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THE IMPACT OF IFRS ADOPTION ON FOREIGN DIRECT INVESTMENT IN CIS

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Abstract Exploring the relationship between International Financial Reporting Standards (IFRS) and Foreign Direct Investment (FDI) inflows is the main objective of this paper. Although IFRS is identified as a determinant of FDI, a few studies have examined the impact of IFRS on FDI inflows, and it is unexplored as to whether IFRS impacts CIS countries. This paper covers ten (10) IFRS adopted CIS countries from 2000 to 2019 using Ordinary Least Square (OLS) and bias-corrected Least Square Dummy Variable (LSDVC). OLS estimator shows that IFRS positively impacts FDI inflows. However, according to the results of LSDVC, there is a negative relationship between IFRS adoption and FDI inflows. Generally, in developing countries implementing IFRS would lead to FDI enhancement. The negative relationship between IFRS adoption and FDI inflows in CIS countries shows that IFRS is not an essential factor of FDI inflows.

JEL classification: M41, M48, F35, EO2

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Introduction backgrounds to the study

FDI is one of the essential factors contributing to a developing nation's economy. Today, more than 120 countries are seeking foreign investors. Financial reporting quality should be improved by global standardized accounting such as the International Financial Reporting Standards (IFRS) to enhance investment decisions. Acceptance of IFRS provides a set of accounting standards with high quality and international recognition. Around the world, IFRS brings accountability, efficiency, and transparency to financial markets. Therefore, this paper aims to research FDI and IFRS in the Commonwealth of Independent States (CIS). The results of several papers show that countries that have adopted IFRS are more likely to increase FDI inflows than non-adopters. The International Accounting Standards Board has noted that harmonized and transparent financial reporting with lower asymmetry attracts more investors.

In 2003, IFRS was issued for the first time, at this time international standards were required only from 19 countries. After that, more than 70 countries applied IFRS for listed companies. IFRS-adopted countries claimed that applying the set of accounting standards enhances financial statements. The result was an increase in cross-border investment. Hence, the main aim of IFRS is to advance the quality of financial reporting and comparability. Also, it has been determined that IFRS increases foreign institutional and individual investments (Florou & Pope 2012; Yu, 2009; Bruggemann et. al., 2009). Finally, such standards are expected to develop financial reporting while decreasing the cost of information acquisition for global investors and increasing their investment in foreign companies. We shall note that several determinants have been widely explored as a factor in increasing FDI, however, few papers have studied IFRS as FDI inflows' primary determinant. In fact, the impact of IFRS on FDI inflows in CIS countries is unexplored. Hence, one of the prime contributions of this research is to examine the relationship between FDI inflows and IFRS adoption in a sample of ten (10) CIS countries from 2000 to 2019.

Problem statement

It should be mentioned that several studies indicate the benefits from the adoption of IFRS, including a reduction in information acquisition cost (Madawaki, 2012) and the opportunity to access international markets. Borensztein, De Gregorio, and Lee (1998) found that FDI leads to economic growth and technology transfer rather than domestic investment. To examine the impact of the adoption of IFRS on CIS countries' FDI, this study examined whether the IFRS effect lead to an increase in cross-border investments of CIS firms. Thus, the following research question was developed to find the relationship between IFRS adoption and FDI inflows:

To what extent will the adoption of IFRS attract FDI in CIS?

Objective of the study

The main objective is to study the effect of IFRS adoption on FDIs in CIS countries. Also, the following objectives will be considered:

1) to measure IFRS adoption in CIS countries;
2) to identify other factors that influence FDI inflows;
3) to measure the relationship between IFRS adoption and FDI inflows;
4) to provide policy recommendations based on findings.

To achieve the objectives of the study, we adopt the Ordinary Least Square (OLS) and Least Squares Dummy Variable Bias-Corrected (LSDVC) dynamic estimation methods to estimate the relationship among variables. The rest of the paper is designed in the following way: the next section discusses the literature review, then we discuss the methodology of the study where details of the hypothesis development, sources of data set design, technique of data analysis are briefly described. After that, we focus on empirical results and discussion of the results of our models. The final section contains our conclusion.

Literature review

FDI is a category of cross-border investment made by a firm or individual in one economy into another country with interest (over 10 per cent) in an enterprise. The 10 per cent seems arbitrary. On the other hand, economists assume that FDI is highly illiquid. A long-term strategic relationship with the direct investor and direct investment enterprise is the motivation of direct investors (Eicher & Turnovskiy, 2009). Nowadays, an increase in FDI worldwide enhances academic interest in this field. For instance, Ayanwale (2007) mentioned that FDI combines management, technology, marketing, and capital. Caves (1996) considered that increasing FDI inflows showed that FDI has positive effects on managerial skills, technology transfer, access

to international markets, and international production networks. In addition, Findlay (1978) also mentioned that FDI increases technological progress through a "contagion" effect in the host country by the foreign investor. According to Borensztein et al. (1998), while increasing the economy's growth, technological change FDI is an essential factor rather than domestic investment.

On the contrary, International Financial Reporting Standards (IFRS) are international accounting rules that adopt transparent financial reports and financial statements with clear rules. IFRS adoption illustrates an essential factor in obtaining an attractive and competitive market. It is known that IFRS will motivate firms to decrease the cost of gaining information, ensure transparency and comparability of financial data, greater share prices, and increase the host market's credibility with direct foreign investors. IFRS was developed by a nonprofit organization, the International Accounting Standards Board (IASB). IFRS does not set rules for industry-specific reporting, and it gives detailed guidance to prepare financial reporting. Implying one language in accounting standards will simplify accounting procedures. Also, it helps foreign investors and auditors to view financial reports with cohesion. One of the main reasons for doing financial reporting is to provide financial information about the company to investors, creditors, and lenders while making an investment decision. With financial reporting, users decide whether to sell or hold an investment or invest in another entity (KPMG, 2012). Overall, it is more beneficial because investors easily can compare financial information with other entities, and with similar financial information, it can be compared in the given time period. As time goes by, the number of IFRS adopted countries increases (IFRS, 2021).

McCartney (2004) assumed that developing accounting standards would establish a socioeconomic environment. According to Table 1, in 2004, Azerbaijan and Kyrgyzstan implemented international accounting standards. Most CIS countries adopted IFRS in the first decade of the 21st century. However, Belarus, Moldova, Russian Federation, and Ukraine implemented it in 2015, 2017, 2012, and 2012 respectively. In 2010, Turkmenistan initiated the acceptance of IFRS, and in 2019, the accounting standards of Turkmenistan transferred to IFRS. In the case of Uzbekistan, the country also made several steps towards implementing IFRS. In 2021, IFRS was required only for large taxpayer companies, insurance companies, and banks in the country. Hence, as far as the present study covers 2000 to 2019, Uzbekistan and Turkmenistan are not taken as IFRS adoptees.

Table 1: The IFRS Adoption Date of CIS Countries

CIS countries	Year of IFRS adoption
Armenia	2007
Azerbaijan	2004
Belarus	2015
Georgia	2005
Kazakhstan	2007
Kyrgyzstan	2004
Moldova	2017
Russian Federation	2012
Tajikistan	2007
Turkmenistan	Has not adopted
Ukraine	2012
Uzbekistan	Has not adopted

*Data for the research was obtained from 2000-2019, and during that time, IFRS was not adopted in Turkmenistan and Uzbekistan.

Source: IFRS (2021).

Nowadays, IFRS adoption has become of significant importance in several countries. Past studies illustrated that it is one of the necessary factors to contribute to the growth of a country's economy (Larson & Kenny, 1995; Zaidi & Huerta, 2014). The first research of IFRS and FDI was conducted by Márquez-Ramos (2011) on European Union countries. This study used a gravity model. Márquez-Ramos (2011) found a positive relationship between IFRS adoption and FDI inflows. Overall, the studies on IFRS adoption showed that IFRS adoption developed transparency (Lambert et. al., 2007). Also, they considered that improving transparency leads to better risk estimations, lower asymmetry and uncertainty information. Furthermore, financial information should be transparent to increase accuracy, higher market liquidity, the efficiency of the capital market, and comparability improvement (Gordon et. al., 2012; Aliabadi & Shahri, 2016). Several papers examined the relationship between the cost of equity capital and IFRS adoption and economic growth (Daske, 2006). While investors make investment decisions, IFRS plays an important role, leading to enhancing the comparability and accountability of financial statements. When it comes to the cost of equity capital, most papers stated a negative relationship between the cost of equity capital and IFRS adoption. Thus, if the investor has more information, they would gain less return from the investment because it is less risky.

In addition, Akisik (2014) studied the changes in the financial reporting system, and how it affected FDI among 12 Latin American countries during the period between 1997 and 2010. He found that IFRS had a positive impact on FDI. Chen, Ding, and Xu (2014) analyzed the transformation of the accounting system from domestic to IFRS increases FDI. This study covered 30 countries from 2000 to 2005. Because of reducing the cost of processing for investors, Gordon (2012) also studied the relationship between IFRS adoption and FDI inflows. He conducted research for the period from 1996 to 2009, and it covered 124 countries, and there was a positive relationship between IFRS adoption and FDI inflows. Moreover, Lungu, Caraiani, and Dascălu (2017) also researched IFRS adoption and FDI among 26 countries between 1996 and 2014. This research found that FDI inflows increase more in IFRS-adopted countries than non-adopters. Between 2000 and 2005, Chen et. al. (2014) researched the relationship between FDI inflows and IFRS adoption in 20 OCED countries. Also, particular research was conducted in the case of India by Rakes and Shilpa (2013). These surveys found similar results obtained by Zhu, Gordon, and Loeb (2012). Akindele (2012) stated that financial statements' preparation, reporting, and presenting has changed when IFRS was adopted. He mentioned that increased investments require a unified global set of accounting standards.

Unlike these studies, Nnadi and Soobaroyen (2015) considered that they studied 34 African countries for more than 20 years and found a negative relationship between IFRS adoption and FDI. Owusu, Suppiah and Hook (2017) also found a negative relationship with the study of 116 developing countries from 1996 to 2013. As shown, in developing countries, IFRS adoption and FDI inflows are limited. Owolabi, Onwere and Dada (2013) said that IFRS made easy international comparisons. However, every country has its own rules and standards, so it has remained challenging. Also, IFRS require high skill to implement and develop. Increasing FDI leads to technology transfer, and it requires high skill and knowledge, which is unavailable to the local population and investors (DeGregorio, 2003; Oyetayo et al., 2011). According to Efobi (2015), one accounting standard should be implemented to reduce information asymmetries in global capital markets. Different types of accounting standards may inhibit the volume of capital transactions. Primarily, investors from foreign countries face a dilemma about whether to invest because they have less information than domestic investors. As a result, foreign investors transfer information, and it is their cost. This has an impact of decreasing FDI. To sum up, from the above discussion on the contemporary researches on IFRS and FDI, the central assumption of IFRS adoption is that a country should benefit from the reduction of asymmetric information in the accounting system between the company and foreign investors. This is important to increase the transparency of financial reporting (Verrecchia, 2007). After implementing IFRS, any reduction in asymmetric information would increase the attention of foreign external parties. Thus, it makes the country more attractive for FDI inflows. Also, financial reports with reduced asymmetric information result in lower processing costs. Furthermore, it decreases investment risks. As a result, lowering processing cost and investment risk increases the country's FDIs inflows. Hence, the chief purpose of this study is to examine the impact of IFRS on FDI since it was implemented in CIS countries. Interestingly the previous researches focus on mainly single country-level studies. In addition, the effect of IFRS on FDI in CIS countries remains unexplored in contemporary literature. It is essential to determine whether there has been any economic change among IFRS adoptees and

non-adoptees in CIS countries. The study aims to fills this research gap as well.

In addition, based on our above referred literature survey, the following determinants are considered while conducting this novel academic research.

1) FDI is a type of investment that controls ownership in a business by firms and individuals in one country from another country. The country's institutional and political policy towards foreign investors indicates the country's attitude to external parties. A high level of a country's FDI illustrates that country is attractive for foreigners.
2) The Real Gross Domestic Product is an inflation-adjusted determinant that affects all services and goods produced by a country in the given period. So, it measures the country's market size, and the large market size is the essential factor of increasing FDI. Artige and Nicolini (2005) mentioned that size of the market is an important factor in econometric studies to robust FDI determinants. Ali (2005) finds a significant positive impact of Real Gross Domestic Product on FDI inflows where there is a small positive effect of the growth rate of GDP on FDI inflows.
3) The openness of the economy is the ratio of export and import to Gross Domestic Product. This is also one of the main determinants of increasing FDI.
4) Inflation Rate: There is a significant negative effect of a high inflation rate on FDI because it measures purchasing power and price level change in host country currency.
5) The exchange rate determines the national currency price in terms of another nation's currency. A lower or depreciated rate of exchange rate leads to exports being cheap and import expensive, and there is a positive impact of weak exchange rate on FDI.
6) Infrastructure: High level of transportation (including railways, roads, ports, and airplanes), communication, internet, energy, and water also attracts foreign investors. Chen (2011) researched in China, and he found that extending transportation facilities in China had a significant impact on FDI within the country.
7) IFRS adoption: The high level of transparency and comparability of financial reporting and the lower degree of asymmetric information attract externalities.

Methodology research hypothesis

Several theories were applied to justify IFRS adoption in developing countries. These theories are agency paper applies signalling theory to explain the relationship between IFRS adoption and FDI inflows. In the signalling theory, countries believe that IFRS adoption leads to high quality and transparent accounting information, and this signal is likely to increase FDI inflows into the country.

H0: There is no significant relationship between IFRS adoption and FDI inflows in CIS countries.

H1: IFRS's implementation significantly affects FDI inflows in CIS countries.

Population of the study and data set

To determine the relationship between IFRS adoption and FDI inflows in CIS countries, the paper analyzed whether the impact of IFRS adoption has increased external acquisitions in CIS countries. The CIS includes 12 countries: Uzbekistan, Tajikistan, Kyrgyzstan, Kazakhstan, Russia, Turkmenistan, Moldova, Ukraine, Belarus, Azerbaijan, Armenia, and Georgia. CIS was established in December 1991 to develop the economies and relationships between member states. This study focuses on the period from 2000 to 2019. We should recall that Uzbekistan and Turkiministan are considered non-adoptees of IFRS in our study.

The research involved both qualitative and quantitative approaches. Data for variables were obtained from the World Bank Dataset. Also, seven structured questionnaires were used to collect the needed information, and all relevant answers for these questions were obtained from the official website of International Financial Reporting Standards (IFRS.org).

Technique of data analysis

As mentioned, increasing information transparency between a country and foreign investors could attract more FDI inflows. Several methodological approaches were conducted to find this relationship. For example, Gordon et al., (2012) used a difference-in-difference model to find inward FDI between two types of countries. Also, they tested the hypothesis with a multivariate linear regression on panel data. Chen et al., (2014) applied the gravity model in their research from 2000 and 2005 in 20 OCED countries. According to Tucker (2011), propensity score matching is frequently applied in accounting and finance. Gassen and Sellhorn (2006) used this method to find the effect of IFRS implementation on German companies. Pricope (2017) also applied this method in his research to find the relationship between IFRS adoption and FDI inflows in developing

countries. Pricope (2017) mentioned that the propensity score matching method has two comparative advantages over the classical linear regression model. First, this method is non-parametric. Thus, it is not essential to specify the analysis of dependent and independent variables. Second, this method prevents test errors by reducing untreated observations. Yousefinejad et al., (2018) also examined the impact of IFRS adoption on FDI inflows by applying the OLS estimator on panel data research design. Moreover, to solve any endogeneity problems, they used the LSDVC estimator. Yousefinejad et al., (2018) used the natural logarithm of the FDI's value.

In this paper, panel data was used to conduct the empirical analysis on variables in CIS countries except for Turkmenistan and Uzbekistan because observations were conducted from 2000 to 2019, and IFRS had not been adopted till 2019. The OLS estimator was applied in this study to find the relationship between IFRS adoption and FDI inflows. Moreover, the LSDVC estimator was also used to find solutions to any endogeneity problems during the research. As Yousefinejad et al., (2018) used the natural logarithm of the FDI's value, this paper first used the natural logarithm. Also, this study applied the natural logarithm of Inflation and GDP to avoid exponent quantity of variables.

Initially, commands were installed in Stata to regress OLS and LSDVC methods. First LSDVC method was installed with -ssc install xtlsdvc- command and -ssc install xtabond2, replace- written for the Blundell and Bond test. Before running regression -xtset- was used to set pane of the dataset. Also, logarithmic transformation transfers highly skewed determinants to the normal dataset. This study took natural logarithms of FDI, Inflation and GDP. After that, we found summary statistics of IFRS before and after by using -summarize {variables}- Stata command. Then, the correlation between variables should be found, and it is done by using -corr {variables}-. Fixed method OLS estimation measured by using -strong {dependent} {independent variables}, fe. Durbin-Watson test also should be done and before using this, time set with -tsset time-, then -dwstat- applied to find Durbin-Watson value. Before estimating the LSDVC method, the data should be balanced and done using the lag of variables. We used three tests of LSDVC: ah, ab and bb to find these tests, and the below commands were used.

xtlsdvc ln_FDI IFRSdummy ln_Inflation ln_GDP ExchangeRate, initial(ah) bias (3) vcov (1000)

xtlsdvc ln_FDI IFRSdummy ln_Inflation ln_GDP ExchangeRate, initial(ab) bias (3) vcov (1000)

xtlsdvc ln_FDI IFRSdummy ln_Inflation ln_GDP ExchangeRate, initial(bb) bias (3) vcov (1000)

Finally, the variance of variables was analyzed to find a comparison of FDI and IFRS level Bonferroni was also found by the command -oneway ln_FDI IFRSlevel, tabulate bonferroni-.

Variables measurements and model specification

In the key paper, Yousefinejad et al., (2018), while studying the relationship between IFRS adoption and FDI inflows, FDI was taken as a dependent variable. In contrast, IFRS was taken as an independent variable. This study used IFRS in two measurements. First is the IFRS level, which shows the level of compliance, and it is the independent variable used with giving scores from zero to seven which is constructed based on IFRS (2021). An IFRS dummy was used if IFRS was required or permitted by a country. Pricope (2017) also used FDI as a dependent variable where the IFRS dummy was independent. To obtain relevant results, the following-Gross Domestic Product, the inflation rate and the exchange rate variables- were used in this paper. This paper selected variables as the model developed by Yousefinejad et al., (2018) and Pricope (2017).

Model specification

Model 1: Ordinary Least Square Equation Model

$$LnFDI_{i,t} = \beta_0 + \beta_1 IFRS\ Dummy_{i,t} + \beta_2 GDP_{i,t} + \beta_3 INF_{i,t} + \beta_4 EXCH_{i,t} + \varepsilon_{i,t}$$

$$LnFDI_{i,t} = \beta_0 + \beta_1 IFRS\ Level_{i,t} + \beta_2 GDP_{i,t} + \beta_3 INF_{i,t} + \beta_4 EXCH_{i,t} + \varepsilon_{i,t}$$

B_0, B_1, B_2, B_3, B_4 are estimators of study, while ε_{it} is an error term.
IFRS Dummy = status IFRS adoption in a country, IFRS level = level of adopted IFRS in country, GDP = Gross Domestic Product, INF = Inflation rate, EXCH = Exchange rate.

Source: Own elaboration.

Model 2: Least Square Dummy Variable Corrected with lag Equation Model

$$LnFDI_{i,t} = \alpha LnFDI_{i,t} + \beta_{1,2} IFRS\ Dummy_{i,t} + \beta_2 GDP_{i,t} + \beta_3 INF_{i,t} + \beta_4 EXCH_{i,t} + n_i + \varepsilon_{i,t}$$

$$LnFDI_{i,t} = \alpha LnFDI_{i,t} + \beta_{1,2} IFRS\ Level_{i,t} + \beta_2 GDP_{i,t} + \beta_3 INF_{i,t} + \beta_4 EXCH_{i,t} + n_i + \varepsilon_{i,t}$$

B_0, B_1, B_2, B_3, B_4 are estimators of study, while ε_it is error term and n_i sample size.
αLn FDI= lag of FDI, FRS Dummy = status of IFRS adoption in a country, IFRS level = level of adopted IFRS in a country, GDP = Gross Domestic Product, INF = Inflation rate, EXCH = Exchange rate.

Source: Own elaboration.

Data set, empirical results and discussion data set

To research the impact of IFRS adoption on FDI inflows, the data was collected from Word Bank Dataset and covered ten CIS countries from 2000 to 2019. The Appendix chapter gives the amount of FDI inflows in ten CIS countries between 2000 and 2019. As it can be seen that after the implementation of IFRS, FDI inflows went up in Georgia, Armenia, Tajikistan, Kazakhstan, Moldova and Russian Federation. On the other hand, some countries like Ukraine, Kyrgyz Republic, Azerbaijan and Belarus faced a decrease in FDI inflows.

Descriptive statistics

Table 2 and Table 3 show the descriptive statistics of variables. They provide information about the number of observations, mean, standard deviation, minimum and maximum. It helps in presenting the nature of the data. Table 2 represents the data before IFRS was implemented, while Table 3 shows after IFRS adoption. Descriptive Statistics are regressed based on valid variables, and the data is normally distributed. The total sample of this research covers CIS countries from 2000 to 2019 – 223 observations. As stated in Tables 5 and 6, the mean values of FDI rose from 20.38544 to 21.0171 after IFRS adoption. Also, it is worth noting that Standard deviation diminished for FDI after IFRS adoption. In addition, IFRS adoption had an impact on other variables as well. In particular, GDP and Exchange Rate are increased after adoption of IFRS whereas, inflation disminished during the similiar period.

Past researches for instance, Gordon et al. (2012); Lungu et al. (2017); Yousefinejad et al. (2018) found evidence for the improvement of FDI inflows after IFRS was successively adopted.

Table 2: Descriptive statistics. Before IFRS adoption

Variable	Obs	Mean	Std. Dev	Min	Max
FDI	91	20.385440	2.1152800	15.3549500	25.037860
IFRSdummy	92	0.000000	0.0000000	0.0000000	0.000000
Inflation	91	2.460761	0.8996933	0.5498593	5.221926
GDP	92	23.671260	2.0490760	20.5730500	28.346870
ExchangeRate	92	62.403790	142.0040000	0.0876750	578.763000

Natural logarithm of FDI; IFRS, if IFRS permitted by a country, the value is 1 and otherwise 0; natural logarithm of GDP; Natural logarithm of Inflation; Exchange Rate.

Source: Own elaboration.

Table 3: Descriptive statistics. After IFRS adoption

Variable	Obs	Mean	Std. Dev	Min	Max
FDI	106	21.017100	1.6052960	17.5665500	24.960540
IFRSdummy	108	1.000000	0.0000000	1.0000000	0.000000
Inflation	102	1.950603	0.9029139	-1.3146205	3.660522
GDP	107	24.103770	1.6796350	21.5169500	28.460650
ExchangeRate	108	88.125360	140.8367000	0.7843475	482.987900

Natural logarithm of FDI; IFRS, if IFRS permitted by a country, the value is 1 and otherwise 0; natural logarithm of GDP; Natural logarithm of Inflation; Exchange Rate.

Source: Own elaboration.

Table 4: IFRS Adoption Scores

Details	Armenia	Azerbaijan	Belarus	Georgia	Kazakhstan	Kyrgystan	Moldova	Russian Federation	Tajikistan	Turkmenistan	Ukraine	Uzbekistan
Have the jurisdictions implemented IFRS?	1	1	1	1	1	1	1	1	1	1	1	1
Has the jurisdiction made a public commitment towards IFRS as that single set of high-quality global accounting standards?	1	1	1	1	1	1	1	1	1	1	1	1
Are IFRS required or permitted for domestic companies?	1	1	1	1	1	1	1	1	1	0	1	0
Are IFRS permitted or required for companies that trade securities in the open market?	1	1	1	1	1	1	1	1	1	0	1	0
Are IFRS integrated into regulation and law?	1	1	1	1	1	1	1	1	1	0	1	0
Are IFRS required or permitted for SMEs?	1	1	0	1	1	1	1	0	1	0	1	0
Total	**7**	**7**	**6**	**7**	**7**	**7**	**7**	**6**	**7**	**2**	**7**	**2**

Source: Own elaboration.

Correlation between variables

In statistical analysis, multicollinearity indicates a high correlation between two or more variables (Sekaran & Bougie, 2016). To avoid collinearity, the correlation value should be less than 0.8 (Gujarati & Porter, 2009).

Table 4 shows the correlation between variables. As it can be seen, there is a multicollinearity issue between FDI and GDP, which is 0.8792.

Table 5: Correlation between Variables

	FDI	Inflation	GDP	Exchange Rate
FDI	1.0000			
Inflation	0.1125	1.0000		
GDP	0.8792	0.1348	1.0000	
Exchange Rate	-0.0840	-0.3652	-0.0702	1.0000

Natural logarithm of FDI; IFRS, if IFRS permitted by a country, the value is 1 and otherwise 0; natural logarithm of GDP; Natural logarithm of Inflation; Exchange Rate.

Source: Own elaboration.

Empirical results

This study used OLS fixed effects panel regression estimation to run the regression. Results of the OLS estimator are given in Table 6. There is a positive and significant effect of IFRS dummy (level) to FDI inflows with coefficient value .4666123 (.0714622) at a five per cent significance level. According to these results, FDI increased after IFRS was adopted. Also, the findings show that a higher IFRS level which is the compliance level of IFRS, leads to increased FDI inflows. The results of FDI enhancement support and are consistent with past studies Gordon et. al., (2012); Lungu et. al., (2017); Yousefinejad et. al., (2018).

According to Table 6, GDP is also positively related to increasing FDI inflows with coefficient value .8978599 (.9027462) and t-statistic 25.01 (25.06). The obtained results are coherent with Yousefinejad et. al., (2018); Lungu et. al., (2017), and Sayari et. al., (2018) which higher GDP supports to increase FDI inflows in the home country.

Table 6 shows that Adj R2 is 0.7748 in Model 1, and it means that 77% of the variation in the output variables are explained by the input variables. Generally speaking, adjusted R-squared is a reliable measure of goodness of fit for multiple regression problems, and this higher R-squared indicates a better fit for the model.

Durbin-Watson statistic was tested for auto correlation. Values between zero and two show positive autocorrelation in the sample. Both in model 1 and model 2, the value of Durbin-Watson is between 0 and 2, and there is positive auto correlation. This means positive error leads to positive error.

Table 6: OLS estimation

	IFRS Dummy (Model 1)				IFRS Level (Model 2)			
Variables	Coefficient	Std. Err.	t-Statistic	Prob.	Coefficient	Std. Err.	t-Statistic	Prob.
IFRS	0.4666123**	0.1688364	2.76	0.006	0.0714622**	0.0243310	2.94	0.000
Inflation	-0.1409236	0.0883622	-1.59	0.113	-0.1402211	0.0880875	-1.59	0.113
GDP	0.8978599***	0.0359043	25.01	0.000	0.9027462***	0.0360301	25.06	0.000
Exchange Rate	-0.0005592	0.0004782	-1.17	0.244	-0.0005778	0.0004771	-1.21	0.228
Adj R^2	0.7748000				0.7807000			
F-static	2.8300000				2.8300000			
Durbin-Watson	0.6964088				0.7000129			
N	223				223			

$$LnFDI_{i,t} = \beta_0 + \beta_1 IFRS\ Dummy\&Level_{i,t} + \beta_2 GDP_{i,t} + \beta_2 INF_{i,t} + \beta_4 EXCH_{i,t} + \varepsilon_{i,t}$$

***, **, * show significance levels at 1, 5 and 10 per cent, respectively. Natural logarithm of FDI; IFRS, if IFRS permitted by a country, the value is 1 and otherwise 0; IFRS compliance level which scored based on the natural logarithm of GDP; Natural logarithm of Inflation; Exchange Rate.

Source: Own elaboration.

We should note that to obtain and find all adjustments, dynamic and panel data helps us to understand it. In a dynamic panel, the dependent variable (FDI) cannot respond immediately to the independent variable to change values. According to Bogliacino et. al., (2012), the estimation method and endogeneity are the main problems in the dynamic panel. Arellano and Bond (1991) showed the difference-GMM estimator to solve the endogeneity. Also, Blundell and Bond (1998) had an enhanced system-GMM to get results. On the other hand, while estimating the low number of cross-section data, system-GMM and difference-GMM show poor results of Bogliacino et. al., (2012); Bruno (2005). Hence, this study applied Least Squares Dummy Variable Bias-Corrected (LSDVC) estimator to avoid such issues. Table 7 (FDI and IFRS dummy) and Table 8 (FDI and IFRS level) show the results of LSDVC.

LSDVC estimator covers ten CIS countries from 2000 to 2019 and includes 179 (IFRS dummy) and 179 (IFRS level) observations. In order to estimate LSDVC variables should be lagged. Here, FDI is the dependent variable and IFRS, Inflation, GDP and Exchange rate are independent determinants. After lagged variables some values of data were missed and the number of observations decreased in LSDVS model (see Appendix II).

Tables 7 and 8 illustrate the results of LSDVC. Initially, the lag of FDI inflows positively impacts the one per cent significance level, which means LSDVC is appropriate. In Table 7, there is a significant and positive relationship between FDI and GDP [.4678778 (A.B.) in one per cent level and .4444985 (B.B.) in five per cent level]. On the other hand, both IFRS dummy and IFRS levels are negatively associated with FDI and are not in line with OLS results.

Table 7: LSDVC (IFRS dummy)

Variables	LSDVC (AH)		LSDVC (AB)		LSDVC (BB)	
FDI	Coef	P-V	Coef	P-V	Coef	P-V
FDI | L1.	0.3991637***	0.000	0.4703669***	0.000	0.5023195***	0.000
IFRS	-0.1438148	0.948	-0.1678067	0.322	-0.1921254	0.274
Inflation	0.1062899	0.917	0.1110029	0.165	0.1108994	0.164
GDP	0.5438444	0.729	0.4678778***	0.001	0.4444985**	0.003
ExchangeRate	-0.0035661	0.851	-0.0032207*	0.026	-0.0037116*	0.019
Observations	179		179		179	
Countries	10		10		10	
GDP	0.5438444	0.729	0.4678778***	0.001	0.4444985**	0.003
ExchangeRate	-0.0035661	0.851	-0.0032207*	0.026	-0.0037116*	0.019
Observations	179		179		179	
Countries	10		10		10	

$$LnFDI_{i,t} = \alpha LnFDI_{i,t} + \beta_{1,2} IFRS\ Dummy_{i,t} + \beta_2 GDP_{i,t} + \beta_3 INF_{i,t} + \beta_4 EXCH_{i,t} + n_i + \varepsilon_{i,t}$$

The LSDVC is analyzed with A.H. (Anderson and Hsiao), A.B. (Arellano and Bond) and B.B. (Blundell and Bond). Lag of natural logarithm of FDI.

Source: Own elaboration.

Table 8: LSDVC (IFRS level)

Variables	LSDVC (AH)		LSDVC (AB)		LSDVC (BB)	
FDI	Coef	P-V	Coef	P-V	Coef	P-V
ln_FDI | L1.	0.3988712***	0.000	0.4700466***	0.000	0.5017343***	0.000
IFRSlevel	-0.0225842	0.946	-0.0261110	0.304	-0.0297516	0.259
ln_Inflation	0.1073218	0.917	0.1124776	0.159	0.1126434	0.157
ln_GDP	0.5494048	0.734	0.4736759***	0.001	0.4502187**	0.003
ExchangeRate	-0.0035710	0.854	-0.0032248*	0.025	-0.0037192*	0.019
Observations	179		179		179	
Countries	10		10		10	

$$LnFDI_{i,t} = \alpha LnFDI_{i,t} + \beta_{1,2} IFRS\ Level_{i,t} + \beta_2 GDP_{i,t} + \beta_3 INF_{i,t} + \beta_4 EXCH_{i,t} + n_i + \varepsilon_{i,t}$$

The LSDVC is analyzed with A.H. (Anderson and Hsiao), A.B. (Arellano and Bond) and BB (Blundell and Bond). Lag of natural logarithm of FDI.

Source: Own elaboration.

Discussion of empirical findings

OLS results show that IFRS level positively affects FDI inflows. On the other hand, it would be clearer to understand the changes between IFRS compliance levels. Thus, this paper used the one-way ANOVA and Bonferroni developed by Holm (1979) to analyze the change of IFRS compliance level while affecting FDI inflow's enhancement. The variance of the following 0, 6, and 7 IFRS compliance groups should be based on the following hypotheses:

H_0:Outcomes are the same in all the groups.

H_1:Outcomes are different in at least on group.

The null hypothesis was rejected because the F test is significant. The null hypothesis would be accepted if the value of the F test was closer to one. In our case, as shown in Table 10, the F value is 10.47; hence the null hypothesis was rejected, and H1 was accepted. It means that at least one group is different. Thus, the Bonferroni test was carried out in the next step.

The results of the Bonferroni test are shown in Table 11. We are performing three statistical tests at once and wish to use α = .05 for each test, the Bonferroni Correction tell us that we should use αnew = .01667.

$$\alpha_{new} = \alpha_{original} / n = .05 / 3 = .01667$$

Thus, we should only reject the null hypothesis of each individual test if the p-value of the test is less than .01667. In the case of 7 level of IFRS compliance – value of the test is more than .01667, which indicates the significance of the test for this level.

Table 9: Groups of Levels of IFRS Compliance

IFRS (Level)	Freq.	Per cent	Cum.
0	92	46.00	46.00
6	13	6.50	52.50
7	95	47.50	100.00
Total	200	100.00	

Source: Own elaboration.

Table 10: Analysis of Variance

IFRS (Level)	SS	Df	MS	F	Prob > F
Between groups	67.5203809	2	33.7601904	10.47	0.0000
Within groups	625.2949720	194	3.22316996		
Total	692.8153530	196	3.53477221		

Stata Command: One-way FDI IFRS level, tabulate.

Source: Own elaboration.

Table 11: Comparison of Ln (FDI) by IFRS (level) (Bonferroni)

Groups	0	6
6	2.43121	
	0.00000	
7	0.38010	-2.05111
	0.45800	0.00000

Stata Command: oneway FDI IFRS level, tabulate bonferroni.

Source: Own elaboration.

According to the results of the OLS estimation, there is a positive relationship between both IFRS dummy and IFRS level. The results show that IFRS adoption impacted the increase in FDI inflows. In addition, IFRS adoption had an impact on other variables as well. In particular, we observed that GDP and exchange rate were increased whereas inflation rate has disminished after adoption of IFRS. On the other hand, LSDVC results do not support OLS results. According to LSDVC results, there is a negative relationship between IFRS adoption and FDI inflows. Therefore, the H1 hypothesis is rejected, and H0 is accepted. Results show that adopting IFRS in CIS countries does not attract foreign investments. Also, the level of IFRS compliance has a negative relationship, which means IFRS level is not essential for foreign investors.

Conclusion

The main idea of economic policy in every country is to increase FDI and enhance economic growth. Almost all countries are trying to increase and compete for the share of FDI because it is an essential factor for economic growth. One of the main determinants of attracting FDI is high quality and transparent financial reporting. Foreign investors with high quality and international financial reporting are enabled to assess investment projects with lower cost. As a result, nowadays, the demand for IFRS increases because IFRS provides standardized, high-quality international financial reporting with low asymmetry information. Also, IFRS adoption will bring greater consistency and comparability across the economies.

It is observed from the obtained results that IFRS is not a factor for increasing FDI inflows in CIS countries. This study illustrates that IFRS adoption did not attract FDI into CIS countries. However, according to OLS results, IFRS adoption on FDI inflows is significantly positive. These results show that countries (Uzbekistan and Turkmenistan) that have not adopted yet but are in the process of IFRS adoption signal that those countries are to transfer transparent, international and meaningful accounting standards. From the results of LSDVC, it is found that there is a negative relationship between IFRS and FDI. However, it does not literarally mean that IFRS has a negative effect on increasing FDI inflow since there might be other determinants (for example, weak investment climate) that foreign investors consider first while making the decision. In a nutshell, the study has at least one significant implication on the existing debate on the impact of International Financial Reporting Standards adoption on FDI inflows, that the adoption of IFRS alone could not be enough to enhance the FDI inflows, rather probably enhancement of FDI depends on other determinants like exchange rate, inflation, level of corruption, bureaucracy, return on investment, and political risk that impacts investment decision.

The study offers a couple of suggestions. For instance, to gain the whole benefits of IFRS implementation in enhancing foreign direct flows, first, it is important to provide the appropriate resources to encourage the sustainable adoption of IFRS. From the experience of early IFRS-adopted nations, transition to IFRS requires significant change in legislation, in particular it brings amendments to the tax system, and due to lack of IFRS understanding and knowledge, companies might not implement IFRS successfully in their practice. The governments of CIS countries could assist first-time adopters of IFRS. In other words, the governments could make a commitment that the public sector would move towards adopting IFRS. International experience shows that the transition is time-consuming and complex since it involves not only financial resources, but also human resources, estates, procurement, IT and a range of other stakeholders. Mobilization of all these resources could be justified due to the fact that IFRS adoption has wide-reaching implications for a country`s economy.

Second, in terms of human resources, nations should ensure that ongoing training sources are provided and consultative bodies are available to react promptly to users' questions and challenges. As the cost of training practioners are high, it is advantageous to introduce IFRS awareness in the form of higher educational institutions. This can be adopted in the countries like Uzbekistan and Turkmenistan.

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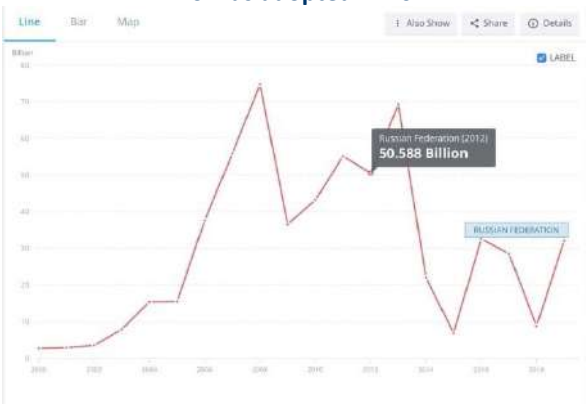
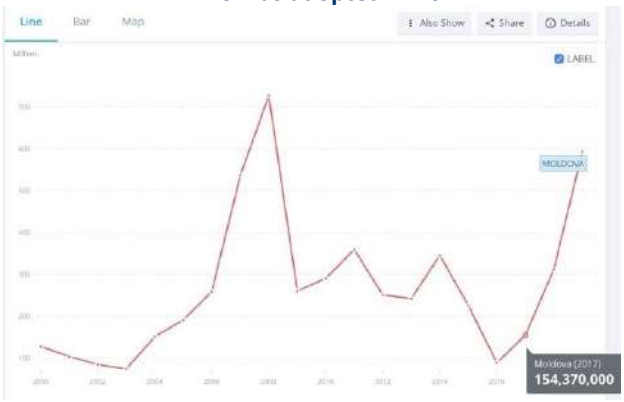
Appendix I

Appendix 1: FDI inflows of Russian Federation. IFRS was adopted in 2012



Source: https://data.worldbank.org/indicator/ BX.KLT.DINV.WD.GD.ZS.

Appendix 2: FDI inflows of Moldova. IFRS was adopted in 2017

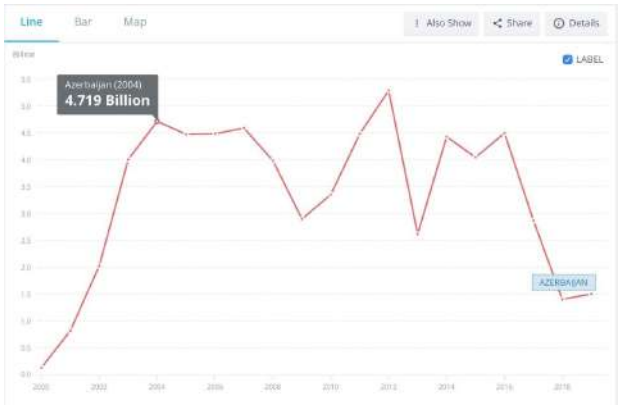


Source: https://data.worldbank.org/indicator/ BX.KLT.DINV.WD.GD.ZS.

Appendix 3: FDI inflows of Belarus. IFRS was adopted in 2015

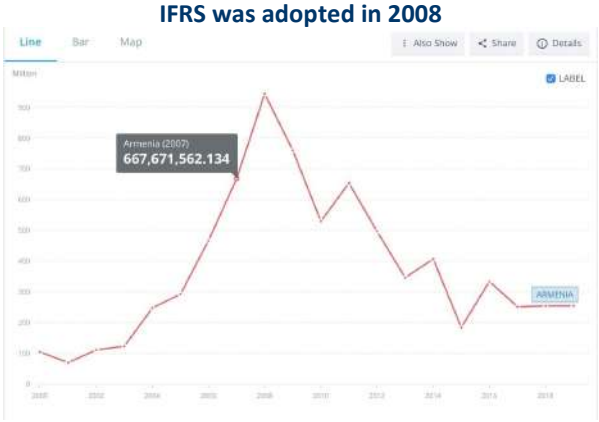
Source: https://data.worldbank.org/indicator/ BX.KLT.DINV.WD.GD.ZS.

Appendix 4: FDI inflows of Azerbaijan. IFRS was adopted in 2004



Source: https://data.worldbank.org/indicator/ BX.KLT.DINV.WD.GD.ZS.

Appendix 5: FDI inflows of Armenia. IFRS was adopted in 2008

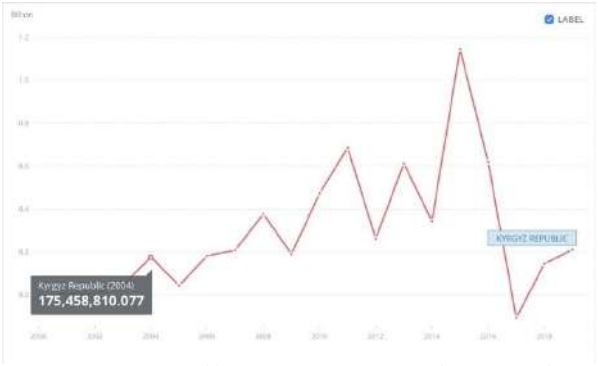


Source: https://data.worldbank.org/indicator/ BX.KLT.DINV.WD.GD.ZS.

Appendix 6: FDI inflows of Kazakhstan. IFRS was adopted in 2006

Source: https://data.worldbank.org/indicator/ BX.KLT.DINV.WD.GD.ZS.

Appendix 7: FDI inflows of Kyrgyzstan. IFRS was adopted in 2004



Source: https://data.worldbank.org/indicator/ BX.KLT.DINV.WD.GD.ZS.

Appendix 8: FDI inflows of Tajikistan. IFRS was adopted in 2007

Source: https://data.worldbank.org/indicator/ BX.KLT.DINV.WD.GD.ZS.

Appendix 9: FDI inflows of Ukraine. IFRS was adopted in 2014

Source: https://data.worldbank.org/indicator/ BX.KLT.DINV.WD.GD.ZS.

Appendix 10: FDI inflows of Georgia. IFRS was adopted in 2005

Source: https://data.worldbank.org/indicator/ BX.KLT.DINV.WD.GD.ZS.

Appendix II

Variables lagged

Appendix 11: Result of LSDVC model (after lagged variables)

```
. g lag_lnFDI = L.ln_FDI
(13 missing values generated)

. g lag_lnInflation = L.ln_Inflation
(15 missing values generated)

. g lag_lnGDP = L.ln_GDP
(11 missing values generated)

. xtreg ln_FDI lag_lnFDI IFRSdummy lag_lnInflation lag_lnGDP, fe

Fixed-effects (within) regression               Number of obs      =       179
Group variable: ID                              Number of groups   =        10

R-sq:                                           Obs per group:
     within  = 0.4926                                         min =        16
     between = 0.9848                                         avg =      17.9
     overall = 0.8525                                         max =        19

                                                F(4,165)           =     40.05
corr(u_i, Xb)  = 0.7535                         Prob > F           =    0.0000
```

ln_FDI	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lag_lnFDI	.5286425	.0685069	7.72	0.000	.3933794	.6639056
IFRSdummy	-.1035682	.1639846	-0.63	0.529	-.4273468	.2202104
lag_lnInflation	-.0123657	.0694281	-0.18	0.859	-.1494477	.1247164
lag_lnGDP	.2446249	.1244753	1.97	0.051	-.0011448	.4903946
_cons	4.124782	2.436032	1.69	0.092	-.6850308	8.934595
sigma_u	.3751125					
sigma_e	.69302887					
rho	.22658575	(fraction of variance due to u_i)				

F test that all u_i=0: F(9, 165) = 2.26 Prob > F = 0.0208

Source: Own elaboration.