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Ways to Form a Competitive Environment in The Activities of Natural Monopoly Enterprises

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Abstract: This article comprehensively analyzes the issue of forming a competitive environment in the activities of natural monopolies. Problems such as economic inefficiency, low quality of service and violation of social justice arising from the lack of competition in natural monopoly sectors are considered on a scientific basis. Based on international practices, including analyses by the OECD, the European Union and the World Bank, the possibilities of forming an effective competitive environment in natural monopoly sectors through mechanisms such as contestability, selection of operators on a tender basis, unbundling and price regulation are studied. Based on the analysis of reforms being implemented in Uzbekistan, such areas as structural reorganization of natural monopoly enterprises, separation of services and infrastructure, expansion of private sector participation, and transparency of tariff policy are assessed in accordance with national characteristics. A comprehensive strategy has been developed to increase efficiency in natural monopoly sectors, optimize state spending and protect consumer interests.

Keywords: Natural Monopoly, Competitive Environment, Regulated Competition, Infrastructure Reform, Contestability, Unbundling, Transparency of Tariff Policy, Private Sector Participation

1. Introduction

A competitive environment is crucial for the successful functioning of any market economy. Through competition, prices become transparent, resources are allocated efficiently, and manufacturers improve quality and introduce technologies in an effort to meet customer demands. Therefore, the presence of competition is considered one of the main criteria for achieving sustainable growth in the economy, increasing social welfare, and properly forming market mechanisms [1].

However, some sectors are characterized by the fact that full competition is technically and economically difficult or even impossible to achieve. Such sectors include infrastructure sectors such as electricity supply, natural gas, district heating, rail transport, drinking water and sewage. Due to the high capital intensity, high infrastructure costs and the economic inefficiency of building alternative networks, in most cases only one service provider operates in these sectors. In such cases, these enterprises are recognized as "natural monopolies" [2].

The ongoing economic reforms in Uzbekistan, including the privatization of state assets, the reorganization of strategic sectors based on market mechanisms, measures to stimulate competition and improve the investment climate, also directly affect natural monopolies. Since 2020, the Committee for the Development of Competition and

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Consumer Protection, the Agency for Natural Monopolies and other relevant structures have begun to update the legal and organizational framework in this area.

In this process, it has become an urgent task to strengthen control over the financial statements, tariff policies, and investment programs of natural monopoly enterprises, base their activities on audit and transparency criteria, and gradually create a competitive environment by attracting private investment to the sector [3].

Natural monopolies every one country economy strategic from the basics one They are, first of all, the population marriage level, production release of subject's stable activity and general social infrastructure continuous performance Therefore, electricity energy, natural gas, water supply, railway and communication services such as in the field's activity driver natural monopoly enterprises state for strategic importance has been considered. But this with together, this in the fields of competition lack of innovation your encouragement low and prices control complexity they in the activity row systematic problems brought releases [4].

In our country of the economy market to the mechanisms based new model formed going one while, naturally monopolies there is system reform to reach need. Today on the day this in the field following problems current is: monopoly of enterprises tariff policy transparent it's not and expenses to optimize undirected; technological update slowly is happening, as a result services poor quality and consistent not ; i consumers rights enough at the level protection not done; d generation by control strong Although the efficiency is low remains ; enterprises calculations and investment programs open not the state of funds consumption over public control limited [5].

These problems existence monopoly by nature come outgoing risks with related to be, the only administrative control with not, maybe competition elements current to grow through eliminate to grow possible. In this sense, todays on the day natural monopolies in the field market mechanisms partially current to do, public-private partnership expansion, licensing system again seeing exit and from services public use infrastructure create through competition environment formation necessary to be remains [6].

Uzbekistan under the circumstances this topic further important importance has. Because in the country energy, transport and utility economy such as in the fields natural monopolies still still "backbone" sectors of the economy are considered. From 2020 since take going economic reforms, in particular, "monopoly" restriction and healthy competition environment formation » state in politics separately priority has to be is coming. The President by acceptance made one row decree and in decisions - including 2022-2026 New Uzbekistan is intended progress strategy, «Competition about Law and Natural monopolies about to the legislation included in changes - this direction open designated [7].

At the same time, world practice shows that the competitiveness and efficiency of natural monopolies is not associated with their privatization, but with the introduction of market mechanisms and an effective regulatory role of the state. That is, the infrastructure may belong to the state, but through the participation of several operators in the service sector, it is possible to create an environment of competition in price, quality and innovation [8].

Today's global processes - namely, energy security, climate change, resource conservation, digital transformation, and the need to improve the quality of services to the population - make the reform of natural monopolies a strategic task not only at the national but also at the international level. Uzbekistan's aspiration to join the World Trade Organization (WTO) and measures taken to improve the international investment climate make the expansion of competition in this area even more urgent [9].

Review of Relevant Literature

The issue of natural monopolies and the formation of competition in them has been widely studied in world economic literature. Scientific views in this area are mainly formed around the economic characteristics of natural monopolies, efficiency problems, and the regulatory role of the state.

Although Adam Smith, in his famous work *The Wealth of Nations*, interpreted the free market as the basis for efficient resource allocation, he also justified state intervention in certain situations [10]. According to him, state intervention in areas such as natural monopolies is necessary to ensure the common good.

J. Stiglis emphasizes the need for a balance between state control and competition in the activities of natural monopolies. He argues that the concept of a "free market" is not fully applicable to natural monopoly industries, since the technical capabilities for effective competition in these industries are limited. Stiglis proposes creating a relatively competitive environment in the industry through "tariff regulation, standardization of service quality, and controlled participation of private operators" [11].

J. Baumol, J. Panser, and R. Willg have argued through the "contestability theory" that efficiency can be achieved in monopolies through the threat of external competition. According to them, even a natural monopoly market can create an environment of "potential competition" if barriers to entry and exit are removed.

P. Samuelson, on the other hand, suggests that the role of state participation in natural monopolies should be focused not only on the financial, but also on the institutional and control functions. In his opinion, the state can act as a "provider of last resort", but in areas where there are no elements of competition in the provision of services, the innovative potential will be low [12].

Local scholars, Sh. Nazarov proposed using the tactic of "partial vertical fragmentation, rather than consolidation and centralization", to increase the efficiency of natural monopolies. In his opinion, competition opportunities can be created by separating the functions of service provision and infrastructure management in the natural monopoly sector [13].

R. Kurbonov argues for strengthening public control over the investment programs of natural monopoly entities, public disclosure of service pricing, and the introduction of competition through public-private partnership mechanisms. His study notes that the share of "unknown costs" in the activities of natural monopolies in Uzbekistan is high and that tariff policy is based on administrative decisions rather than economic grounds.

International organizations, including the OECD and the European Commission, have also developed a number of scientific reports and recommendations on natural monopolies. For example, the 2020 EU report "Natural Monopolies and Market Regulation" details limited but strategic models for involving the private sector in the sector. The report recommends, among other things, that competition be created at the "service level" rather than at the "operator level" in the railway and energy sectors.

Critically, some scholars argue that the attempt to artificially introduce competition can undermine the economic stability of natural monopolies. For example, G. Kinne and H. Gutman have shown that the introduction of competition does not produce the expected results if the costs of infrastructure and social functions (coverage of the entire population, uninterrupted service) are not sufficiently taken into account when introducing competition [14].

Thus, an analysis of the existing literature shows that the introduction of competition in natural monopolies depends on various economic, legal, and institutional factors, and each country must develop an individual approach based on its own economic model.

The mechanisms for introducing competition in the field of natural monopolies and bringing them to economic efficiency have been interpreted differently by different

scientific schools. Each approach reflects its own methodology, priority goals, and approach to real conditions.

J. Tirol, in his work "Industrial Organization", argues that the most effective mechanism for dealing with natural monopolies is "properly regulated" competition. In his opinion, the state should not only be involved in setting prices, but also in standardizing the quality of services, controlling corporate behavior, and creating conditions for competition to arise naturally, not artificially. Tirol pays particular attention to the problem of "asymmetric information" – that is, since only monopolistic enterprises know complete information about their costs, it becomes difficult for the state to set reasonable tariffs. Therefore, it is recommended to introduce "incentive pricing" models [15].

M. Porter emphasizes a very important point in his theory of competitive strategy: even in industries where there is a natural monopoly, it is possible to develop a competitive environment through "partial competition" - that is, through new technologies, alternative service formats, and tendering. According to Porter, competition is not just a struggle over price, but a broader concept that includes service quality, innovation, and speed. In industries with natural monopolies, efficiency can be increased using these methods.

In her research, Ye.M. Rogova, analyzing the effectiveness of structural reforms of natural monopolies on the example of Russia, came to the following conclusion: if regulatory mechanisms are not aimed at improving the quality of services, rather than at bringing profits to market participants, competition will not produce the expected results. In her opinion, the models of competition introduced should be adapted to the political and institutional conditions of each country. In Russia, the models she examined showed increased efficiency in sectors that were open to external competition (communications, rail freight), but negative results in sectors that were not fully regulated (water supply).

French economists such as F. Perrou and J. Bodo emphasize the need to prioritize the concept of "social efficiency" in natural monopolies. According to them, monopoly industries should serve not only economic profit, but also the principles of population growth, sustainable supply, and social justice [16]. Therefore, when introducing competition, it is necessary to pay attention not only to market factors, but also to social outcomes.

At the same time, A. Hojiev, in his study, noted that the existing regulatory framework for attracting private investment in the activities of natural monopoly entities in Uzbekistan is insufficient, and that conflicting mechanisms in the licensing and control system cannot make this sector competitive [17]. In the model he proposed, the state maintains the infrastructure, but private operators are involved in the provision of services on a competitive basis.

2. Materials and Methods

In the prospective research project, the establishment of competitive environments in natural monopoly businesses is explored, through an extensive review of international and national experiences in this area. Through a mix of qualitative and comparative methods, the study examines the extent to which the states, in the manner of the Organisation for Economic Co-operation and Development (OECD), the European Commission, and the World Bank, have integrated forms of market instruments in what could be described as a monopolistic terrain like electricity, gas, water, and rail transport. The study evaluates through economic comparison and logically organized arguments, the structural attributes of the natural monopolies in Uzbekistan paying particular interest to tariff policy, the state intervention and the speed of unbundling reforms. In a bid to evaluate these dimensions, the said research will use a hybrid induction -deduction model by tapping the theoretical input of Stiglitz, Baumol and Porter, thus combining their systems with the analysis of the reform projects in the economy of Uzbekistan. The article

is similarly based on scientific abstraction so that the lessons of a variety of case studies and policy papers can be generalized. The evaluation of the inefficiencies in the use of infrastructure, the efficiency of energy sources used, and the price structure of tariffs is carried out with the help of statistical data and assesses the possible consequences of the contestability process, of the price-cap regulation, or of the public-private alliance. In its turn, complementary to that, the content analysis of official policy documents, legal tools, and institutional strategies clarifies the regulatory space of monopoly sectors. The combination of these methods allows performing a complete evaluation of the opportunities and possible consequences of the competitive mechanisms of a natural monopoly, taking into account the socio-political and institutional specifics of Uzbekistan.

3. Results and Discussion

Although the presence of natural monopolies in the economy brings certain benefits, they cause a number of serious problems if their activities are not effectively managed and the necessary regulatory measures are not taken. These include: poor-quality service and high tariffs for consumers; failure to introduce innovations due to the lack of competition; inefficient allocation of resources; inappropriate spending of budget funds and lack of transparency.

Therefore, the issue of creating a regulated competitive environment for natural monopoly enterprises, rather than limiting their activities to the presence of only one supplier or manufacturer, is relevant not only from an economic but also from a social point of view. By introducing not full, but regulated forms of competition, it becomes possible to increase the efficiency of these enterprises, improve quality, set economically justified tariffs, and reduce state costs, see Table 1.

Table 1. Factors influencing the use of energy resources and infrastructure competition and tariff policy in Uzbekistan.

Indicators	Information	Note
Natural gas – general energy in supply share	85 , 8 %	Natural gas is the main energy source – this is evidence of the lack of a sufficiently competitive environment
Electricity in energy natural gas share	85 %	In the electricity supply network, one company is considered the main supplier without competition.
Energy efficiency (each one to someone spent energy)	World from the average - 25% lower	Enterprises and in households energy as efficiency stimuli not enough
The result of the reforms is the unbundling of the gas network.	UzbekNefteGaz → UzTransGaz , HududgazTaminot	Infrastructure and other services function This transparency and competition improve for main step
World experience	The OECD noted	"For-the-market" competition in sectors such as electricity, gas, and rail can lead to efficiency

According to the analysis of the data presented in the table:

- In Uzbekistan, high levels of state control over infrastructure and low tariffs are limiting competition. This under the circumstances energy effective to spend no how market stimuli no
- Unbundling process in the content network and the service separation to transparency road opened , this to oneself typical order insertable competition process in creation first step it has been .
- As the OECD points out , the world in practice external tenders through continuous competition conditions create infrastructure effective management for important, see Table 2.

Table 2. In world experience natural in monopolies competition forms.

Direction	Purpose	International example
Contestability (for-the-market)	Profit to give for tender-based operator selection, efficiency incentives	OECD's "competition for -the market" model
Price - cap order price cap regulation	Price high to the border through control to do and expenses to save aspiration	In the OECD economic control mechanisms model between
Partially competition+services separation	In generation / distribution operators in services , separately competition current to do	Energy and on railways applicable model

According to the research and table results:

1. The contestability model is in practice in Uzbekistan - for example, tender rights are being introduced in gas networks.
2. OECD recommendations for price regulation are valuable for Uzbekistan: this mechanism can increase efficiency by limiting prices and internalizing costs in the infrastructure sector.
3. Separate organization of generation and distribution networks (must run operator), followed by promotion of competition in services in this network - can be the basis for implementing an effective system.

According to the research results, the practical conclusions are as follows:

1. Monopolies persist in infrastructure networks, leading to inefficiencies and a lack of censorship resulting from a lack of competition.
2. The unbundling process is aimed at the legal separation of infrastructure and services in Uzbekistan and, as part of this process, is of great importance in improving the competitive environment.
3. World practice as proven, tenders, sena-cap control and contestability methods natural monopolies in the case of balanced competition environment create opportunity gives.

Uzbekistan for recommendations: n arh over state control rationalization and price - cap system current to establish; to establish expansion - based on tender provider to choose all to the sectors to bring; infrastructure network operator save remaining without, services on the playground competition environment expansion.

4. Conclusion

Natural monopolies in the economy separately place possessive, social and strategic importance has from the fields consists of to be, their effective activity to conduct whole economic system to stability and population to the well-being directly impact shows. With this together, this in the fields of competition absence, or artificial accordingly limitedness because of to the body coming economic inefficiency, innovation lack of motivation and prices through to the population falling of the load increase such as problems It is a pressing issue, remains.

Transferred analyses this showed that competition natural monopoly on the networks complete in the form current to grow in practice every always possible not. However, this, this on the networks market mechanisms in general implementation arrived it won't be possible means not. On the contrary, in order taxable competition, services allocation, tender and license systems, private operators limited participation provide through efficiency and quality increase possibility there is.

Conclusion as following main points record to grow possible:

1. Natural in monopolies competition elements current to grow - economic efficiency increase main This is a condition of competition. Complete not, maybe right order invested, state controlled and market mechanisms with harmonious in the form to be need.
2. In Uzbekistan natural monopolies field transformation to do according to important reforms done is being increased, including the merger of the enterprises "Hududgaztaminot" and "Uztransgaz" from "Uzbekneftegaz" separation, electricity in energy generation and distribution functions segregation, communal in the fields private sector participation to expand aimed at measures.
3. International practices - including OECD, Europe Union and the World Bank recommendations - evidence of this it does, naturally monopoly "for-the-market" in the fields of for kurash) model, prices price-cap, services unbundling, and competition operator selection based on mechanisms effective result gives. Uzbekistan for these models national to the features suitable without application important.
4. Institutional reforms competition environment in creation solution doer factor It will be. Independent order eater organs, transparent tariff policies, report to give system, audit and public control reinforcement natural monopolies open and accountable to do possible.
5. Private sector participation step by step expansion - this not only investment attraction to do, maybe competition environment development from the most realistic directions is one. For this state private partners with right and open contract based on cooperation to make, profit and social benefit in the middle balance to save to provide need.
6. Population interests - every how reform in the center to be condition Natural monopolies in the field competition - only economic efficiency not , maybe to citizens quality, fair, continuous and cheap service show guarantee giving mechanism to be necessary .

Based on the above conclusions, we can highlight the following as a general conclusion:

1. A separate competition introduction strategy should be developed for each natural monopoly sector;
2. It is necessary to establish a system of managing services based on tenders or licenses, leaving the infrastructure in the hands of the state;
3. Regulators independent , transparent and working professionally to the system conversion necessary ;
4. X izmat quality in evaluation public control and digital mechanisms (feedback, complaint systems) are extensive current to be need;

5. Butun in processes social justice and inclusiveness (all population layers for equal service) principles in consideration to be taken condition.

Natural in monopolies competition environment formation - this just market reform not, maybe state management, public interests and economic stability harmonizing complex strategic This is a task. the process right management Uzbekistan future economic success for solution doer importance profession will reach.

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