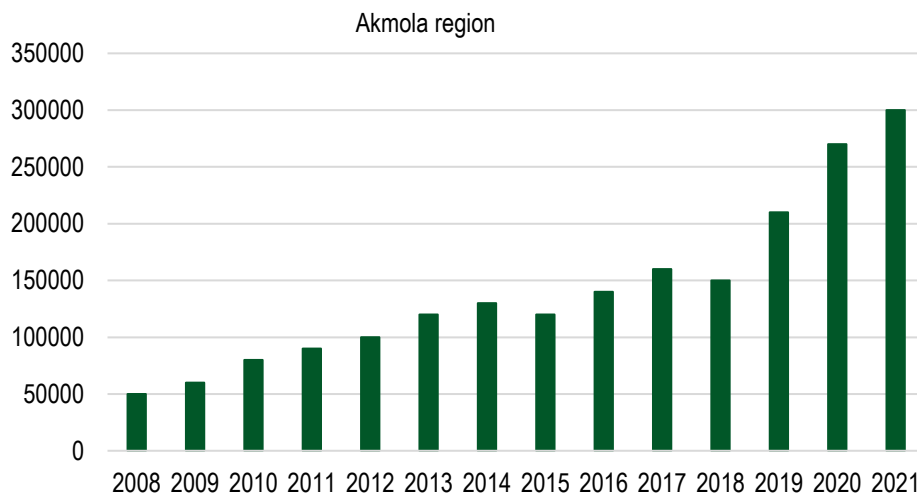
Source: compiled by authors

We format the variables in a format suitable for training the model. For training, we split the datasets into training and test:

- 80% of the data will be used for training
- 20% of the data will be used for testing

Figure 9. Training results
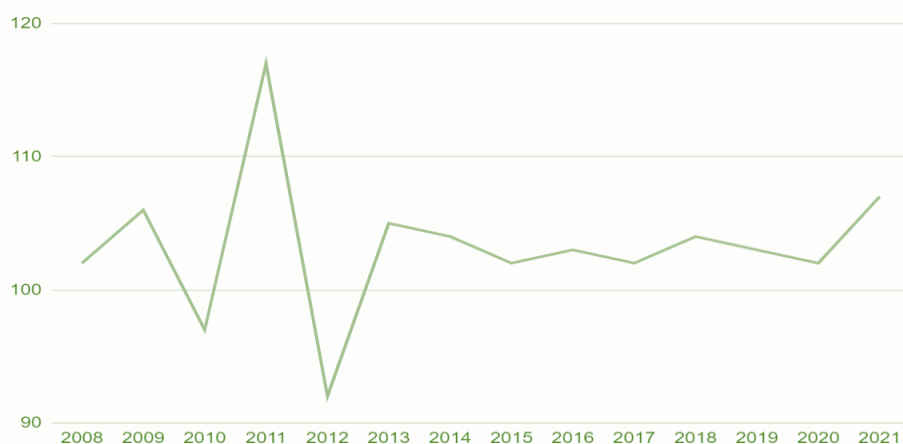
Source: compiled by authors

Our task is to predict a numerical value in a certain interval, which falls under the category of regression.

We use MLP Regressor as a model, as it showed the highest accuracy compared to: Linear Regression, SVR, SGDRegressor, KNeighborsRegressor, BayesianRidge, TheilSenRegressor. Since there is not so much data, we use the tanh activation function and the learning algorithm lbfgs. We calculate the accuracy of the model in terms of errors:

- Mean absolute error MAE
- Average absolute error in percentage of MAPE
- Maximum error MaxError

We are preparing charts for showing predictions for the period from 2008 to 2021.

In general, the results obtained, as we see, converge with respect to real budgets. We took data on the budget, tax revenues, GRP for the current year in the Akmola region and sent it to the neural network, which issued the required amount of financial resources in the amount of 27.281 billion tenge, instead of 33 billion tenge, which had already been spent. Which means a significant excess of the required transfers with the results that we have.

Figure 10. Evolution of indicators, Akmola region
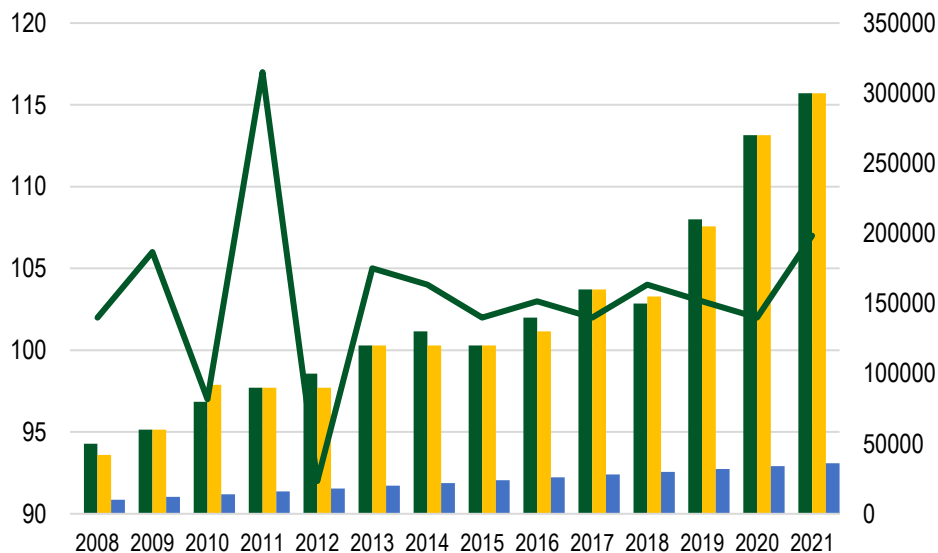
Source: compiled by authors

According to this model, the overspending amounted to more than 100% in a particular case. Such a neural network (https://github.com/bonkboykz/econ/blob/main/main.ipynb) as we see, can be used for calculations for other regions and when planning the budget, necessary transfers, and when conducting performance audits.

Conclusion

Creation of a favorable mechanism for the implementation of regional development policy measures is one of the key tasks facing Kazakhstan. The country has ambitious goals to achieve strong balanced growth from a resource-intensive growth model to a more diversified and sustainable one. To achieve these goals, reforms are required to support the development of new competitive economic activities in the regions that would contribute to national growth while improving the well-being of the local population.

The implementation of policies tailored to local conditions can help Kazakhstan in stimulating economic growth in the regions. At the heart of the OECD's approach to regional development lies the emphasis on realizing the potential of each region, taking into account its specific strengths and resources, using complementary policies and a multi-level governance model. To solve current problems, Kazakhstan needs to focus on two areas of reform. First, to support the development of economic activity based on the advantages and resources of the regions, the country should develop mechanisms and policy instruments that take into account local conditions, as well as realize the additional potential of agglomeration, especially in large and secondary cities.

Through further decentralization, regions and local governments can be given opportunities to promote economic development much more effectively. The electoral system can be reformed so that akims are elected at all levels, and the role of maslikhats in the budget process can also be strengthened. Sub-national governments can be given more financial power and responsibility, as well as training, technical assistance and guidance on how to implement policies on the ground, in particular in the area of budget management.

For development at the subnational level, it would be beneficial to achieve a greater degree of coherence both within government and between the state, the private sector and civil society. A higher degree of

coordination between different levels of government and akimats can be achieved through tools and platforms such as working groups and task forces with a sufficient number of participants from each stakeholder organization. To increase the involvement of all parties in the policy-making process, strengthening the role of public councils is required by increasing their independence and allowing them to hold more public hearings. Tools such as participatory financial planning would enable greater engagement with local residents.

Analysis and strengthening of state financial control will identify and prevent cases of corruption, fraud and misuse of budgetary funds in the tourism industry. This will help maintain the financial sustainability and integrity of the budget process.

Also, an audit in tourism helps to identify possible violations and inconsistencies in the field of financial management. It allows you to evaluate the effectiveness of the use of budgetary funds, identify weaknesses in the financial control system and offer recommendations for their elimination. Strengthening state financial control and audit also contributes to increased confidence on the part of investors and the business community. This creates favorable conditions for attracting investment in the tourism industry and contributes to its development.

In general, strengthening public financial control and audit in tourism is an integral part of the effective management of budgetary resources and contributes to the sustainable development of the tourism industry.

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