







The use of preferential markets is an important factor in both directions. On the contrary, the net inflow of foreign direct investment (in percentage terms of GDP) represents the sum of export value on some products and, accordingly, increases the level of accumulation within intensive limits (with existing products to existing markets). This result is expected in the specialization of multinational companies to produce certain types of goods in large quantities. The authors also cite education as another important factor affecting export diversification. An increase in education by 10% will lead to a decrease in the Theil index by 1.1% and an increase in exports by 6.2%. Similarly, the quality of institutions has a significant positive impact on diversification. Finally, as expected, population growth has also been found to have a positive impact on economic diversification.

In one subsequent study, Jean-Jacques Hallaert, Ricardo Cavazos Cepeda, and Gimin Kang (2011) quantified the impact of mandatory restrictions on expanding trade for developing countries, as well as landlocked, small, backward, and other exporting countries<sup>3</sup>. The study also assesses the importance of foreign trade reform in economic growth. They used a two-stage small squares estimating function (2SLS) method. In the first stage, the direction and significance level of the direct impact of mandatory restrictions on trade indicators (exports, imports and openness) are quantified. In the second stage, the direct impact of changes in trade indicators on the country's economic growth rate as a result of mandatory restrictions was identified and quantified.

Besides, the authors found that landlocked countries face many barriers that significantly reduce their trade integration. The observed evidence shows that the openness rate for these countries alone has decreased by 5%. Electricity is one of the main problems, but there are also barriers to tax rates, access to finance, and transportation. The effect of trade growth in these countries is much greater than other observed criteria: an increase in the openness rate by 10% leads to an increase in the growth rate by 1.6% (in other freely selected countries the result is

<sup>3</sup>Jean-Jacques Hallaert, Ricardo Cavazos Cepeda, and Gimin Kang. 2011. «Estimating the Constraints to Developing Countries Trade». Organisation for Economic Co-operation and Development, Paris

1.8% to 1.1% respectively). This result applies to both exports and imports. A 10% increase in the real effective exchange rate will lead to a 10% decrease in exports, imports and openness. It is based on the fact that the level of access to credit is not a significant obstacle to the expansion of foreign trade of these countries.

In the conditions of export diversification, it is important to determine how countries are realizing intensive and extensive growth in exports over the past decade. The instructions of D. Hummels and P. Klenov (2005) in this regard help to determine importance of the country's exports (IM) as well as importance of the country's exports in the world (EM)<sup>4</sup>. This approach is used to assess economically significant new products added to the list of goods produced in the country and their share in world trade.

It is very important to determine how successfully the country's exports will be carried out, how widely these products will be sold in the markets and how much profit will be generated. One of the ways to consider the future opportunities of geographically conducting the country's export activities is to measure the index of export market penetration (IEMP).

This index takes into account the total number of export commodities of the country and the number of markets in which these commodities are delivered, the other countries of the world that import each commodity (the exporting countries are interested in). A joint study of the linkages of products and countries in this way reveals the greatest quantitative opportunities of export relations, which can now be established in the country's export portfolio. After that, the country's actual amount of export relations is divided by potential amount of the assessed facilities of the country.

For example, Brenton and Newfarmer (2009) compared the index of Albanian export market penetration (IEMP) to the Czech Republic using the general classification of goods in 2004, they identified that Albania exported 955 species of products while the Czech Republic exported 2863 species of products. It

<sup>4</sup>Hummels D., and P. Klenow. 2005. «The Variety and Quality of a Nations Exports». American Economic Review 95 (3): 704723.

has shown that if Albania can take full advantage of its export potential and sell its exports to all countries in the importing world, it can establish 90,350 export links. In fact, Albania accounts for 2.27% of its export potential and the Czech Republic for 20%<sup>5</sup>.

### **Analysis and discussion of results**

Literature analysis shows that export competitiveness is characterized by its long and medium term growth rates. In our study, the annual change in the value of Export in Uzbekistan was selected as a variable. And the following factors were considered as independent variables of function:

- Fixed capital investments (in millions of US dollars);
- Annual indicator of trade openness (export);
- Cost of export (in US dollars per container);
- Real effective exchange rate (in annual terms according to the consumer price index);
- The value of Russia's GDP (as a major trading partner) (in US dollars).

In this regression assessment, the official data of the Statistics Committee of the Republic of Uzbekistan and the World Bank for 2000-2014 were used. On the basis of the selected indicators and the formed statistical data, regression analysis was performed using the EViews8 computer program.

Based on the conducted study, the following function equation was achieved:

$$\ln Y = 0,862 * \ln X_1 + 0,141 * \ln X_2 + 0,213 * \ln X_3 - 0,325 * \ln X_4 - 1,613 * \ln X_5 + 13.328^6$$

<sup>5</sup> Brenton P., and R. Newfarmer. 2009. «Watching More Than the DiscoveryChannel to Diversify Exports». In Breaking into New Markets: Emerging Lessonsfor Export Diversification, eds. R. Newfarmer, W. Shaw, and P. Walkenhorst, 111-126. Washington, DC: World Bank.

<sup>6</sup> Data of the official website of the Statistics Committee of the Republic of Uzbekistan. [www.stat.uz](http://www.stat.uz)

Here:  $X_1$  - Fixed capital investment (million US dollars),  $X_2$  - Russian GDP amount (million US dollars),  $X_3$  - Trade openness indicator, annual (export),  $X_4$  - Real effective exchange rate (annual on the consumer price index) value),  $X_5$  - Cost for export (corresponding to each container, in US dollars).

**Results:**

Variables	Coefficients	Statistical Error	T-Statistics	Probability
LN( $X_1$ )	0.862119	0.068558	12.57510	0.0000
LN( $X_2$ )	0.141564	0.067015	2.112428	0.0638
LN( $X_3$ )	0.212602	0.033834	6.283731	0.0001
LN( $X_4$ )	-0.325011	0.077958	-4.169030	0.0024
LN( $X_5$ )	-1.613172	0.223650	-7.212929	0.0001
C	13.32818	2.096571	6.357133	0.0001
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R-square	0.998869	average dependent variable		8.924568
Regulatory R-square	0.998241	S.D. dependent variable		0.631620
		Akaike data criterion		-4.134690
Total square footage	0.006317	Schwarz criterion		-3.851470
Logprobability	37.01018	Hannan-Quinn criterion		-4.137707
F-statistics	1589.693	Durbin-Watson statistics		2.952743
Probable error (F-statistics)	0.000000			

The fact that the determinant coefficient  $R^2=0.99869$ , the regulating (corrective) determinant coefficient  $R^2=0.998241$  means that in this equation 99.8% of the Y dispersion can be explained by X ( $X_1, X_2, X_3, X_4, X_5$ ) factors.

According to the assessment, Uzbekistan's exports are positively affected by investments in fixed assets, openness of foreign trade and GDP growth of the main partner country (Russia), while the real effective exchange rate and the increase in

export costs per container have a negative impact. In the case where the remaining variables remain unchanged, the evaluation results are as follows.

Firstly, factor of investment in fixed capital has a high impact on export efficiency compared to other analyzed factors. In the first stage of reforms in Uzbekistan, the state's investment policy was aimed at profoundly restructuring the economy, changing the structure of capital investment in industries and production. At present, investment policy is aimed at improving the processing process, strengthening the material and technical base of the country, increasing its economic potential, creating an effective system of state regulation and support of investment processes aimed at achieving overall economic development.

In our country, there have also been positive changes in the composition of investments in financing sources. In their total volume, there was a tendency to decrease in the share of budgetary funds. The share of non-resident enterprises and organizations in total fixed capital investments amounted to 83.4% in 2016, which increased by 5.2% compared to 2010. The main volume of financing, that is, 61.4%, was carried out by enterprises and organizations in the form of economic entities and private ownership, and increased to 15.8% in the corresponding figure<sup>7</sup>.

Besides, the growth of the scale of investment as an important factor of export diversification will lead to an increase in production efficiency in new areas. In particular, the private sector has the opportunity to develop inefficiently organized sectors of the economy through research, development, innovation and the ability to manage various risks. In this regard, investment is an important positive factor in increasing export competitiveness.

Secondly, high dependence of the Uzbekistan's export revenues on the conjuncture of world commodity markets and, accordingly, the predominance of raw materials, which generate unstable foreign exchange earnings from exports. Furthermore, export earnings are strongly linked to the economic situation of major trading partner countries.

<sup>7</sup>Data of the official website of the Statistics Committee of the Republic of Uzbekistan [www.stat.uz](http://www.stat.uz)



**Table 1**

**A complementary trade indicator between Uzbekistan's exports and imports from partner countries  
(Trade Complementarities Index (TCI))<sup>8</sup>**

<b>Partnercountries</b>	<b>1995</b>	<b>2000</b>	<b>2007</b>	<b>2012</b>	<b>2013</b>
Russia	0,07	0,23	0,24	0,24	0,21
China	0,11	0,16	0,13	0,18	0,15
Switzerland	0,08	0,17	0,18	0,21	0,18
Turkey	0,13	0,24	0,27	0,22	0,22
Kazakhstan	0,17	0,22	0,2	0,2	0,2
India	0,11	0,21	0,16	0,17	0,16
Belarus	0,06	0,26	0,24	0,2	0,2
SouthKorea	0,07	0,29	0,13	0,19	0,16
Kyrgyzstan	0,13	0,22	0,25	0,22	0,18
Tajikistan	0,07	0,22	0,17	0,18	0,15
Turkmenistan	0,07	0,13	0,17	0,15	0,13

**Source: Compiled by the author based on UNCTAD Stat data.**

The analysis of complementary trade index indicators shows that there is a lack of coherence between exports of our country and imports of partner countries. This indicator is low, especially in neighboring countries such as Tajikistan and Turkmenistan. Accordingly, the fact that similar products are exported to these countries means that we have little opportunity to expand our exports to them (Table 1). Besides integration among Central Asian countries is becoming active policy but their economic capability to make it happen into reality doesn't push

<sup>8</sup> The maximum value of this index is calculated at 1.

it<sup>9</sup>. Comparing this situation with mutual trade between EU countries, the complementary trade index averages 0.7-0.8.

**Table 2.**

**The structure of the main export goods of Uzbekistan and the state of aggregation of the market (2014-2016)**

Export products	Share in the country's total exports (in percent)	3 products with the largest share (in percent)	3 markets with the largest share (in percent)	Share in world exports (in percent)	Product type quantity (pieces)	Specialization, RCA
<b>2014 year</b>						
1. precious metals	20,23	100	100	0,20	6	5,4
2. mineral fuel and energy products	15,66	100	97,3	0,04	8	1
3. cotton and cotton products	12,95	74	88,6	1,44	52	39,2
4. copper and copper products	8,37	91,4	96,2	0,38	18	10,3
5. vegetable products	0,0001	100	79,2	0,010	2	0
<b>2016 year</b>						
1. precious metals	41,53	99,9	100	0,45	10	10,4
2. mineral fuel and energy products	11,65	100	99,3	0,05	4	1,2
3. cotton and cotton products	10,32	67,3	87,3	1,36	51	31,3
4. copper and copper products	6,52	84,8	97,6	0,38	21	8,8
5. vegetable products	0,36	100	100	2,93	2	36

**Source: International trade center. Prepared by the author on the basis of trade competitiveness map 2016 data.**

According to our analysis, in 2014-2016, 3 products with the largest share in the main export volumes of Uzbekistan accounted for 99.9% in precious metals, 99.6% in mineral fuels and energy products, 75.8% in cotton and cotton products. Within the framework of these export products, the average share of 3 markets

<sup>9</sup>Ilkhomjon Muminov "New horizons of integration processes in Central Asia" GSJ: Volume 8, Issue 3, March 2020, Online: ISSN 2320-9186 [www.globalscientificjournal.com](http://www.globalscientificjournal.com) Page 183

with the largest share is also high, 99.8% in precious metals in 2014-2016, 98% in mineral fuels and energy products, 87.6% in cotton and cotton products (Table 2). These indicators show that the composition of the export market of our country and the set of markets are high. In this regard, the results of the assessment show that the increase in the value of Russian GDP has a positive impact on the country's exports.

Thirdly, although the export quota in Uzbekistan decreased from 39.7% in 2007 to 20.7% in 2015, the level of transparency in foreign trade turnover, such as the share of GDP, export quotas and import quotas, is lower than in the CIS countries. This indicates that our untapped potential in foreign trade is high.

An analysis of the relationship between the share of foreign trade in GDP and the share of GDP per capita shows that an increase in income should increase their propensity to trade. This, in turn, will depend on the openness of the country's foreign trade. Given that the current parallel exchange rate in the Republic of Uzbekistan in 2015 differed (almost twice) from the official exchange rate, we can see that the country's openness to foreign trade and the level of integration into global markets is growing<sup>10</sup>. According to the results of our study, the increase in the level of trade openness (export) also had a positive effect on exports.

Fourthly, another factor influencing export competitiveness is the real effective exchange rate. An effective exchange rate is an estimate of the dynamics of an increase or decrease in the exchange rate relative to all types or a particular group of currencies quoted, rather than to a particular type of foreign currency. In calculating this exchange rate, the currencies of the countries that are the main foreign trade partners of the country are taken, as exporters receive payments for their products and services mainly in these currencies, and they are in high demand in the market by importers.

If the real effective exchange rate of the national currency increases, the country's competitiveness in the world market will decrease, that is, exports will

<sup>10</sup>Mingishov, L "O'zbekistonning eksport raqobatbardoshligini oshirishning asosiy yo'nalishlari"- Tashkent, 2019, "Iqtisodiyot", P55

become more expensive and its volume will decrease, while imports, on the contrary, will become cheaper and increase in volume.

The development of a real effective exchange rate usually moves in line with the trend of change in nominal effective exchange rate<sup>11</sup>. The major changes between them will be related to the large-scale inflation rates that have occurred sharply in various partner countries.

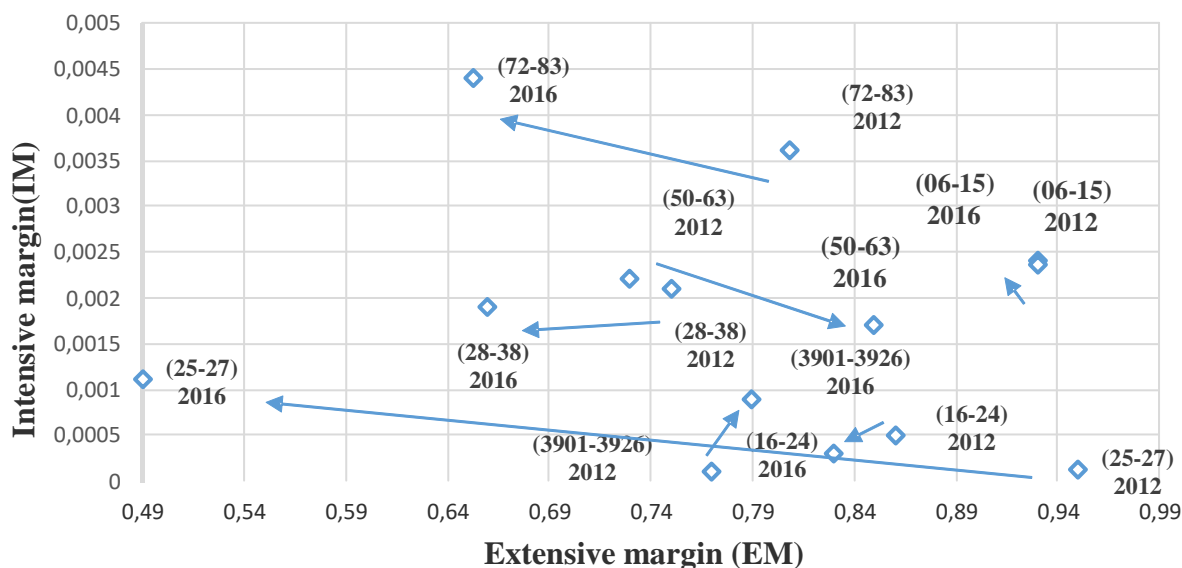
Fifth, the increase in the cost per container product for export will lead to a decrease in our exports.

The analysis of the growth of the value of Uzbekistan's exports on an intensive and extensive basis is also very important in the context of the issue we are studying.

We calculate the intensive and extensive Hummels-Klenow boundaries in order to assess the importance of our country's export products, new economically significant products added to the list of domestically produced goods and their share in world trade.

An analysis of changes in the intensive and extensive Hummels-Klenow boundaries for some Uzbek exports in 2012-2016 shows that over the past five years, the rest of the world has also exported minerals (HS code 25-27), metallurgical products (HS code 72-83). It can be observed that it has increased slightly at the expense of older products (intensive limit (IM)). However, the share of our country's exports in the world market is declining due to the emergence of new products in this area on a global scale (extensive margin, EM). This situation can also be seen in the exports of the chemical industry (HS code 28-38) and food industry products (HS code 16-24). The declining rates observed even within the intensive margins of exports in these sectors mean that it is necessary to develop the production of new products in this area and support its exports.

<sup>11</sup> Nominal effective exchange rate (NEER) is an index-based exchange rate calculated taking into account the weight of the currencies of the countries that are the main partners in foreign trade in foreign exchange transactions in the country.



**Figure 1. Changes in the index of intensive and extensive Hummels-Klenow margins on some packages of export products of Uzbekistan (HS CODE 2012-2016)<sup>12</sup>**

In recent years, the partial growth of exports of plastic products of the Uzbekistan (HS code 39-40), both within intensive margins and extensive margins, testifies to the development of this industry in our country. Although exports of textile products (HS code 50-63) decreased on the basis of old products (intensive margin), it can be concluded that the share of our country in world exports in this area is growing due to new finished products (Figure 1).

In general, when analyzing the state of diversification of the country's export activities, it is important to study its geographical aspect as well. In this regard, in the analysis of the situation in the country in recent years, due to which products the number of export markets has increased significantly, it is expedient to calculate the Export Market Entry Index (IEMP) for the Republic of Uzbekistan.

This index takes into account the total number of export goods of our country by industry and the number of markets in which these goods are supplied,

<sup>12</sup>Source: Prepared by the author based on data from the World Bank.

as well as other countries in the world that import each product (our country is interested in the quality of the exporter).

**Table 3**

**The state of Uzbekistan's Export market penetration index for the collection of export products (2016 year)**

Collection of export products according to the system of description and coding of harmonized products (HS code 2016)	Export value (million US dollars)	Number of countries exported	Number of other importing countries	Export market penetration index (IEMP), %
71. precious metals, stones and others.	2900,5	6	117	5,12
27. mineral fuel and energy products	835,8	6	180	3,33
52. cotton and cotton products	721	48	172	27,9
74. copper and copper products	456	12	165	7,27
39. plastics and plastic products	394,3	33	200	16,5
08.various fruits, nuts, etc.	395	42	145	29
28. Inorganic chemicals, isotopes	323,2	15	187	8
61.clothing, accessories, etc.	188,019	21	179	11,7
07. vegetables, mainly tubers, dried vegetables	176,848	40	164	24,4
79. Zinc and Zinc Products	115,074	3	178	1,7
60. Tirocotage or hand-knitted fabrics	66,316	9	180	5
31.Fertilizers	76,008	14	186	7,53
41.Leaner products	29,193	7	86	8,1
14. vegetables and plant products (cotton wool)	25,447	4	139	2,9
56.Spun yarn and ropes, fabrics (non-woven)	21,816	7	181	3,87
47. Wood and plant-derived (cellulose) (cotton wool paste)	16,824	10	114	8,8
20. Food products made from vegetables, fruits, nuts, etc.	16,691	13	202	6,43
57. Carpets and other coverings	16,948	13	199	6,5
13. natural resins, rubber and plant extracts	5,829	7	165	4,24
81. other base metals, kermets and their products	2,793	6	158	3,8
50.silk	3,463	10	174	5,7
97. Works of art, antiques	1,848	5	115	4,34

46. Materials for weaving baskets and other items	0,000047	2	176	1,14
<b>total</b>	<b>6789</b>	<b>333</b>	<b>3760</b>	<b>8,86</b>

**Source: International trade center. Prepared by the author on the basis of Trade statistics for international business development for a group of export products with a positive balance.**

According to the account of the index of penetration into foreign markets on the package of export commodities of our country, which has a positive saldo in foreign trade, it is indicated that if using the potential of Uzbekistan's exports (the export of all products in the package of export commodities is established), it will be possible to seize 3760 export contacts. At the moment, we can estimate that Uzbekistan is using 8.86% of the opportunities for export (Table 3).

In our opinion, in the context of a significant increase in the range of products and the number of export markets in recent years, the expansion of deep processing of products such as cotton and semi-finished products, various fruits and nuts, vegetables (mainly carrots and dried vegetables), plastic and plastic products are guarantees of a stable high income from exports.

No other country can fully export its products to all the countries of the world that import them. This is influenced by many factors. One of the most successful exporting countries in this regard is Germany, which uses 50% of its potential. This indicator is the best result.

### **Conclusion**

In summary, our research shows that we have a lot of untapped opportunities in exports. At the same time, the relatively low complementary trade index for exports of our country means that similar products are exported to partner countries, and we have little opportunity to expand our exports to them. With this in mind, it is important to increase the effectiveness of work on increasing the volume of investments in fixed assets in order to increase the competitiveness of our country's export goods. Given the fact that there is an increase in exports, mainly at intensive margins, it is advisable to focus investment on the production of high value-added finished products to master the extensive margins of foreign

trade. According to our assessment, an increase in investment in fixed assets by 1 unit will lead to an increase in the value of Uzbek exports by 0.141 units.

Foreign trade openness plays an important role in attracting foreign direct investment in the economy and increasing the competitiveness of export goods. According to the results of our research, a 1% increase in the level of trade openness (exports) will increase our exports by 0.213%.

Nevertheless, economic openness is often explained by the fact that it can increase a country's susceptibility to external economic shocks (declining export earnings, slowing growth). However, this scope will largely depend on the level of diversification of the country's export portfolio. Under all equal conditions, greater diversification of the production structure is often preferable to relying on fewer products, especially primary products.

Regulation of exchange rate policy is an important factor in export promotion. In the context of gradual liberalization of foreign trade, maintaining a low real exchange rate of the national currency will not only increase the competitiveness of our domestic producers in the domestic market as a result of rising imports, but also stimulate the development of exports. The results of the assessment of the impact of the real effective exchange rate on export efficiency in our research are fully consistent with all theoretical conclusions. An increase in the value of the real effective exchange rate, calculated annually by the consumer price index, by 1 unit will lead to a decrease in our exports by 0.325 units.

In addition, the competitiveness of the country's export volumes in terms of value and quality, as well as the effective functioning of export enterprises largely depend on the level of transactional costs. The increase in transactional costs adversely affects the decrease in the profitability of enterprises, the development of the "shadow" sector, the level of competition and the quality of the tokens, as well as the affordable price. According to the results of the assessment, the increase in the cost of each contingent product for export to the value of 1 unit will lead to a decrease of our exports to 1.613 units.



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