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## **FOREIGN DIRECT INVESTMENT DETERMINANTS IN UZBEKISTAN**

This paper studies foreign direct investment determinants of Uzbekistan. Different variables have been chosen according to the previous researches in this field. According to the results, market size and population growth have statistical significance to the FDI inflow of Uzbekistan.

**Keywords:** FDI, GDP, Inflation rate, exchange rate

## **O‘ZBEKISTONDA TO‘G‘RIDAN-TO‘G‘RI XORIJIY INVESTITSIYALARGA TA‘SIR ETUVCHI OMILLAR**

Ushbu maqolada O‘zbekistondagi xorijiy investitsiyalar oqimiga ta‘sir etuvchi omillar statistik tahlili amalga oshirilgan. Bu yerda o‘zgaruvchilar avval ushbu sohada olib borilgan ilmiy ishlarga tayangan holda tanlangan. Natijalarga ko‘ra bozor hajmi va aholining o‘shish darajasi statistik jihatdan ta‘siri bor deb baholangan.

**Tayanch so‘z va iboralar:** to‘g‘ridan-to‘g‘ri xorijiy investitsiyalar, YaIM, inflyatsiya, ayriboshlash kursi

## **ДЕТЕРМИНАНТЫ ПРЯМЫЕ ИНОСТРАННЫЕ ИНВЕСТИЦИИ В УЗБЕКИСТАНЕ**

В данной статье рассматриваются факторы, определяющие прямые иностранные инвестиции в Узбекистане. Различные переменные были выбраны в соответствии с предыдущими исследованиями в этой области. Согласно результатам, размер рынка и рост населения имеют статистическую значимость для притока прямые иностранные инвестиции в Узбекистан

**Ключевые слова:** Прямые иностранные инвестиции, ВВП, уровень инфляции, обменный курс

### **Introduction**

Foreign direct investment is a powerful tool for shaping foreign economies and practices, and can therefore take the form of public or private expenditure. Private investment is the main form of FDI today, but it is also regulated by investor countries' policies, and plays a role in conducting foreign policy in a region.

In the interests of policy relations, the use of international private investment by firms in their own countries is based on various political and economic processes that decide the ties between foreign capital's participation and shifts in host state politics. FDI appeal is more difficult in developing countries than developed countries. Furthermore, in this case the regional factors play a role. Economists are trying to define FDI determinants. A developing country like Uzbekistan aims to attract more foreign investment, which studies FDI determinants with linear

regression. In addition, other guidelines were formulated on the basis of the findings of the study.

In recent decades, foreign investor currency and trust in Uzbekistan have increased, as the country took a number of measures in building investment-friendly infrastructure; developing the energy sector; providing the necessary facilities and promoting the establishment of industries; and simplifying regulations and rules. In 2017, FDI inflows decreased slightly to 96 million US dollars in the UNCTAD Foreign Investment Report 2018. In fact, the World Bank reports that investment growth declined from 9.5% in 2016 to 7.1% in 2017. This reflects a decline of 27.82 percent (133 million) from 2016 rates, however high renewable energy expenditure continues to see significantly stronger FDI estimates in future (FDI rise 444 percent between 2017 and 2018). To Russia, South Korea, China and Germany, the FDI has historically arrived, but Canada increased its financial footprint to 2018. The energy sector, particularly sustainable / renewable energy, has been based on investments throughout recent years. The total amount of FDI FDI in 2017 was 9.3 billion USD (13.5% of GDP).

In the 2019 World Bank, Uzbekistan ranked 76th, with the 12th lightest company-building region. In the Transparency International ranking 2018, the country ranks 158th out of 180 nations. The government's policy of setting up seven special economic zones with fiscal opportunities has drawn international capital. Examples include Syrdarya Commercial Free Zone and a provisional President's decree dated October 2018, Shavkat Mireyeoy (FDI Intelligence), which calls for "further steps to accelerate and extend the operations in accessible commercial zones." Uzbekistan offered Eurobonds in 2018 to manufacture and services (Bloomberg) for up to 300 million dollars. Russia ordered the development of a nuclear power plant through the Russian Nuclear Energy Corporation (TASS) Rosatom through Saudi Arabia and Uzbekistan in these nations. The Russian Central Bank posted on the 2017 transfer of funds from Russia to Uzbekistan. The privatization of large state-owned companies and entrance into the WTO will strengthen Uzbekistan's FDI request, but in these areas the country is moving gradually.

### **Literature review**

FDI is described as an investment package in which a resident business maintains a long-term interest in a company outside its country borders in one country[1]. FDI shall be considered the possession or management of a non-corporate holding company or the equal value in 10% or more of its voting shares [2]. Farrell described FDI as an encouraging entity to function and provide goods and services in a foreign market as a bundle of money, technology, administration and entrepreneurship. FDI can be separated into two groups, from theoretical perspective: horizontal and vertical. The Horizontal FDI (HFDI) is a type of investment which either in the same international industry that is in operation at home, or which provides the same services and is only tailored for local or original markets without the export of large amounts of output to host countries (Mask 2002)

Japanese MNE are commonly used in their international expansion as they assume that this model would allow them to reduce the risk and share experiences, expertise, and reputation already established at home [3]. There is still no general census on these determinants and it is direct contribution to the influx of these economies, where many research studies still are in attempt to assess them. FDI has long-term ties between economies which are good stimulus for economic growth and development [4]. They also found out that GDP per capita is the main indicator of the market size. In fact, the technology and specialist workers are the main drivers of FDI's successful productivity increase [5]. The national currency uncertainty on the international market is one of the other influences. He states, meanwhile, that foreign investors have a large number of FDI influxes from countries with tax incentives, usually about 9 percent higher than from others.

### **Research objectives**

The primary objective of conducting this study is to determine the determinants of foreign direct investment (FDI) in Uzbekistan. Based on the theoretical framework and research questions of this study, the research objectives of this research study had been constructed. The followings are the research objectives of this research study:

1. To investigate the relationship between exchange rate and foreign direct investment (FDI) in Uzbekistan.
2. To examine the relationship between population growth and foreign direct investment (FDI) in Uzbekistan.
3. To investigate the relationship between market size and business climate and foreign direct investment (FDI) in Uzbekistan.
4. To examine the relationship between inflation and foreign direct investment (FDI) in Uzbekistan.

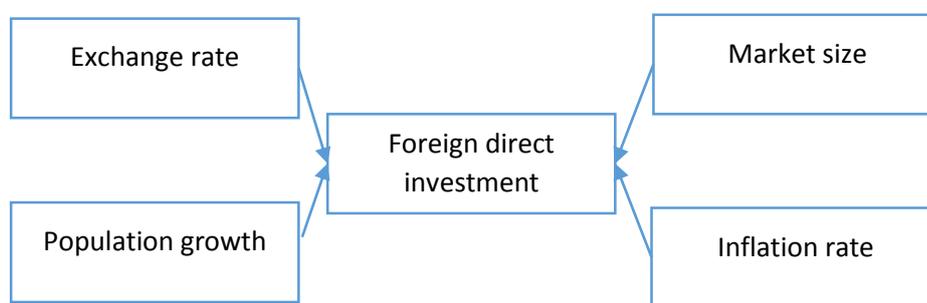
### **Data and methodology**

A panel data from 2007 to 2017 has been collected and the paper "DETERMINANTS OF FOREIGN DIRECT INVESTMENT (FDI) IN AGRICULTURE SECTOR BASED ON SELECTED HIGHINCOME DEVELOPING ECONOMIES IN OIC COUNTRIES: AN EMPIRICAL STUDY ON THE PROVINCIAL PANEL DATA BY USING STATA, 2003-2012" by Intan Maizura Abdul Rashid and et al has been chosen as a benchmark paper. The availability of data is one of the justifications behind choosing these periods. The variables that have been taken as the independent variable are exchange rate, population growth, market size, inflation, the logistics performance unlikely the benchmark paper, whereas the dependent variable is foreign direct investment. The sample of data that has been taken for empirical analysis will take credit on 11 years data in annually basis. Expected Outcomes in the study is to estimate the effect of several factors on the FDI inflow. Therefore we study the relationship between FDI and these factors and their significance level to the FDI inflow into Uzbekistan

#### **Data Collection Methods**

**Table 1****Unit Measurement for all variables<sup>1</sup>**

Variable	Abbreviation	Unit of Measurement	Sources
Foreign Direct Investment	FDI	FDI (USD)	World Bank Data
Exchange Rate	EXC	Inflation, GDP deflator (annual %)	World Bank Data
Market Size	GDP	GDP per capita growth (annual %)	World Bank Data
Population growth	POPGR	Growth in population	World Bank Data
Inflation	INFL	Inflation Rate	World Bank Data

*Research Framework***Figure 1: Research Frameworks of the Determinants of Foreign Direct Investment (FDI) in Uzbekistan<sup>2</sup>**

The study context is important to understand the relationship between dependent variable and indigenous variables, as shown in Graph 1, which describes the determinants of FDI in agricultural sectors between OIC countries. The component plays a key role in promoting work and in any other aspects. Here is a samples of the FDI in Uzbekistan. Regression model

*Our framework is as follows*

$$FDI = \alpha + \beta_1 GDP_i + \beta_2 INFL_i + \beta_3 POPGR_i + \beta_4 EXC_i + \varepsilon_i \quad (1)$$

Based on equation (1), the positive GDP symbol, INFL, POPGR and EXC are a result of the positive effects on foreign direct investment in Uzbekistan of market size, development, population increase, exchange rate and logistics indicators. In Uzbekistan, GDP growth, INFL, POPGR, EXC cause FDI and vice versa.

Results and Principles Firstly, it is believed to be natural and uncorrelated to predictor or independent variables in the model when evaluating Panel results, including the form of random effects used for variance between items. The tool used to evaluate the impact of time-consuming factors. Combined OLS–If a single influence does not occur, an efficient and accurate parameter approximation is given by the normal smallest square (OLS). Summarize GLS focused on the production of

<sup>1</sup> Author's calculations

<sup>2</sup> Author's compilation

rough covarian measures of proportional journal threats and the estimation of the modified linear pattern. Summarize the minimum square technique. All these measurements are conducted and data used in a STATA Comprehensive analytical framework is built for data analyzing which indicates the number of observations required for observation on the basis of the data collected. An overview of the FDI, market size, inflation, population growth and exchange rates, focused on descriptive statistics to assess the statistics of each component. The mean of each of the factors was then also included and the square root of the standard deviation. Furthermore the data which is performed have a minimum and maximum meaning.

**Table 2**

**Descriptive Statistics of Determinants and FDI<sup>3</sup>**

<b>Variables</b>	<b>Exchange rate</b>	<b>Market Size</b>	<b>Population growth</b>	<b>Inflation rate</b>
Observations	11	11	11	11
Mean	16.12	6.1263873	1.827837	12.21939
Std.Dev	0.054993496	1.1931205	0.470105	1.565411
Min	7.98	3.5465823	1.423475	9.399636
Max	26.83	8.3675377	2.82285	14.11765

According to the table above exchange rate has the highest mean and the highest maximum and the lowest mean belongs to the population growth, exchange rate has the lowest standard deviation of 0.150761702 while inflation rate has the highest standard deviation of 1.565411. Market size, population growth and inflation rate have middle range Std.Dev 1.1931205, 0.470105, 1.565411 respectively. In addition this table includes the data about the minimum and maximum points of the collected data.

*Correlation between variables*

Variable correlation is the relationship between each variable included in the dependent variable and the independent variable analyzed in the study.

**Table 3**

**Correlation of the variables<sup>4</sup>**

	<b>FDI</b>	<b>Exchange rate</b>	<b>Market size</b>	<b>Population growth</b>	<b>Inflation rate</b>
FDI	1.0000				
Exchange rate	0.3694	1.0000			
Market size	0.3213	0.1991	1.0000		
Population growth	0.4395	-0.0679	-0.3976	1.0000	
Inflation rate	-0.1575	0.2571	-0.1302	-0.3654	1.0000

The presence of a high correlation between the independent variables will lead to the problem of multicollinearity on the estimates. Still consider these variables because of the evaluation of the panel data, which takes care of collinearity issues. The highest correlation value means a very good relationship between the two

<sup>3</sup> Author's calculations

<sup>4</sup> Author's calculations

variables in this study. It also shows that an aspect has emerged between the two variables that can be used for future research. Based on the above table, the correlation between variables is determined by the value for each variable between other variables. The highest correlation rate is FDI and population growth and it is 0.4395. In addition we see there is a slight positive correlation between exchange rate and FDI (0.3694). It can be seen that market size and population growth has the negative correlation (-0.3976). Negative correlation exists between inflation rate and population growth too (-0.3654)

**Table 4**

**Determinants of FDI inflows: Panel data Estimation Results  
based on linear regression on STATA<sup>5</sup>**

<b>Variables</b>	<i>Coefficient</i>	<i>Standard error</i>	<i>t-statistics</i>
<b>Exchange rate</b>	2.40495	2.468131	0.97
<b>Market size</b>	.2274241	.1265234	1.80*
<b>Population growth</b>	.7356233	.3319358	2.22**
<b>Inflation rate</b>	.0335291	.0964266	0.35
R squared	0.5862	Adj. R squared	0.3103

Note: \*, \*\*, \*\*\* are significant respectively to  $p < 0.05$ ,  $p < 0.01$ , and  $p < 0.001$

### Conclusion

In this table in also include the coefficient, t-statistic value and P value that want to determine which of the variables is acceptable using the regression. The value for t-Statistic being rejected is above 1.64 that mean below than 1.64 is acceptable. Results show that market size and population growth are considered to be significant determinants of FDI in Uzbekistan. However there is a limitation about the lack of data to make the research more reliable. But, this research and model can be a good guideline to use for the future researches.

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<sup>5</sup> Author's calculations