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DEVELOPING UZBEKISTAN'S FOREIGN TRADE STRATEGY

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Abstract
This article examines the development of a comprehensive foreign trade strategy for Uzbekistan, focusing on improving the country's economic potential by increasing exports, reducing imports, and attracting investment. Uzbekistan attaches great importance to the export of natural resources such as cotton, gas and gold. At the same time, in order to develop the economic potential of Uzbekistan, a lot of emphasis has been placed on other sectors, in particular, electricity, production, and industry. This serves to develop diversification. Explores the importance of strengthening international trade relations, primarily in Central Asia, as well as greater market access through global trade agreements and partnerships. The document contains the necessary reforms to remove obstacles and improve the competitiveness of Uzbekistan in international markets, infrastructure, development of human capital efficiency and acceleration of trade. At the same time, he emphasizes the possibilities of using innovative technologies and e-commerce platforms to develop economic integration and increase the volume of exports. Ultimately, the article suggests an effective approach to foreign trade strategy that combines policy reform, economic investment, and capacity building to position the country as a dynamic and sustainable player in the global economy.

Keywords: Foreign trade, World Trade Organization, Export, Import, International trade relations.

Introduction

In recent years, thanks to Uzbekistan's active and pragmatic foreign policy, regional cooperation among Central Asian countries has intensified, and trade and economic relations have improved. Specifically, by the end of 2022, Uzbekistan's mutual trade turn over with Central Asian countries reached 7.5 billion USD. Uzbekistan's exports to Central Asian countries amounted to 3.1 billion USD, while imports totaled 4.4 billion USD. Kazakhstan holds the largest share in Uzbekistan's trade turnover with Central Asian countries, accounting for 62%. Kyrgyzstan follows with 17%, Turkmenistan with 12%, and Tajikistan with 9%. On a global scale, China and Russia hold the leading positions in trade.[1]

The development of Uzbekistan's foreign trade strategy has become one of the most pressing issues in the country's economic policy. Special attention is being paid to Uzbekistan's integration into the global economy and expanding access to foreign markets, as well as increasing export potential. The reforms being carried out in the formation and development of

Uzbekistan's foreign trade strategy are aimed at strengthening ties with international markets and enhancing the country's position and role in the global trade system. This forms a crucial foundation for deeper integration into the global economy.

However, there are a number of problems and shortcomings in the development of Uzbekistan's foreign trade strategy. These include barriers to entering the foreign market, the fact that the infrastructure of the transport and logistics system is not well developed in our country, and there are still problems with railways and roads in some regions. Since Uzbekistan is located in the land part of the mainland, there is no direct access to sea ports, which complicates the transit process and increases costs. The customs system also has some complexity with its standards and licenses.

It serves to solve these issues, diversify markets, improve production technologies, and strengthen the country's foreign trade strategy. This, in turn, serves to increase the volume of foreign trade and increase the volume of exports.

Literature Review

The foreign trade potential of developing countries has become a topic of great scientific interest, especially in the context of the transition to a liberalized market economy and integration. The literature on this topic analyzes the reforms and structural changes necessary for the development of the country's foreign trade potential, and highlights the opportunities and obstacles in their economic landscape. Many reforms have been made to develop foreign trade strategy.

Scientists from Brazil in 1980 study by Krueger, Lary, Monson, Akrasanee, and others found that producing goods for export requires more labor than producing goods for domestic consumption, and this labor demand has increased with expanding trade. Contrary to some trade theories, exports, especially those to developed countries, are more labor-intensive than imports. This means focusing on exporting to developed countries will create more jobs than exporting to less developed countries. Therefore, trade policies should consider the labor implications of export destinations.[2]

For instance Yang Liu's 2021 review synthesized research on export trade forecasting methods and models. Liu categorized the various approaches, analyzing their pros and cons, to offer a comprehensive evaluation of the field.

A 2012 study by Nigerian scientists, including Atoyebi Kehinde and Akinde Jubril, examined the impact of international trade on Nigeria's economic growth between 1970 and 2010. Their analysis showed that exports, foreign direct investment, and exchange rates positively affected real GDP, while imports, inflation, and trade openness had negative effects. Despite the unexpected result regarding openness, the study concluded that increased global trade participation, particularly in high-technology exports, benefits Nigeria's economy both statically and dynamically.[3]

China's move towards globalization, particularly after its leaders' decision to embrace international markets, has significantly reshaped both its own economy and the global landscape. This decision, along with research like that of Prime and Pak in 1997, led China to

focus on long-term industrial and technological advancement. This created a volatile but potentially lucrative market for international businesses. While constantly shifting, the business environment in China has generally become more favorable as the country's economy has grown.[4]

Another issue is infrastructure and logistics capacity, which are critical for export performance. Research by authors such as Hvidt (2013) highlights that insufficient infrastructure can hinder export competitiveness, particularly in African and Latin American developing countries that face significant logistics barriers.[5]

French scientists Melise Jaud, Olivier Cadot and others on increasing exports in 2024. Their research then examines their microfoundations using the corresponding customs registration data for France. We find that typically two firms are enough to make a big splash, and that these firms' access to external financing is key to their ability to achieve export success. In addition, big hits spread across lines and products within firms. Their results provide new evidence on the gradualness of export growth by linking micro-level entrepreneurial decisions to country-level export outcomes.[6]

Another issue is G.M. Bakoeva and Sh.T. Ibodullaev in 2021 researched, Successful foreign trade is crucial for boosting a nation's export capabilities and driving scientific and technological advancement. It also enables businesses to modernize their production processes and access wider markets..[7]

According to F. Mahlup, the main factors influencing changes in the supply of foreign currencies associated with the country's exports are the elasticity of exports and imports and the system of restrictions on imports (tariff and non-tariff restrictions).[8]

Similarly, A. Gloriozov and D. Mikhailov, the main risks of foreign trade are the following: commercial risks; production risks; operational risks; the risk of bilateral cooperation; signature risk; credit risk; currency risk; default risk; transfer risk; financial risks; legal risks.[9]

Akhter, Mir, and Megits (2022) investigated the link between trade and income growth in Kazakhstan over the period 1992-2020. Their analysis, using Phillips-Perron and augmented Dickey-Fuller tests, revealed a long-term correlation between these factors. However, their findings indicated a negative impact of trade on growth, both in the short and long run. Positive drivers of Kazakhstan's economic development included capital formation, labor force characteristics (quantity and quality), and natural resources. The study attributes the negative trade impact to institutional weaknesses, governance inefficiencies, and problematic economic structure and development policies, suggesting other potential factors may also be at play significant negative effect of imports against the positive effect of exports.[10]

There are still issues even though a number of researchers have studied the potential advantages of expanding international trade. In 1991, Uzbekistan and Kazakhstan became independent. Why is Kazakhstan's economy growing so quickly? Is Uzbekistan slow? With nearly twice as many people, why does Uzbekistan's foreign trade trail well behind Kazakhstan's? How to get past this. How can the performance of foreign trade be improved?

3. Methodology

3.1. Theoretical Framework

In this article, the factors affecting Uzbekistan's foreign trade strategy and opportunities are analyzed using the gravity model and the theory of comparative advantage. We examined and tested the hypotheses by testing for potential heteroskedasticity and addressing autocorrelation through econometric analyzes in Stata, including dependent factor regression and standard error detection. The study identifies the main determinants of Uzbekistan's foreign trade indicators and, as a result, makes economic recommendations.

The gravity model serves as the main empirical basis for economic and statistical analysis of trade indicators. This model shows the bilateral trade is proportional to economic size of trading companies and inproportional to the distance between the countries. It is precisely in Uzbekistan that problems arise due to the lack of direct access to the country's ports and the long distances involved in trade through railways. However, a simple gravity model is insufficient to capture the complexities of Uzbekistan's trade. Therefore, we extend the basic model to include additional factors important for understanding the specific context of Uzbekistan. We analyze the important and highly influencing factors in foreign trade.

I prepared the data of influencing factors for the analysis of the data of foreign trade indicators, I collected 28 years of data. I checked for missing values and checked the overall state of the data for validity. Multicollinearity, heteroskedasticity, and autocorrelation testing, calculation of standard errors are available through the Stata program. It is possible to introduce corrections to eliminate the possible distortions in the assumptions of the classical linear regression model. Provides the ability to create graphs and charts to illustrate empirical findings and present results clearly and concisely. I used this program and methods in my research.

3.2 Empirical framework

In this research, factor analysis used to identify the hidden factors affecting foreign trade indicators of Uzbekistan. The data covers the period from 1995 to 2023. The data was collected from the World Bank, National Statistics Agency, stat.uz, trading economics and others. The data collection consists of 7 factors based on 28 years of data representing various aspects of Uzbekistan's foreign trade, including Export, Import, Inflation, FDI, Transportation, Unemployment.

Table-1. Description

Variable name	Conventional designation	Variable type	Description
Export	Ex	Dependent	Annual export volume figures
Import	I	Independent	Annual import volume figures
Inflation	Inf	Independent	Annual inflation rates
FDI	FDI	Independent	Annual FDI Flow rates
Transportation	Trans	Independent	Annual Transportation rates
Unemployment	Unemp	Independent	Annual Unemployment Rates

In this empirical analysis, I took the export indicator for foreign trade as a Y-Dependent factor. As for the remaining factors, I entered them as independents x1, x2, x3, x4, x5... (table-1).
In this paper, we studied the above mentioned indicators for the period from 1991 to 2023 and developed an econometric model and using time series.

This model was developed to investigate the interaction between dependent and independent variables. We used the following hypothesis to analyze this model:
H 0: There is no relationship between the export and other variables.
H 1: There is a relationship between the export variable and other variables. This statement is our alternative hypothesis.
Linear model of analayzing:

Export =β0+β1 Import+β2 Inflation+β3 FDI +β4 Trans+β5 Unemployment +ε i (1), where: β0: model intercept; ε i : conditional error.
The description of the VAR model is given below:

$$Yt = a + \beta 1\, Yt - 1 + \beta 2\, Yt - 2 + \cdots + \beta\, pYt - p + \varepsilon\, i \quad (2).$$

where α is the intercept, a constant, and β1, β2, and β p are the coefficients of the lags of Y up to p. The order ' p ' means that up to p -lags of Y are used, and they are predictors in the equation. ε_{t} is the error term, which is treated as white noise.

Table 2. Descriptive statistics of data

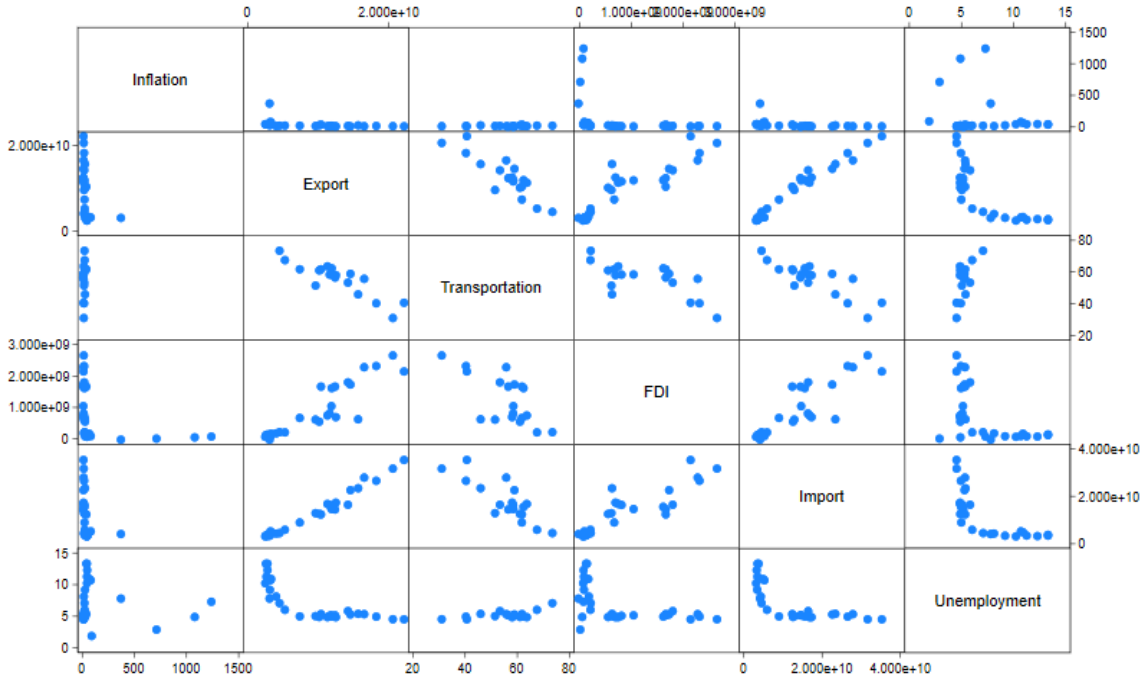
Variable	Obs	Mean	Std. Dev.	Min	Max
Inflation	33	128.829	297.52	8.93	1238.595
Export	29	9.347e+09	5.975e+09	2.490e+09	2.216e+10
Transportation	19	55.801	10.244	31.006	73.453
FDI	32	7.852e+08	8.297e+08	-24000000	2.654e+09
Import	29	1.294e+10	9.420e+09	3.135e+09	3.528e+10
Unemployment	33	6.77	2.972	1.9	13.3

Table-2. provides descriptive statistics of data for the economic variables in this dataset. Inflation - average 128.83 with high variability (8.93 to 1238.60), indicating significant fluctuations. Export- average 9.3 billion; wide range (2.49 to 22.16 billion), reflecting trade fluctuations. Transportation - average 55.8; moderate variation (31.01 to 73.45), stable compared to others. FDI - average 785.2 million; high variability (-24 million to 2.65 billion), showing inflow/outflow changes. Import-average 12.94 billion; substantial variation (3.13 to 35.28 billion), driven by trade dynamics. Unemployment- average 6.77%; moderate variation (1.9% to 13.3%), indicating employment level shifts.
Stationarity was tested using the widely used Dickey–Fuller (ADF) test. Do the observed variables tend to revert to the long-term trend after the shock, or do the variables follow a random walk? If the variables follow a random walk after a temporary or permanent shock, the regression between the variables is spurious. Inflation, export, transportation, FDI, import, and unemployment were tested for stationarity. Non-stationary variables were transformed (first or second differences, d., d2.) to achieve stationarity.

Table-3. Correlation of variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) Inflation	1.00					
(2) Export	-0.361	1.00				
(3) Transportation	0.245	-0.878	1.00			
(4) FDI	-0.343	0.904	-0.675	1.00		
(5) Import	-0.326	0.984	-0.841	0.881	1.00	
(6) Unemployment	-0.101	-0.783	0.594	-0.541	-0.715	1.00

Table-3. Using correlation is essential because it helps identify relationships between variables, which is crucial for the following reasons. **Export**, **Import**, and **FDI**, highlighting their interconnected role in trade. **Transportation** has a strong negative correlation with trade variables, suggesting lower costs with increased trade. **Inflation** and **Unemployment** show weaker or mixed relationships, indicating limited influence on other variables.



. **Fig.1. Correlation graph between variables**

Fig.1. shows the correlation analysis between the factors: if the correlation coefficient is "+", then there is a positive relationship, if "-" there is an inverse relationship, if the result is 0, then there is no relationship between the variables (Karl Pearson, 1896). It was established that there is a direct relationship between the variable Exand Export. We see that there is a high degree of positive correlation between the variables Ex and Im, which is the next dependent variable. We can observe that there is a negative correlation between the variables Ex and Inflation . The correlation between Ex and FDI is also positive . However, there is a negative correlation between the variable Ex and Unemployment (Fig.1).

Linear regression models are widely used because they provide a simple but powerful framework for understanding the relationships between variables. Therefore, we used a regression model. When we first built the model, we found that inflation and unemployment did not significantly affect the model. for this reason, we created a regression model(table-4.) excluding inflation.

Table-4. Regression model.

Export	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Transportation	-74689341	34705002	-2.15	.049	-1.491e+08	-254513.66	**
FDI	.865	.388	2.23	.043	.034	1.697	**
Import	.4	.05	8.02	0	.293	.506	***
Unemployment	-2.138e+08	4.084e+08	-0.52	.609	-1.090e+09	6.621e+08	
Constant	9.797e+09	3.127e+09	3.13	.007	3.090e+09	1.651e+10	***

Mean dependent var	12675757883.159	SD dependent var	4637992304.422
R-squared	0.977	Number of obs	19
F-test	150.725	Prob > F	0.000
(AIC)	836.752	Bayesian crit. (BIC)	841.474

*** $p<0.1$, ** $p<0.5$, * $p<1$.

The regression model (table-4.) explains 97.7% of export variability (R2=0.977R^2 = 0.977R2=0.977). Key findings: **Transportation**: Significant negative impact on exports (p=0.049p = 0.049p=0.049), indicating higher costs reduce exports. **FDI**: Positive and significant effect (p=0.043p = 0.043p=0.043), showing FDI supports export growth. **Import**: Strongest driver with a highly significant positive impact (p<0.001p < 0.001p<0.001). **Unemployment**: No significant effect on exports (p=0.609p = 0.609p=0.609). The results suggest focusing on reducing transportation costs and increasing FDI and imports to boost **Export**s.

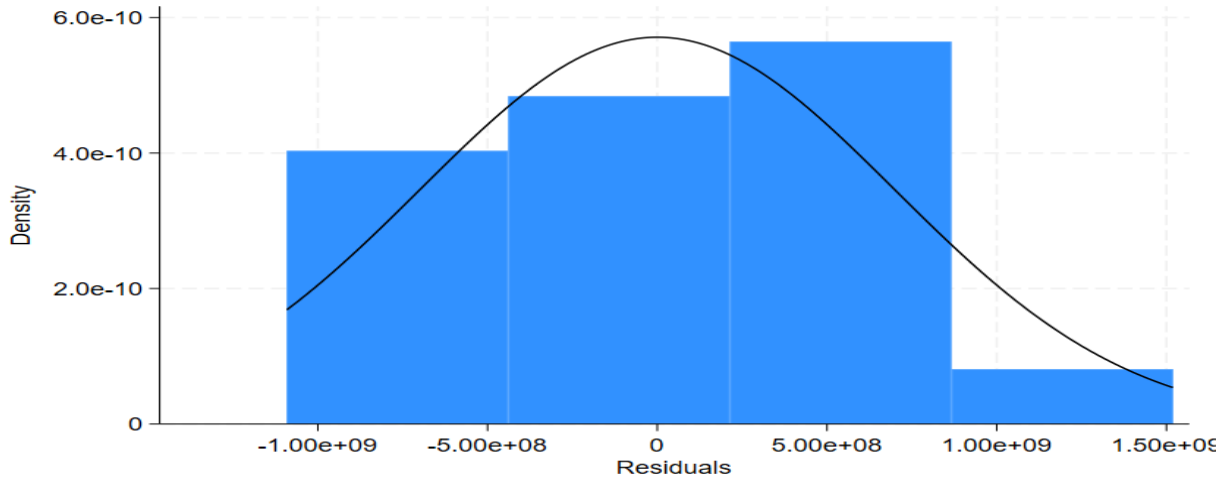
The Breusch Pagan test checks if the variables of the regression errors is constant (homoscedasticity). The test result (χ2(1)=0.08,p=0.7710\chi^2(1) = 0.08, p = 0.7710χ2(1)=0.08, p=0.7710) indicates no evidence of heteroskedasticity, as the p-value is much higher than 0.05. This means the model's error terms have a constant variance, ensuring the reliability and validity of the regression results.

Table 5. Variables inflation factor

	VIF	1/VIF
Import	5.35	.187
Transportation	3.723	.269
FDI	2.54	.394
	1.635	.612
Unemployment		
Inflation	1.211	.826
Mean VIF	2.892	.

The **Variance Inflation Factor (VIF**) assesses multicollinearity, which occurs when independent variables are highly correlated, potentially distorting regression results. A VIF above 10 indicates severe multicollinearity, while values below 5 are generally acceptable. Import has the highest VIF (5.35), but it is still below the critical threshold, suggesting manageable multicollinearity. Other variables (Transportation, FDI, Unemployment, Inflation) have VIF values well below 5. The **Mean VIF** (2.892) confirms that multicollinearity is not a major concern in this model. The variables in the regression model are sufficiently independent, ensuring reliable coefficient estimates and valid interpretations. (table-5)

This histogram(fig.2) represents the distribution of residuals (errors) from the regression model. The residuals being mostly symmetric and centered around 0 indicate that the regression model performs reasonably well.



Initially, several tests were used in this study to check the development of sustainable foreign trade in Uzbekistan. This analysis shows the complex relationship between export growth, trade development, investment promotion and domestic trade support. The relationship between export and import growth shows progress in stability as the economy grows. These results reveal that the changes in export, import, FDI, Inflation, Unemployment, Transportation indicators are the main factor of development in Uzbekistan's stable foreign trade strategy, but we need to study export and import in depth.

Conclusion

This study research considered to analyze the development of sustainable economic trade strategies in Uzbekistan, which is undergoing significant changes after gaining independence. First, we need to better understand how various economic indicators such as exports, imports, FDI, inflation and unemployment contribute to sustainable development. Considering Uzbekistan's goal of becoming an upper-middle-income country by 2030, the study of these factors provides valuable insights for the formulation of economic policies consistent with the principles of sustainable development. The analysis of the data we researched above revealed the main concepts of the factors affecting exports: As the main drivers of exports, Imports and direct investment have the strongest positive effect on exports. , which indicates that an increase in imports and foreign investment is more likely to increase exports. Transport costs have a negative impact on exports. Emphasizes the need to reduce or minimize these transport costs to increase export efficiency. In this model, inflation and unemployment do not have a significant effect on exports. We also built a regression model. This model explains 97.7% of the variation in exports (R squared = 0.977), showing a very good fit. Diagnostic tests for heteroskedasticity or multicollinearity confirm the validity of the results. Residual analysis shows that the model results are well specified. It can be concluded from the general results that for the development of foreign trade, that is, to stimulate the growth of exports, priority should be given to reducing transport costs and increasing imports and direct investments. The final results reveal several positive and negative sides. On the positive side, increasing exports are important drivers of economic growth, reflecting the importance of income levels, domestic demand and trade integration. These results indicate opportunities to promote sustainable economic growth through policies to promote human capital development, trade efficiency, and consumer market growth. On the downside, the negative correlation between export growth and GDP growth probably reflects structural inefficiencies in the export sector due to dependence on low-value-added goods and limited diversification. These findings highlight an important area where reforms are needed to maximize economic potential. Overall, the analysis provides clear evidence that improving foreign trade performance and investment can boost exports, while inflation and unemployment have limited direct effects. Paying attention to the analysis of indicators of these factors serves as a basis for increasing the effectiveness of the foreign trade strategy.

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