

WAYS TO FURTHER IMPROVE CUSTOMS ADMINISTRATION AT VEHICLE BORDER CUSTOMS POSTS

Rakhmonova Nargiza Rashidovna

senior lecturer at the Customs Institute

ORCID: 0009-0003-2274-254X

Abstract. This article explores the role of Uzbekistan's automobile border customs posts in improving customs administration and enhancing the efficiency of their operations in facilitating foreign trade. The condition of the posts is analyzed, and the factors affecting their throughput capacity are examined. Scientifically grounded proposals and recommendations are provided, taking into account international best practices aimed at reducing congestion at border customs posts, preventing delays for individuals and vehicles, and accelerating logistics processes.

Keywords: customs administration, border post, logistics efficiency, factors affecting post operations, congestion, goods and vehicles.

Аннотация. В данной статье раскрыта роль автомобильных пограничных таможенных постов Узбекистана в упрощении внешней торговли и повышении эффективности их деятельности в рамках дальнейшего совершенствования таможенного администрирования. Проведен анализ состояния постов и изучены факторы, влияющие на их пропускную способность. Научно обоснованные предложения и рекомендации разработаны с учетом передового зарубежного опыта по сокращению заторов на пограничных таможенных постах, предотвращению простоев граждан и транспортных средств, а также ускорению логистических процессов.

Ключевые слова: таможенное администрирование, пограничный пост, эффективность логистики, факторы, влияющие на работу постов, заторы, товары и транспортные средства.

Introduction

As countries establish relations with each other in various directions, including economic ones, they lead to the movement of goods and material resources across their territories, that is, the export, import and transit of goods. As foreign trade increases, each country seeks to increase the efficiency of border customs posts, prevent traffic jams and ensure that vehicles and passengers do not have to wait at the borders.

Customs authorities are tasked with facilitating trade, simplifying border procedures, as well as ensuring economic security, implementing customs control, preventing the import of illegal goods, contraband and counterfeit products into the country, as well as the timely and

complete collection of customs duties. The simultaneous implementation of these two "opposite" directions requires great skill from customs authorities.

Speed, simplicity, bureaucracy and barriers in international trade in goods are being studied by many international organizations, and recommendations are being developed to further simplify and speed up processes and reduce administrative barriers. These include the World Bank, the International Monetary Fund, the World Customs Organization, and the World Trade Organization. World Bank experts regularly study the Logistics Performance Index (LPI) of countries. Within the LPI, countries are assessed in 6 areas, including customs. Based on the results of 2023, Uzbekistan took 88th place in the LPI rating.

One of the main target indicators for improving the efficiency of the state customs service is to achieve by 2030 the position of the Republic of Uzbekistan in the LPI rating of no lower than 55th place in terms of customs clearance efficiency. [1].

Based on the tasks set before the customs authorities, namely, to further improve the efficiency of customs posts and improve the throughput of goods and vehicles across the border, one of the pressing issues is the development of conclusions and proposals to improve our country's position in the LPI.

Materials and Methods

In preparing the scientific article, general scientific methods were used: functional approach, comparison, juxtaposition, induction and deduction. The advanced foreign experience on this topic was studied and analyzed, and corresponding proposals and recommendations were given for improving customs administration in the process of developing foreign trade of the Republic of Uzbekistan.

Results

The issues of simplifying foreign trade procedures by simplifying procedures at border customs posts and improving customs administration at border crossing points have been studied and researched by many international organizations, scientists and researchers around the world. Research in this direction is being conducted all over the world under such names as "Coordinated Border Management" and "Integrated Border Management".

For example:

The World Bank's Customs Modernization Handbook emphasizes that customs administration plays a key role in facilitating trade and collecting payments. [2].

For several years, experts from the World Customs Organization have been conducting studies in member countries and publishing reports and recommendations based on the results of the studies [3]. The World Bank evaluates the logistics efficiency of countries every two years and publishes them in indices. [4]. The TRACECA (Transport Corridor Europe-Caucasus-Asia) developed a methodology for assessing checkpoints in 2021 [5]. Maria Polner, J. McLinden, A.Z. Durrani [6] also presented problems and solutions at border checkpoints in their scientific works.

Russian scientists A.R. Gladkov, M.V. Boykova, T.S. Nenadyshina, in their scientific studies, examined the issues of customs administration at border customs posts, in particular, the possibility of increasing the throughput of posts by providing information in advance. [7].

Some aspects of the further development of foreign trade, the work of customs posts were studied in the research works of our country's scientists A. Suyunov, T. Pardaev, A. Shadmankulov, A. Azizov, E. Ladigina, J. Kadirov and others [8]

The concept of "customs administration" was first used in legal documents in 2023. Resolution No. 363 of the Cabinet of Ministers of 11.03.2023 "On amendments and additions to the Resolution No. 814 of October 11, 2017 "On approval of the Regulation on the procedure for applying the two-lane system at customs border crossing points of the Republic of Uzbekistan" aimed at simplifying customs administration" [9] was adopted.

During the research, further simplification of customs administration in the Republic of Uzbekistan was studied using the example of automobile border customs posts.

The role of customs posts in ensuring foreign trade operations, the rapid and safe movement of international trade flows, as well as economic security, is invaluable. Customs posts located in border areas, in particular, are of strategic importance not only for collecting customs duties, but also for controlling the transit of legal and illegal imports and exports, counterfeit products, narcotics, and other dangerous goods. As of 2025, there were 32 operating border customs posts in Uzbekistan, each with its own geographical and functional characteristics.

Table 1.

Descriptive statistics of the study

Variable	Obs	Mean	Std. Dev.	Min	Max
Daily car	32	281.423	292.591	0	972.732
Passengers	32	1285731.2	2188692.7	0	11495171
Offense	32	176.25	383.431	1	1998
Employees	32	39.094	28.312	13	104
Identification examination complex and Z-portals	32	.469	.621	0	2
Lanes	32	3.969	2.682	2	11
Customs payments	32	14060.472	36341.019	0	165312.59

Table 1 above shows the descriptive statistics of the main variables obtained within the framework of the study. The "Daily vehicle" variable, i.e. the number of vehicles passing through customs posts per day, shows an average of 281 vehicles, which indicates a significant variation in traffic (Std. Dev. \approx 292). The minimum value is 0 and the maximum is 972.7, indicating that some posts have very little or no daily traffic flow, while others have a very high one. The "Number of citizens" variable, with an average of 1.2 million people, reflects the demographic difference in the areas where these posts are located (the standard deviation is very large: 2.1), which indicates a significant difference between the capital and the outlying areas.

The average number of employees is 39, reflecting the service capacity of customs posts. The minimum number of employees is 13, and the maximum is 104. These figures indicate significant differences in resource allocation and workload. The average number of users of the "Identification Verification Complex and Z-portals" (digitalized service provision) is 0.469, which indicates that this system is not sufficiently implemented in most posts. The

maximum value is 2, and the integration process is well established in some posts. The average number of "legal violations" is 176 cases, with a maximum of 1998, which indicates a low level of control or population density in some areas. The average number of "lanes" is 4, with a maximum of 11, which affects the throughput of customs.

The graph showing daily vehicle dynamics by post shows the variation in the number of vehicles moving through customs posts in the figure below. This dot diagram depicts the "daily vehicle" indicators for each post. As can be seen from the graph, the highest daily vehicle flow was observed at the customs posts of Yallama, Gishtkoprik, Farhod, and Dostlik (Andijan). This indicates that these posts are one of the main transit points in the republic.

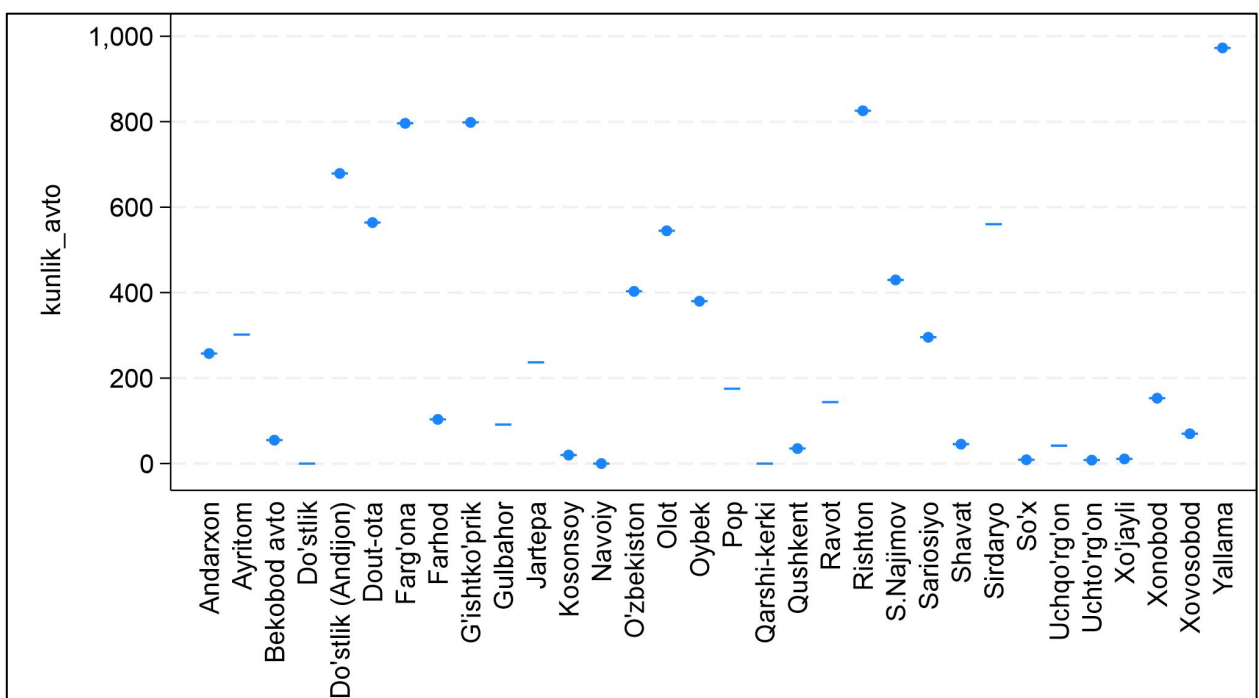


Figure 1. Daily auto dynamics graph in the posts section

This large difference between the posts can be explained by factors such as proximity to major cities and international routes, the presence of logistics centers, and population density. In addition, some posts may be designed for freight transport, while others may be more passenger-oriented. Therefore, this graphical approach shows that each post requires specific strategic planning and infrastructure investment.

The results of the Pearson pairwise correlation test presented in Table 2 show a linear relationship between daily vehicle flow (daily_vehicle) and other factors. According to the table, there is a positive and statistically significant relationship between the number of citizens ($r = 0.556$, $p = 0.001$), the number of violations ($r = 0.547$, $p = 0.001$), and the number of employees ($r = 0.637$, $p = 0.000$) and daily vehicle flow. This means that a large population, an increase in violations, and an increase in the number of employees can increase the volume of vehicle traffic. In particular, the relationship with the number of employees is the strongest ($r = 0.637$), indicating a direct relationship between management resources and vehicle flow.

Table 2.
Pearson pairwise correlation test

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) Daily car	1.000					
(2) Passengers	0.556*	1.000				
	(0.001)					
(3) Offense	0.547*	0.699*	1.000			
	(0.001)	(0.000)				
(4) Employees	0.637*	0.489*	0.528*	1.000		
	(0.000)	(0.004)	(0.002)			
(5) Identification examination complex and Z-portals	-0.122	-0.185	-0.178	-0.239	1.000	
	(0.507)	(0.312)	(0.330)	(0.187)		
(6) Lanes	-0.240	-0.161	-0.216	-0.114	0.667*	1.000
	(0.186)	(0.379)	(0.236)	(0.535)	(0.000)	

*** p<0.01, ** p<0.05, * p<0.1

As the country's foreign trade increases year by year, this means an increase in the load on border customs posts, and customs authorities must take into account the future flow of vehicles and passengers when building and reconstructing posts.

Table 3. Forecast indicators of vehicle traffic through customs posts of Uzbekistan until 2030

Model		2025	2026	2027	2028	2029	2030
Total number of vehicles - Model_1	Forecast	3286967	3615358	3943750	4272141	4600533	4928925
	UCL	4605696	4934088	5262481	5590873	5919265	6247657
	LCL	1968237	2296628	2625019	2953410	3281801	3610192
Number of vehicles per day - Model_2	Forecast	9005	9905	10804	11704	12604	13503
	UCL	12618	13517	14417	15317	16217	17116
	LCL	5392	6292	7191	8091	8991	9890

The forecast results based on the Holt method in Table 3 show a steady increase in the number of vehicles entering the customs system of Uzbekistan from 2025 to 2030. In particular, while in 2025 an average of 9,005 vehicles are expected to pass through customs posts per day, this figure will reach 13,503 in 2030. This means that the daily flow will increase by more than 50% in 5 years. The difference between UCL and LCL (from 9,890 to 17,116) takes into account daily variability, seasonal loads, and temporary shifts in foreign trade demand.

Conclusion

In short, the regression analysis conducted on the section of automobile customs posts of the Republic of Uzbekistan clearly showed the influence of various factors on the effective

organization of customs control and clearance processes at border customs posts. Among the main indicators studied using OLS, robust, log-lin, SEM and standardized SEM models, the number of employees serving at the post consistently has statistical significance, confirming that the adequacy and quality of these resources directly affect the number of vehicles moving through customs posts. This is especially noticeable with a high coefficient of 5.093 ($p < 0.01$) in the SEM model and 0.493 ($p < 0.01$) in the standardized model.

Also, the negative and statistically significant result of the number of available lanes at the customs post (SEM -31.935, $p < 0.05$; SEM-standard -0.293, $p < 0.1$) indicates that the physical infrastructure of checkpoints cannot always increase the level of throughput. This means that a greater number of lanes alone does not guarantee improved throughput unless supported by an efficient management system if there is no system for their effective use. Digital technologies such as IKM and Z-portal, as they have not yet been installed at all posts and are not fully functional, did not produce statistically significant results ($p > 0.1$), but in the future, increased attention should be paid to them. Because vehicles inspected through the IKM and Z-portal reduce the workload of customs officers by 10-15 times and allow employees to use their labor to conduct other forms of control.

This situation indicates the need to optimize the logistics system, expand infrastructure, introduce digital monitoring systems, and strengthen automated customs control tools. Based on the results of this forecast, it can be said that improving the customs system will remain an important tool for the stability of Uzbekistan's foreign trade policy.

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