

# Kyrgyzstan & Customs Union/

Inward FDI determinants and FDI influence on Economic Growth in the Kyrgyz Republic: An Empirical Analysis

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# Island of democracy

- 1991 December - Commonwealth of Independent States (CIS)
- 1995 The customs agreement – Russia, Belarus, and Kazakhstan
- 2000 transformed into the Eurasian Economic Community (EEC),
- 2015 Eurasian Economic Union
- **2015 May** Kyrgyz parliament ratified an agreement on accession to the EEU

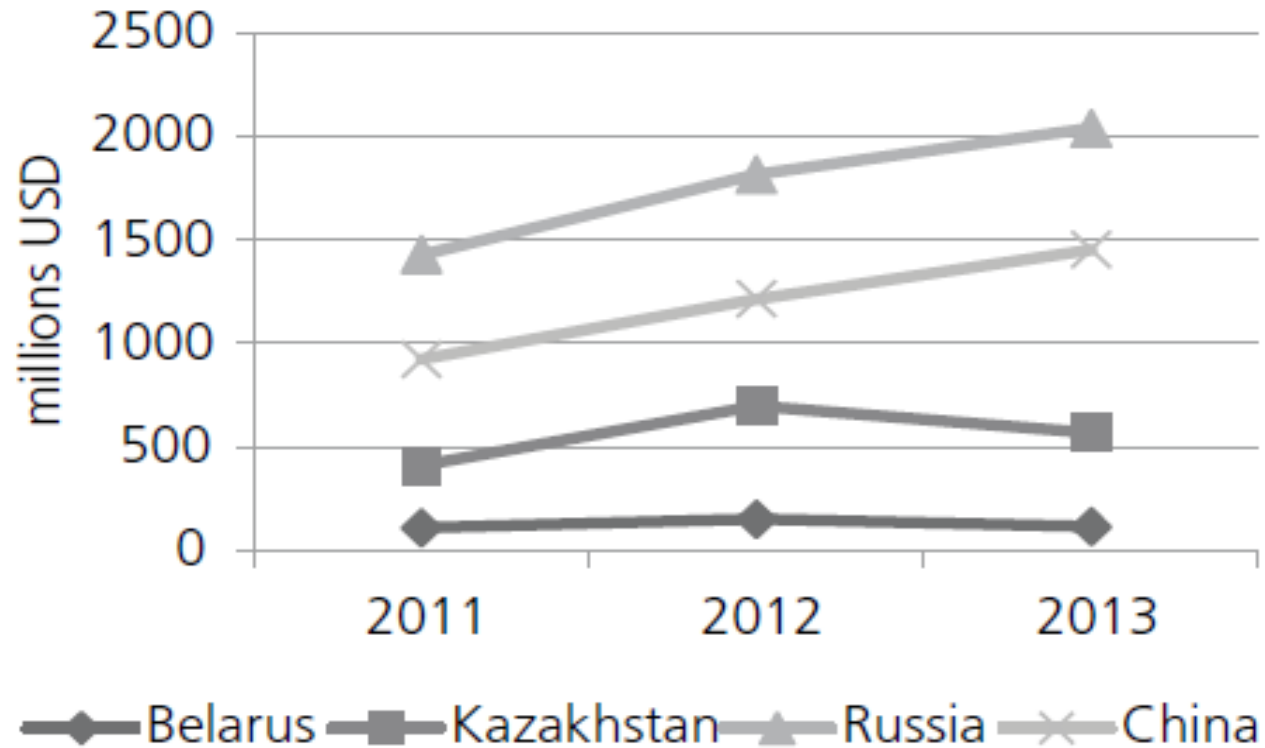
- Kyrgyzstan's accession process to the CU was very much welcomed by Russia, while Kazakhstan and Belarus resisted the exemptions from entry requirements that were requested by Kyrgyzstan.
- Russia agreed to fund some of Kyrgyzstan's road map activities for the accession to the CU.
- USD 1.2 billion. 200 million freely given to fund some of the road map activities.

# Harmonizing Laws

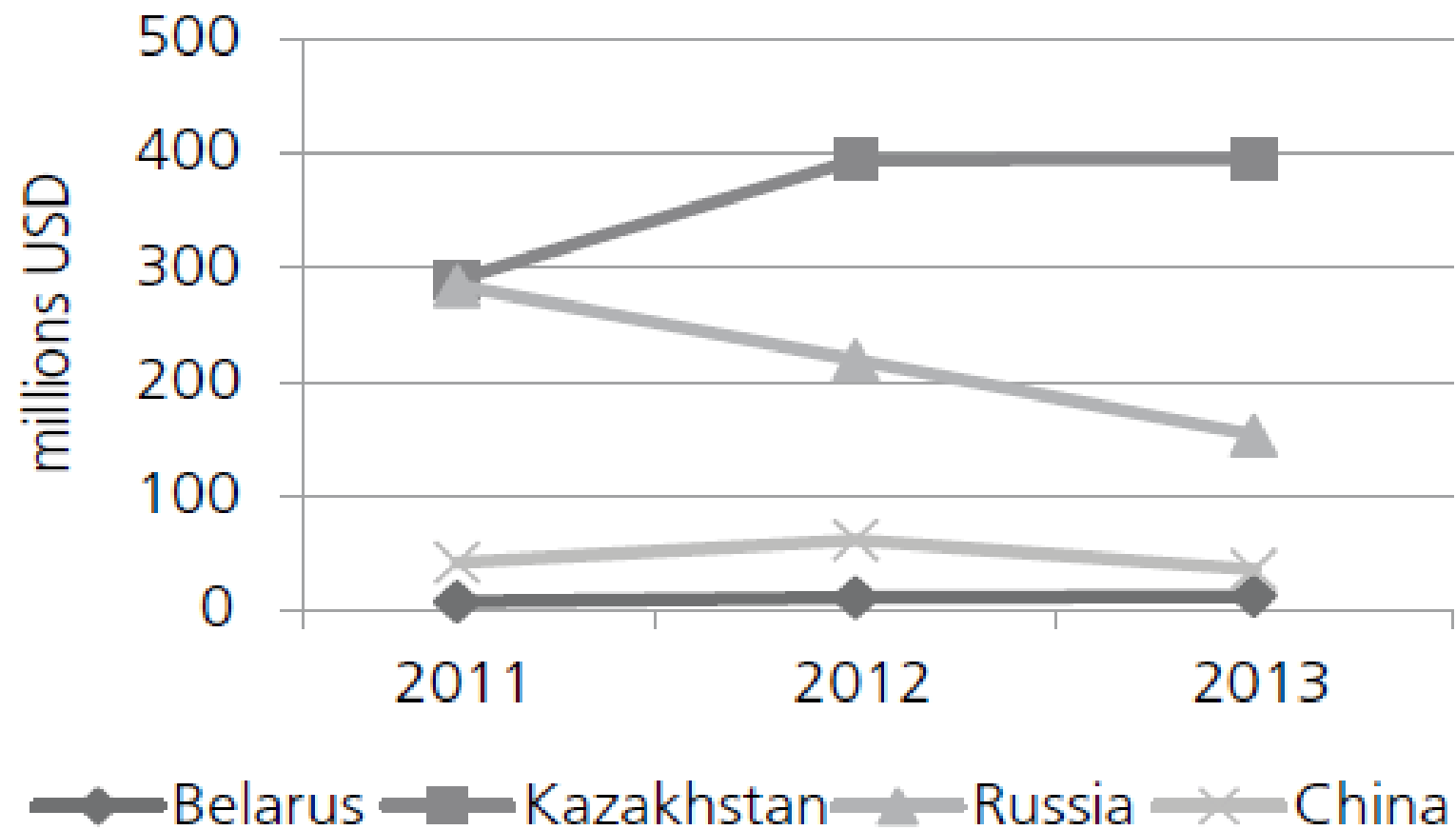
- technical regulations that the CU addresses were regulations on food, milk and dairy products, juices, meat, textile
- Tax administration, technical regulation, sanitary, phytosanitary and veterinary, as well as tariff and non-tariff regulations.

WTO norms

# Economic Impacts (import)



# export



# Political Impacts

	Freedom in the world, political rights, and civil liberties average Freedom House (2014)	Bertelsmann-Transformation Index (BTI), Democracy Status (2014)	Polity IV, Authority trends (2014)
<b>Belarus</b>	6.5	3.93	-7
<b>Kazakhstan</b>	5.5	3.85	-6
<b>Russia</b>	6	4.40	4
<b>Armenia</b>	4.5	5.35	5
<b>Kyrgyzstan</b>	5	5.80	7

Freedom in the World:

7 = least free, 1 = most free; BTI: 1 = worst, 10 = best;

Polity IV: -10 = full autocracies, 10 = full democracies

- market-seeking,
- *asset-seeking* or *resource-seeking*,
- *efficiency-seeking*



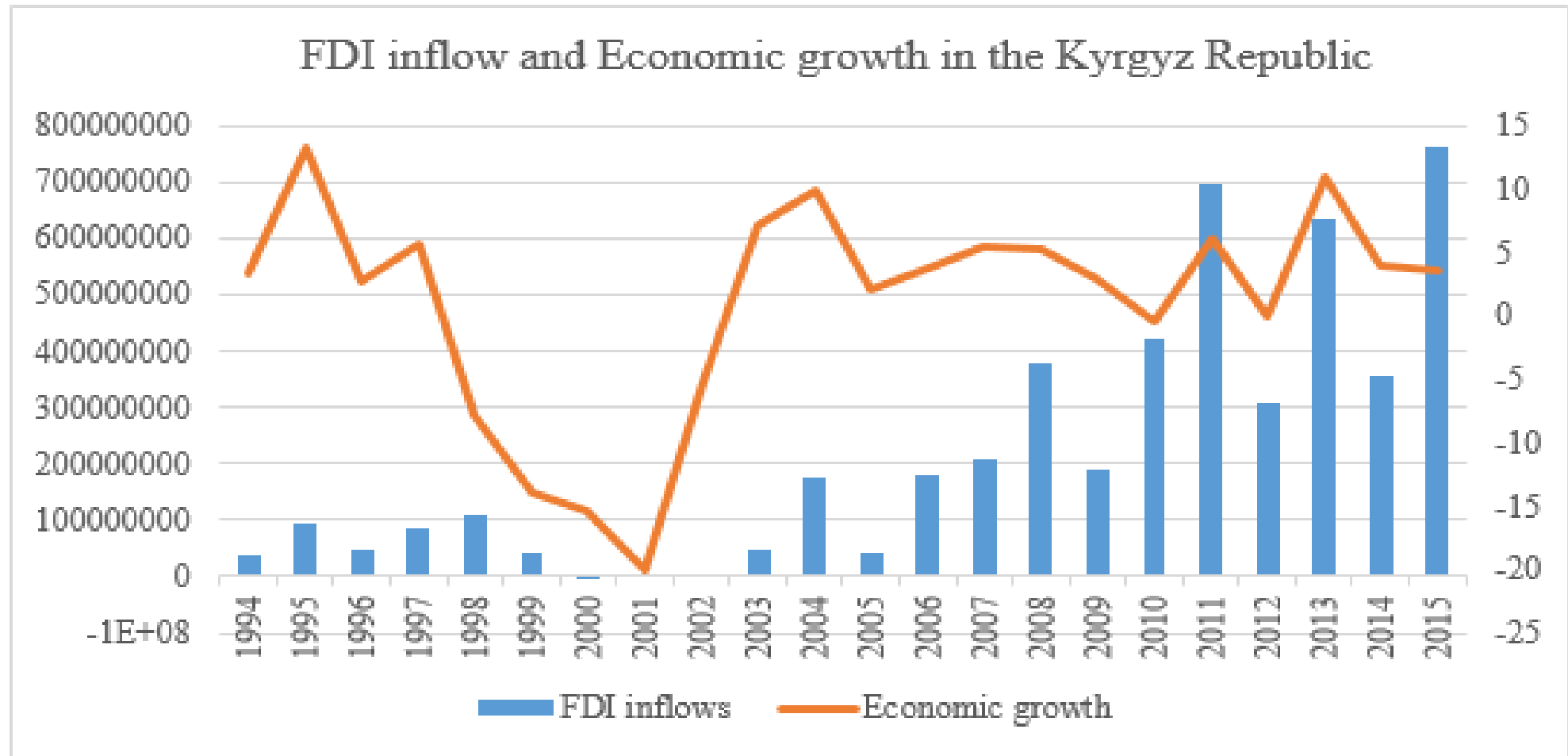


Figure 1. FDI to GDP in the Kyrgyz Republic

Source: World Bank Indicators (<http://data.worldbank.org/>)

**Table 1. The flow of foreign direct investment on economic activities during the period of 2008-2014.**

Items	2008	2009	2010	2011	2012	2013	2014
Mining and quarrying	0.87	0.96	0.15	3.12	4.35	2.40	10.31
<b>Manufacturing</b>	<b>27.41</b>	<b>23.23</b>	<b>49.75</b>	<b>57.65</b>	<b>43.55</b>	<b>32.94</b>	<b>37.31</b>
Electricity, gas, steam and air conditioning supply	0.00	0.00	0.00	0.00	0.00	1.68	5.99
Water supply; sewerage, waste management and remediation activities	0.15	0.05	0.00	0.00	0.01	0.02	0.00
Construction	5.65	3.24	1.94	0.75	4.71	1.61	2.76
Wholesale and retail trade; repair of motor vehicles and motorcycles	6.49	8.01	8.03	7.65	5.52	6.90	5.17
Transportation and storage	1.75	1.33	1.83	4.31	1.09	1.04	0.83
<b>Financial and insurance activities</b>	<b>40.08</b>	<b>37.85</b>	<b>5.24</b>	<b>5.67</b>	<b>7.15</b>	<b>10.35</b>	<b>3.92</b>
<b>Professional, scientific and technical activities</b>	<b>16.94</b>	<b>22.39</b>	<b>31.64</b>	<b>19.96</b>	<b>31.63</b>	<b>41.82</b>	<b>31.44</b>
Accommodation and food service activities	0.28	0.72	1.22	0.47	0.30	0.05	0.03
Other	0.28	0.72	1.22	0.47	0.30	0.05	0.03
Total	100	100	100	100	100	100	100

Source: Database of the National Statistics Committee of the Kyrgyz Republic, [www.stat.kg](http://www.stat.kg)

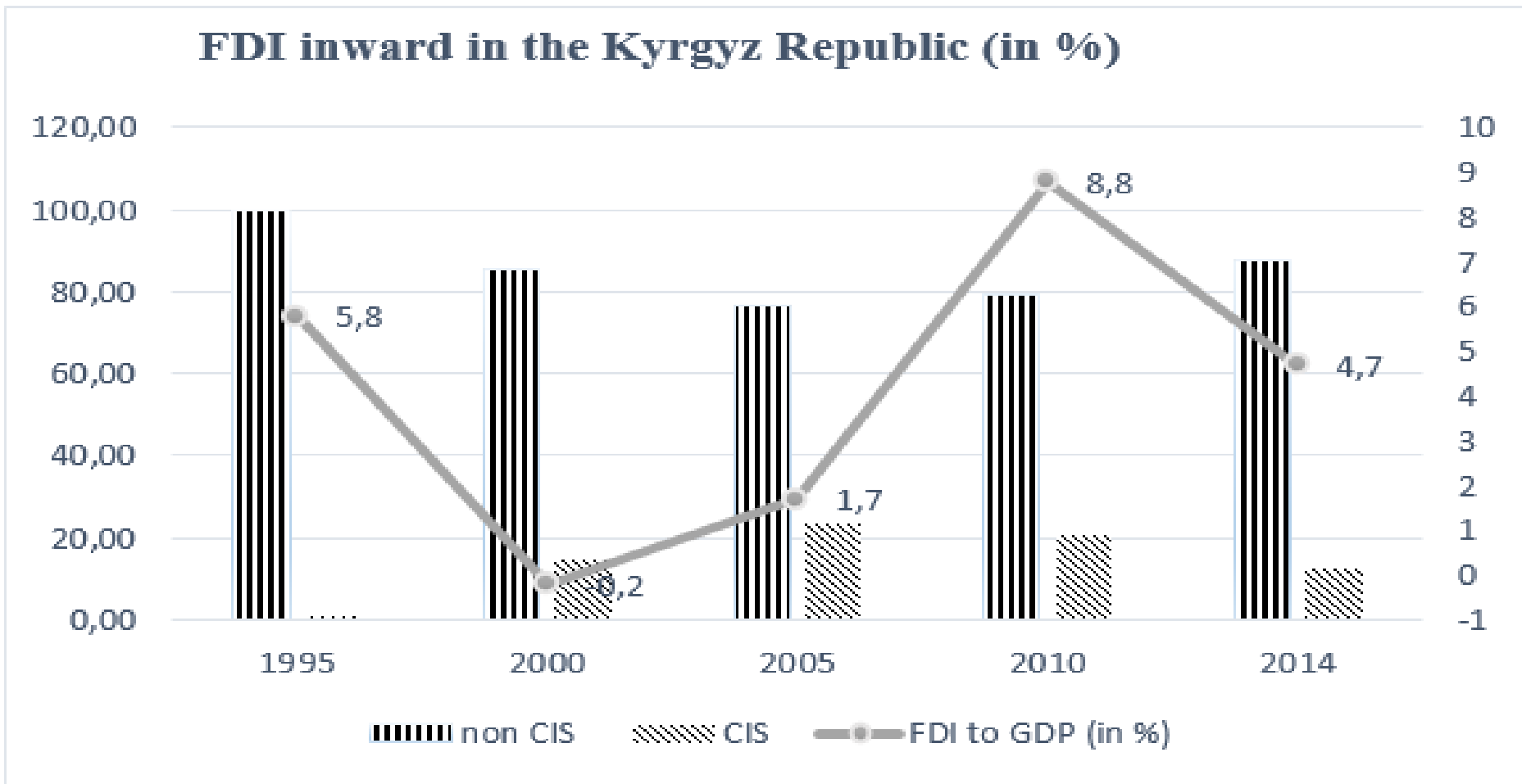


Figure 2. FDI inwards in the Kyrgyz Republic

Source: World Bank Indicators (<http://data.worldbank.org/>)

# Research questions

- *There is significant impact of selected FDI determinants on FDI inwards;*
- *There is significant impact of FDI on Economic growth.*

*The first model:*

$$FDI = \beta_0 + \beta_1 \log(GDP) - \beta_2 \log(GNI) + \beta_3 \text{Infl} - \beta_4 \text{Exchrte} - \beta_5 \text{TotRes} - \beta_6 \text{Tax} + \beta_7 \text{Tropen} + \beta_8 \text{Unempl} - \beta_9 \text{Polst} + \beta_{10} \text{Invfr} - \beta_{11} \text{Techn} + \beta_{12} \log(\text{Laborforce}) + u,$$

*The second model:*

$$FDI = \beta_0 + \beta_1 \log(GDP) - \beta_2 \log(GNI) + \beta_3 \text{Infl} - \beta_4 \text{Exchrte} + \beta_5 \text{Unempl} - \beta_6 \text{Techn} + u,$$

where

**FDI** – Foreign direct investment net inflows;

**Log (GDP)** – Gross domestic product growth, in logs;

**Log (GNI)** – Gross national Income, in logs;

**Infl** – Rate of inflation, in %;

**Exchrte** – Exchange rate: local currency units per U.S. dollar;

**TotRes** – Total Reserves;

**Tax** – Tax Revenue, percent of GDP;

**Tropen** – Trade openness;

**Unempl** – Rate of unemployment, in %;

**Polst** – Political stability index;

**Invfr** – Investment freedom index;

**Techn** – Technicians as a percent of total R&D personnel;

**Log (Laborforce)** – Labor force, in logs;

**u** - the error term, represents factors other than independent variables that affect dependent one.



```
. reg FDI logGDP logGNI Infl logLaborforce ExchangerateUSdollar logTotalReserv
> es TaxrevenueofGDP logTradeoppenes Unemploymentrate Politicalstability2 Inves
> tmentfreedom TechniciansasaoftotalRDp
```

Source	SS	df	MS	
Model	8.4265e+17	12	7.0221e+16	Number of obs = 22
Residual	1.0816e+17	9	1.2017e+16	F( 12, 9) = 5.84
Total	9.5080e+17	21	4.5276e+16	Prob > F = 0.0063
				R-squared = 0.8862
				Adj R-squared = 0.7346
				Root MSE = 1.1e+08

FDI	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
logGDP	5.01e+09	1.43e+09	3.51	0.007	1.78e+09	8.24e+09
logGNI	-4.77e+09	1.51e+09	-3.16	0.012	-8.19e+09	-1.36e+09
Infl	317198.8	568668.8	0.56	0.591	-969219.5	1603617
logLaborfo~e	4.66e+08	2.90e+09	0.16	0.876	-6.09e+09	7.02e+09
Exchanger~r	-1.50e+07	6017439	-2.49	0.035	-2.86e+07	-1355302
logTotalRe~s	-1.79e+07	9.65e+07	-0.19	0.857	-2.36e+08	2.01e+08
Taxrevenue~P	-4989778	4900539	-1.02	0.335	-1.61e+07	6096011
logTradeop~s	2.83e+07	6.76e+07	0.42	0.685	-1.25e+08	1.81e+08
Unemployme~e	2.27e+07	1.55e+07	1.46	0.177	-1.24e+07	5.78e+07
Political~2	-3.23e+07	7.06e+07	-0.46	0.658	-1.92e+08	1.27e+08
Investment~m	2926423	5452221	0.54	0.604	-9407358	1.53e+07
Technician~p	-1.33e+07	9548596	-1.40	0.196	-3.49e+07	8268224
_cons	-7.78e+09	1.56e+10	-0.50	0.629	-4.30e+10	2.74e+10

```
. reg FDI logGDP logGNI Infl ExchangerateUSDollar Unemploymentrate Techniciansa
> saoftotalRDp
```

Source	SS	df	MS	Number of obs =	22
Model	8.2631e+17	6	1.3772e+17	F( 6, 15) =	16.59
Residual	1.2449e+17	15	8.2993e+15	Prob > F =	0.0000
Total	9.5080e+17	21	4.5276e+16	R-squared =	0.8691
				Adj R-squared =	0.8167
				Root MSE =	9.1e+07

FDI	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
logGDP	5.15e+09	1.06e+09	4.84	0.000	2.88e+09	7.42e+09
logGNI	-4.86e+09	1.06e+09	-4.57	0.000	-7.13e+09	-2.59e+09
Infl	412818.4	167783.8	2.46	0.026	55195.66	770441.1
Exchangerate~r	-1.39e+07	2914124	-4.78	0.000	-2.01e+07	-7725708
Unemployme~e	1.89e+07	1.15e+07	1.65	0.121	-5591338	4.34e+07
Technician~p	-1.69e+07	6785017	-2.49	0.025	-3.13e+07	-2409435
_cons	-4.88e+09	6.43e+08	-7.59	0.000	-6.25e+09	-3.51e+09



```
. corr FDI logGDP logGNI Infl ExchangerateUSDollar TechniciansasaoftotalRDp
(obs=22)
```

	FDI	logGDP	logGNI	Infl	Exchan~r	Techni~p
FDI	1.0000					
logGDP	0.6603	1.0000				
logGNI	0.6561	0.9998	1.0000			
Infl	-0.2239	-0.6212	-0.6188	1.0000		
Exchangerate~r	0.3735	0.8709	0.8683	-0.5538	1.0000	
Technician~p	-0.0237	0.2570	0.2502	-0.4028	0.3240	1.0000

# Conclusion

- The results of correlation analysis indicate a strong statistical relationship between indicators of economic growth and FDI inwards in the economy of the Kyrgyz Republic

- Foreign direct investment (FDI) and trade are often seen as important catalysts for economic growth in the developing countries. FDI also stimulates domestic investment and facilitates improvements in human capital and institutions in the host countries. According to the study results, we conclude that the most significant determinants of FDI inwards are GDP, GNI, Inflation, Exchange rate, technicians as a percent of total R&D personnel.
- Furthermore, the results demonstrates that, there is a very strong positive correlation between FDI and GDP and this relationship is statistically significant for the Kyrgyz Republic