

# On the institutional conditions for the development of exports of the Altai Krai on the basis of a balanced integration into global value chains

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**Abstract.** The article is based on the analysis of the structural and dynamic characteristics of the foreign economic activity of enterprises based in the Altai Region. It focuses on the use of the developed hypothesis of institutional value chains to explore the existing organizational an export development model in the region. This made it possible to identify the main problems in export activities (a low technological redistribution, a low share of intangible capital, high transaction and transport costs of export operations, underdeveloped export infrastructure), as well as to diagnose the dominance of traditional forms of organization of economic and legal mechanisms of participation in the international division of labor and cooperation. As proposals for the development of international cooperation with the participation of enterprises in the Altai Region, an institutional export development strategy based on balanced integration into global value chains is being developed and proposed. In the future, this strategy will promote intensive and sustainable economic growth in the region.

**Keywords:** global value chains, cooperation, international cooperation, transaction costs

## 1. Introduction

Currently, in accordance with the objectives of national projects, one of the strategic priorities designed to ensure the long-term and sustainable socio-economic development of the territory is the orientation on international cooperation and export. At the same time, if we talk about the export potential of the Altai Region, after the decline in volumes in 2015, it is characterized by significant growth rates in almost all sectors in recent years. "The region supplies to more than 80 countries of the world, the largest volumes are in such areas as Kazakhstan, Ukraine, China, Uzbekistan, Belarus, the USA, The Netherlands, Tajikistan, Afghanistan, Mongolia" [4]. Back in 2016, in order to ensure the effective implementation of the export potential of the Altai Region, the road map "Development of export and transit and logistics activities in the Altai Region" was approved. It is focused on increasing the volume of non-primary exports and creating a favorable institutional environment for competitive exporters [3].

At the same time, any further increase in exports from the Altai Region faces objective difficulties and problems in the form of the following restrictions:

- Domination of low technological conversion in the export product structure;
- A low proportion of intangible capital in the value of exported goods;
- High transaction costs of export operations;

- High transport and logistics costs in the implementation of export operations;
- An insufficient level of development of infrastructure and service support.

As a working hypothesis explaining the low efficiency of the export potential of the economy of the Altai Region, the authors propose a thesis that the export development in the Altai Region is carried out on the basis of the traditional institutional model. This model is typical for developing the countries focused on extensive commodity exports, in which modern institutional drivers of international cooperation in the form of long-term contracts for integration into global and regional value chains with an emphasis on investing in intangible capital and high technological redistribution are almost not used.

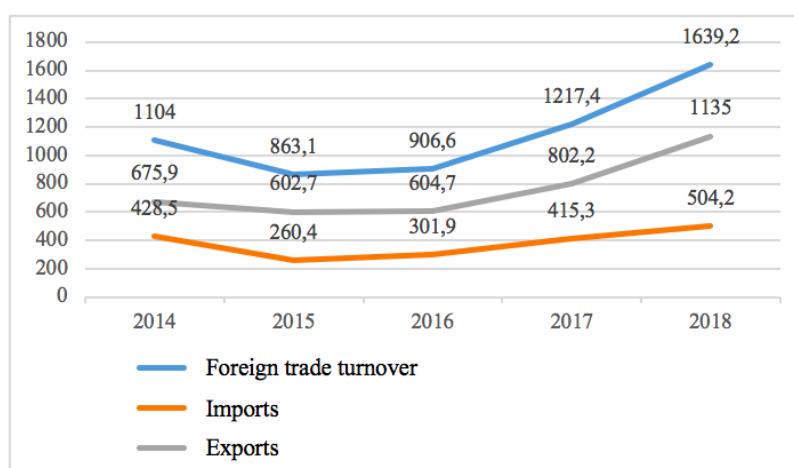
## 2. Materials and Research Methods

The following was used as the information base of the study presented in this article: statistical data, analytical and expert materials of the Federal State Statistics Service of the Russian Federation, the Federal Customs Service of the Russian Federation, the Ministry of Economic Development of the Altai Region, Department of Altai Region for the development of entrepreneurship and market infrastructure, as well as its own research and calculations of the authors.

In the study, economic, statistical and graphical methods were used to analyze statistical data, analytical and expert materials, which allowed to identify trends, patterns, features, and problems in the dynamics of foreign economic activity of enterprises of the Altai Region. In this case, the application of the methodology developed within the O. Williamson's theory of contracts contributed to the development of proposals for the diagnosis of the institutional environment of export operations, as well as the development and modeling of an effective strategy for the development of export activities in the region.

## 3. Results

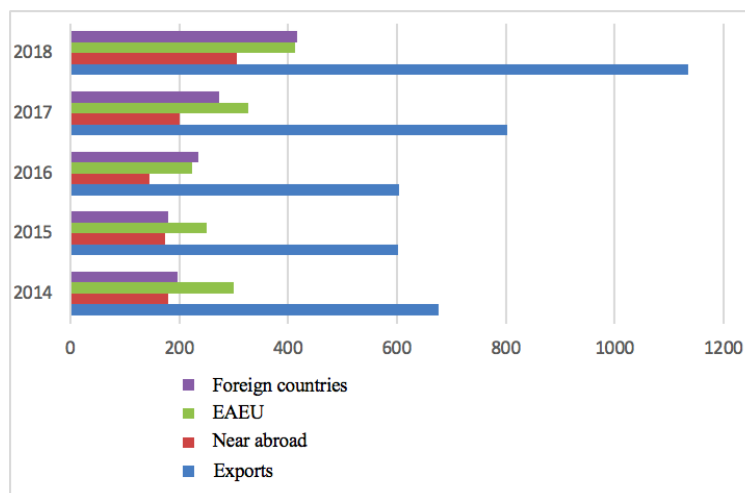
The study of the dynamics of trade in foreign economic activity of the Altai Region for 2014-2018 was conducted on the basis of the data obtained from the Federal Customs Service (Figure 1). In the Altai Territory for the period 2014-2015, a decrease in the volume of export-import operations was revealed, which was due to geopolitical and geo-economic factors. The steady trend towards an increase in exports and imports in the Altai Region in the following years is due to both an increase in physical sales and an increase in average export prices.



**Figure 1.** Dynamics of commodity turnover in foreign economic activity of the Altai Region for 2014-2018, million USD [5].

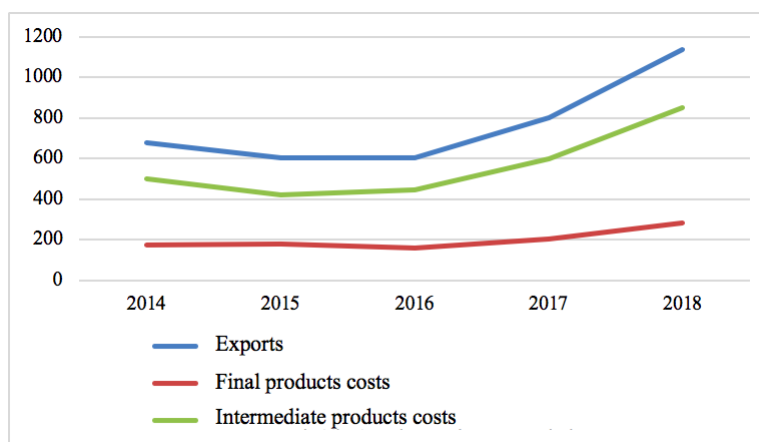
The geography of export supplies made by the Altai manufacturers is rather wide (Figure 2). The goods produced are delivered both to foreign countries (Germany, China, Mongolia, the USA, India,

The Netherlands, etc.), and to neighboring countries (Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Uzbekistan, Ukraine, etc., including to the countries of the EAEU).



**Figure 2.** Dynamics of export from the Altai Region by region for the period 2014-2018, million USD [5].

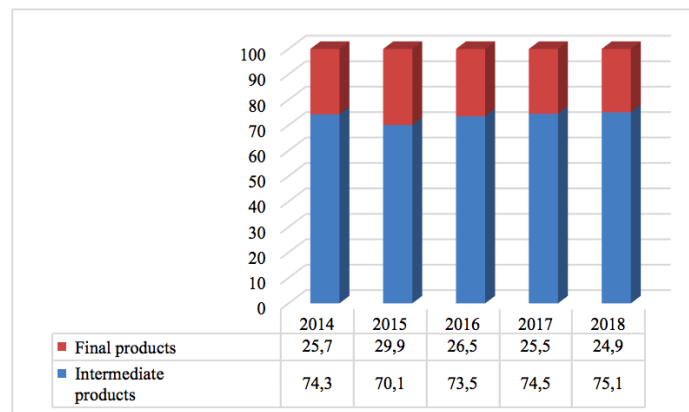
Based on expert assessments by scientists at Altai State University, the product structure of Altai exports was determined in terms of the degree of entry into global value chains. The analysis showed that in recent years, an increase in the volume of Altai exports occurred due to an increase in the cost of semi-finished products while reducing the volume of exports of final products (Figure 3).



**Figure 3.** Dynamics of the product structure of export of products in the Altai Region for the period 2014-2018, million USD [5].

Analysis of the export product structure in the Altai Region showed that about 25% of the total Altai exports accounted for the final products, respectively, the share of intermediate products (semi-finished products) is about 75% (Figure 4).

For the most part, exports of final products are represented by mechanical engineering and chemical products (in particular, railroad cars, agricultural machines, tires, and rubber tires), as well as agricultural products. The share of intermediate processing products is high in the structure of Altai exports of goods, which account for a share of more than 1% in total exports. To such, in the first place, we can include the following goods: mineral fuel, mineral substances, ore and concentrates, timber, seed stock, etc.



**Figure 4.** Product structure of export of products in the Altai Region for the period 2014-2018, % [5].

#### 4. Discussion

During the period under review, the results of a statistical study of export activities in the economy of the Altai Region confirm the following previously identified problem, which is characteristic of the entire Russian economy. “Statistics show that the share of the Russian Federation in the global markets for high-tech products remains extremely low; and the country’s sources of economic growth are predominantly derivative, raw, opportunistic, and extensive, forming the negative effects of a “raw material trap” and a “resource curse.” Most of the Russian civilian enterprises are involved only in low technological stages as suppliers of raw materials, semi-finished products and components, or operators of assembly plants and service centers at best” [7, p. 60]. Thus, exporting enterprises of the Altai Region, although differing in sectoral specialization and volume of export operations from enterprises in other RF subjects, generally operate within the same institutional constraints of the existing “rules of the game.”

In our opinion, the key to understanding and solving the problem of improving the efficiency of export activities in the economy of the Altai Region is the use of the model of institutional chains. The heuristic potential of this model allows to reveal the patterns of interactions between the subjects-carriers of economic interests: “At the same time, global value chains themselves are not only technical-economic mechanisms for the reproduction of capital in the global economy, but consist of a set of interrelated contracts (institutional chain: a kind of analogy with the so-called “Buchanan goods” is a combination of goods and its institutional form). Since the most specific and “anchor” resource in the global value chains is intellectual capital in the form of intangible assets, generating technological quasi-rent flows and innovative rent, then contracts between participants of interactions fix different amounts of rights and obligations of participants. In this context, we note that the institutional aspect of the formation and recombination of the global value chains is the least studied and practically unexplored, which is the more surprising if we take into account the management potential underlying the institutional contracts” [7, pp 55-56].

To analyze the current situation in the foreign economic activity of the Altai Region, we will use the O. Williamson’s model of contracts [9], which is based on the “principle of discretionary management.” This principle means that in a competitive environment, a management structure (institutions) is chosen that minimizes transaction costs. “Each of its different transaction parameters has a management structure characterized by a special level of transaction costs and its potential to save these costs” [8]. C. Menard proposes to interpret the process of choosing between alternative contractual relations and factors affecting it as follows [2]. Let “U” denotes the uncertainty of the economic environment, “F” is the frequency of transactions, “AS” stands for the specificity of assets, “TC” – transaction costs, “MO” are the ways of organizing transactions. The logical relationships between the factors are as follows:

$$(U, F, AS) \longrightarrow TC = f(U, F, AS) \longrightarrow MO \quad (1)$$

One of the possible management structures may dominate at some point in time over the others due to its adequacy in ensuring the execution of transactions with specific attributes, and when attributes are changed, the way of organization can also change [2]. The increase in the level of uncertainty, which leads to an increase in transaction costs, is accompanied by a corresponding change in the relative effectiveness of the used contractual relations. There is a shift from a classical contract (traditional export operations based on international sales contracts) within the framework of the market organization of transactions towards the neoclassical contract, which is implemented in a hybrid form of organization of transactions (franchise contracts, associations, cooperatives, collaborations) and so on up to the relational contract used in hierarchies (transnational corporations).

The extrapolation of the Williamson's contracts model to the problems of the foreign trade activity of the majority of exporters of the region (Table 1) allows the following conclusion. In the economy of the Altai region, the bulk of international transactions are implemented in the traditional institutional form of direct exports, without deep integration with foreign partners in global and regional value chains.

**Table 1.** List of export enterprises of the Altai Region [6].

<b>Enterprises of Agriculture and Food Industry</b>
"AgroSib-Razdolye" LLC, "Agrofirm "Yeniseyskaya Poultry Farm" LLC, "Altaigrossoyuz" LLC, "Altai-Zandorn" LLC, "Altai Flax" LLC, "Barnaul Halvic Factory" LLC, "Bryukke" LLC, "Germes" LLC, "Glavkonditer" LLC, PF "Kvint", "Klir" LLC, "Medovik-Altaya" LLC, "NPP ZPPS Binaka" LLC, "PFK Kruposervis" LLC, "Agricultural Association "Topchikhinsky melkombinat" LLC, "Siberian Product" LLC, "Sovetsky Maslosyrodel" LLC, "Soyuz" LLC, "Star Commen" LLC, Trade House "ALTAN" LLC
<b>Engineering enterprises</b>
"TD Almaz" LLC, "Barnaul Chains Plant" LLC, "Barnaul Boiler Plant" CJSC, "BPO Sibpribormash" OJSC, "Briquette Technologies" LLC, "Ice Water Generators" LLC, "European Transport Systems" LLC, "Mashzavod" CJSC, "Odyssey" LLC, "Production Association "Mezhregionenergoservis" CJSC, "Regional Society of System Technologies" LLC, "TD RosMolSnab" LLC, "SiSort" LLC, "PO Spetsavtomatika" CJSC, "FORMAT" LLC, "Energomekhanichesky Zavod" LLC
<b>Forestry and woodworking enterprises</b>
"Altayskiy bochonok" LLC, "Lesnoye Industrial Export Company" LLC, "Sibirsky Les" LLC, "Petroneft-Biysk" CJSC
<b>Chemical and textile enterprises</b>
"Altaytara" LLC, "Dar" LLC, "LAKASA-TEKS" LLC, "Martika" LLC, "Polimerplast" LLC, "Rosal" LLC, "Russian Industrial Group" CJSC
<b>Energy technology enterprises</b>
"Anikom" LLC, "Barnaul LED Plant" LLC, "Silen-Lad" CJSC, "Energy Saving Technologies" LLC
<b>Enterprises of the medical, pharmaceutical, cosmetic and biotech industries</b>
"Aktru" LLC, "Alsu" LLC, "Altaivitamins" LLC, "Altai Wisterra" LLC, "Altai Tea Company" Scientific and Production Center LLC, "Altai Bouquet NPF" LLC, "Bio-Ban" LLC, "Company KHORST" LLC, "Kristalin" LLC, "KIT PLUS" LLC, GK "Pantoproekt" LLC, "PFC Dve Linii" CJSC, "Renessans Kosmetik" LLC, "Galen" Pharmaceutical Plant LLC, "Fitokom Altay" LLC
<b>Enterprises in the field of nanotechnology and new materials</b>
"Boroplast" LLC, "Biysk Fiberglass Works" LLC, "GazoBetonPromOborudovanie" LLC, "Source Plus" LLC, "Tonar-export" LLC

This conclusion confirms the lack of an adequate level of development of the competitive environment, the presence of which is a prerequisite for ensuring effective institutional diversity in choosing ways to organize transactions in the field of export activities. The reason for the imbalance of the economic space is not so much the abstract competition of regions in their development based on comparative advantages, but the monopolization of economic activity in certain territories by local groups of special interests through the realization of absolute competitive advantages based on the use

of administrative resources. Given this circumstance, the problem of monopolizing the economic space in the Russian Federation requires the improvement of antimonopoly policy, not only in the industrial markets but also in the spatial sphere [1].

Underdevelopment of institutional mechanisms for integration with foreign partners in global and regional value chains, on the one hand, does not allow domestic enterprises to attract modern technologies, experience, tangible and intangible capital from foreign investors to the region. On the other hand, it preserves the institutional model of commodity exports of goods with low technological redistribution, which also explains the current low investment attractiveness of the economy of the Altai region for strategic foreign investors with relatively high investment potentials of the region. By the way, it is often necessary to stimulate the import of high technologies for the development of exports of high value-added products in those industries and production chains where import substitution processes are limited or irrelevant.

## **5. Conclusion**

One of the main tasks for developing production and export of high value-added goods from the economy of the Altai Territory is the creation of institutional conditions for the balanced integration of competitive enterprises into global and regional value chains. This is reflected in the formation of a favorable investment climate for domestic and foreign participants in long-term contracts institutionalized in the form of various forms of collaboration and vertically integrated structures. Only by systematically resolving issues of control and guarantees within such contracts, enterprises of the Altai Region will be able to fully integrate into global and regional value chains, selecting in each specific case, taking into account available economic potentials and competencies, the most appropriate and effective interaction strategies.

Regional authorities act as interested in realizing the export potential of the Altai Territory and as responsible actors in front of the federal government. Moreover, regional authorities need to radically change the format of their participation, developing not only information and consulting and engineering support for export projects, but also facilitate the creation of contemporary institutional structures on a par and mutually beneficial basis (including with the participation of foreign capital). In the era of globalization and internationalization of economic activity, the strategy of concentrating resources for export development exclusively on an autonomous basis, without integration into global value chains, has already exhausted itself and is unpromising in the long term for the vast majority of branches of the civilian economy.

At the same time, this conclusion does not in any way imply the need to participate in global value-added value chains at any cost, because this would undermine the already weak competitive advantages of domestic enterprises in international and foreign markets. It is necessary to talk about the institutional development strategy of various balanced mechanisms of participation in the international division of labor and cooperation in the form of direct exports and imports, various kinds of collaborations, associations and consortia, as well as vertically integrated transnational corporations. It is also necessary to diversify the supply of regions and partner countries, on the basis of which it is planned to create technological and institutional links in value chains, taking into account geopolitical and geo-economic interests and priorities, as well as trends and cycles in the development of international and regional markets.

Also, we need to improve the institutions of control and the mechanisms of perspective and retrospective responsibility of the relevant authorities and management of enterprises for achieving the necessary results in the field of development of technology and export. More than that, it is highly necessary to create a contemporary infrastructure to support exports of final products and a competitive environment that would favor the development of competitive enterprises based on various institutional contracts in the field of exports in the process of entering into global value chains; Also very important is to launch programs of expanded reproduction of intangible capital on the basis of supporting and leading universities, combining scientific, educational, consulting, and human potential and competences for the innovative development of export activities in the region.



In the long term, effective implementation of an institutional export development strategy based on balanced integration into global value chains will contribute to intensive and sustainable economic growth in the region.

## 6. Acknowledgments

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