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The implications of IFRS adoption on foreign direct investment in poor countries

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Abstract

Globalisation has contributed to the acceleration of international capital transactions and has increased investors' need to access homogeneous, reliable and comparable financial reports. The objective of the study is to investigate the impact of International Financial Reporting Standards adoption on foreign direct investment flows in poor countries. In order to achieve this objective, the propensity score matching method was applied on a sample of 38 poor countries between 2008 and 2014. Results indicate that International Financial Reporting Standards adoption has a positive impact on foreign direct investment flows in poor countries.

Keywords: *IFRS adoption, foreign direct investment, poor countries, propensity score matching*

JEL Classification: *F21, G11*

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Introduction

Globalisation has contributed to the acceleration of cross-border capital transactions. In this context, foreign direct investment (FDI) has become a tool used by countries in pursuit of economic development. FDI entails a number of important benefits for poor countries, such as the introduction of new production processes, creating connections between different business sectors and enabling domestic companies to access international capital markets (Agrawal, 2013). The increasing degree of interconnection among global capital markets has generated a need for investors to access homogeneous, reliable and comparable financial information. Thus, it became essential to create a common financial language (Rakes and Shilpa, 2013).

The relationship between International Financial Reporting Standards (IFRS) adoption and FDI has been extensively investigated. Numerous studies indicate that the transition to the international accounting framework has led to increased FDI flows, particularly in developing countries (Marquez-Ramos, 2011; Gordon, Loeb and Zhu, 2012; Chen Ding and Xu, 2014). However, little attention has been paid to poor countries. Although, according to the literature, poor countries are part of the developing countries group, they may exhibit certain economic and social particularities relevant to the process of accounting harmonization (Perera, 1989; Irvine and Lucas, 2006). The present study contributes to the literature by examining the relationship between IFRS adoption and FDI growth in poor countries.

The research paper is structured as follows: the first section presents a review of the literature with reference to relevant studies addressing the relationship between IFRS adoption and FDI flows. The second section describes the research methodology and within the third section results are presented and discussed. The last section concludes the study.

1. Literature review

A number of studies suggest that FDI contributes to economic development in poor countries (Acaravci and Ozturk, 2012; Adeniyi et al., 2012; Rakes and Shilpa, 2013). Investments tend to be concentrated in less developed countries where higher economic growth rates can be achieved (Rakes and Shilpa, 2013). Scarcity of financial resources has prompted many poor countries to consider FDI as a key tool designed to facilitate the transfer of new production technologies (Hossein and Yazdan, 2013).

The acceleration of cross-border financial flows, between developed countries as well as between developed and developing countries, has contributed to the internationalization of trade, businesses and capital markets (Trabelsi, 2015). In this context, it became vital to develop a single set of accounting standards with the aim to achieve uniformity in financial reporting worldwide (Zeghal and Mhedhbi, 2006).

The literature points to three relationships that can occur between IFRS adoption and FDI growth (Zeghal and Mhedhbi, 2006; Lasmin, 2011; Marquez-Ramos, 2011). The first one is the unidirectional relationship running from IFRS adoption to FDI growth. This relationship implies that the adoption and implementation of the international accounting framework in a country contributes to an increase in FDI flows. The second relationship is the unidirectional one running from FDI growth to IFRS adoption. Under this hypothesis countries are pressured to adopt the international accounting framework as they gradually integrate into the global economy. The third relationship identified is the bidirectional relationship between IFRS adoption and FDI growth. According to this relationship, the two variables are mutually dependent.

Efobi and Nnadi (2015) argue that the use of a single set of global accounting standards reduces information barriers across capital markets. The authors invoke this argument to explain the relationship running from IFRS adoption to FDI growth. Differences between accounting standards may hinder the dynamics of cross-border capital transactions. Most frequently, foreign investors have less informational advantages compared to domestic investors. Consequently, transaction costs are higher for foreign investors. This contributes to a decrease in FDI flows (Efobi and Nnadi, 2015). The role of using a single set of financial reporting standards is to reduce information asymmetries in the investment decision-making process (Chen, Ding and Xu, 2014).

The transition towards the international accounting framework enables poor countries to access external capital sources (Yu and Wahid, 2014). This in turn should help increase liquidity and stimulate the financing of worthwhile projects (DeFond et al., 2011).

Gordon, Loeb and Zhu (2012) argue that countries FDI inflows can increase if financial statements prepared in accordance with IFRS exhibit a higher level of quality

than those prepared in accordance with domestic standards. Accounting practices in poor countries are underdeveloped. Therefore, there is a higher probability for poor countries to experience a more significant increase in FDI inflows as a result of IFRS adoption in comparison to developed countries. The authors examine a panel data set of 124 countries between 1996 and 2009. Results indicate that IFRS adoption has led to an increase in FDI inflows.

The hypothesis developed by Gordon, Loeb and Zhu (2012) has been addressed within other studies and tested in various economic contexts. For instance, Chen, Ding and Xu (2014) examine the relationship between IFRS adoption and FDI growth on a sample of 20 OECD countries between 2000 and 2005. Rakes and Shilpa (2013) analyse the particular case of India. Results of both surveys are consistent with those obtained by Gordon, Loeb and Zhu (2012).

The previous studies provide empirical evidence that IFRS adoption and implementation contribute to FDI growth. However, some authors argue that countries seeking FDI growth are prone to IFRS adoption (for instance Judge, Li and Pinkster, 2010; Lasmin, 2011).

Lasmin (2011) uses the neo-institutional theory developed by DiMaggio and Powell (1983) to predict the likelihood of IFRS adoption by countries due to mimetic institutional pressures caused by FDI growth. The research has revealed that an increase in FDI flows generates the likelihood of IFRS adoption within a country. The observed relationship, however, is not statistically significant.

Guler, Guillen and Macpherson (2002) also use the neo-institutional theory and empirically prove that the degree of network cohesion contributes to national adoption of international standards. According to the authors, FDI growth increases cohesion between countries involved in a transaction. Consistent with this line of reasoning, Judge, Li and Pinkster (2010) provide empirical evidence to support the theoretical relationship between mimetic pressures generated by FDI growth and IFRS adoption.

The study conducted by Marquez-Ramos (2011) emphasises the importance of examining the bidirectional relationship that might occur between IFRS adoption and FDI growth. The author also argues that there may be a number of factors affecting both variables simultaneously. While analysing the relationship between the adoption of the international accounting framework and FDI growth it is important to control the effects of factors that could affect both variables simultaneously, as this could lead to different results.

In light of the literature that investigates the economic effects of IFRS adoption, the general hypothesis of this study is developed:

H1: IFRS adoption contributes to FDI growth in poor countries.

2. Research methodology

2.1. Propensity score matching

The relationship between IFRS adoption and FDI growth was examined by means of several methodological approaches. For instance, Gordon, Loeb and Zhu (2012) applied a multivariate linear regression on a panel data set consisting of 208 developed and developing countries between 1996 and 2009. To examine the hypothesis regarding the distinction between the two categories of countries in terms of inward FDI, the authors use a difference-in-difference model.

Lasmin (2012) employs the Cobb-Douglas production function to represent the relationship between physical capital, labour and efficiency. These parameters are used as control variables in estimating the effects of IFRS adoption on trade and investment activities.

Chen, Ding and Xu (2014) apply a gravity model on a sample of 20 OECD countries between 2000 and 2005. The analysis revealed that FDI flows are positively associated with the degree of IFRS compliance of financial statements published by companies.

Over the past years, the propensity score matching method has been frequently applied in accounting and finance research (Tucker, 2011). For instance, Gassen and Sellhorn (2006) use propensity score matching to investigate the determinants and effects of IFRS adoption on a sample of German companies. DeFond et al. (2014) use the propensity score matching method to examine the extent to which IFRS adoption affects the frequency of negative returns reported by publicly traded companies.

In the present study, the research hypothesis is tested by means of the propensity matching method (Rosenbaum and Rubin, 1983). This methodological

approach allows comparisons between countries with similar characteristics.

The use of the propensity score matching method in the analysis of the relationship between IFRS adoption and FDI growth has two methodological advantages compared to the classic linear regression model. First, the propensity score matching method is non-parametric. Therefore, it is not necessary to specify a parametric relationship between the dependent variable and independent variables included in the analysis. Second, this method reduces the number of untreated observations (in the case IFRS non-adopters) to a subsample of treated observations with similar characteristics (IFRS adopters) (Tucker, 2011). These properties of the propensity score matching method prevent errors in estimating the average treatment effect of the treated observations (Balsmeier and Vanhaverbeke, 2016).

Testing the research hypothesis involves identifying the extent to which IFRS adoption contributes to FDI growth. In the analysis based on propensity score matching the main indicator is the average treatment effect defined by Rosembaum and Rubin (1983) as:

$$\alpha = E\left(r_i^1 - r_i^0\right), \quad (1)$$

where r^1_i represents the reaction of unit *i* if it has been treated (T=1) and r^0_i represents the reaction of unit *i* in case the treatment (T=0) has not been applied.

By adapting equation (1) in accordance with the research question of the present study, the following equation is obtained:

$$\alpha = E\left(FDI_i^1 - FDI_i^0\right), \quad (2)$$

where FDI^1_i and FDI^0_i represent FDI of country *i* in case it has adopted IFRS (T=1) or if it uses domestic standards for financial reporting purposes (T=0).

When estimating the causal effect of IFRS adoption, FDI^1_i and FDI^0_i cannot be observed for the same country simultaneously. According to Rosembaum and Rubin (1983) in this case, equation (1) can be re-written as follows:

$$\alpha = P\,[E(r^1|T=1) - E(r^0|T=1)] + (1-P)[E(r^1|T=0) - E(r^0|T=0)], \quad (3)$$

where *P* is the probability to notice observation *i* for which T=1 within the statistical sample.

Similarly, in the case of the causal inference between IFRS adoption and changes in FDI flows, equation (3) becomes:

$$\alpha = P\,[E(FDI^1|IFRS=1) - E(FDI^0|IFRS=1)] + (1-P)[E(FDI^1|IFRS=0) - E(FDI^0|IFRS=0)] \quad (4)$$

Propensity scores are estimated through a probit model where the dependent variable is the treatment variable and the independent variables are those on which treated and control observations will be matched (Tucker, 2011). Subsequently to the estimation of the scores that capture similarities between countries, each treated observation is matched with the most similar control observation. Matchings are performed through stratification matching (Becker and Ichino, 2002; Tucker, 2011).

Stratification matching is based on dividing the observations in blocks. The average propensity score is computed for each block of observations. Subsequently, the difference between the average values of the dependent variable is computed for each block of observations based on the following equation:

$$E_q = \sum \frac{i \in I(q) Y_i^T}{N_q^T} - \sum \frac{j \in I(q) Y_i^C}{N_q^C}, \quad (5)$$

where:
$I(q)$- observations from block q;
Y^T_i- value of the dependent variable for the treated observation i;
Y^C_j- value of the dependent variable for the control observation j;
N^T_q- number of treated observations in block q;
N^C_q- number of control observations in block q.

Within the stratification matching method, the average treatment effect (ATE) is the weighted average of all observed effects in each block and it is computed based on the following equation:

$$ATE = \sum_{q=1}^{Q} E_q \frac{\sum i \in I(q) T_i}{\sum \forall i \; T_i}, \quad (6)$$

where T_i is the binary variable that indicates if observation *i* is treated (T=1) or not (T=0) (Becker and Ichino, 2002).

The main advantage of using the propensity score matching method in solving causal inferences is that it allows improving the conditions of a random experiment in order to estimate the causal effect as in a controlled one (Rosenbaum and Rubin, 1983). This method yields to reliable results only if the conditional independence assumption is satisfied. In this instance, the conditional independence implies that the decision of using a certain set of financial reporting standards is random and uncorrelated with FDI flows, once the vector of exogenous variables effects has been controlled for. The inferences performed through the propensity score matching method are valid only for those values of the propensity score for which matchings between treated and control observations are possible. The interval where these values can be found is called common support region (Tucker, 2011).

2.2. Research sample

The sample on which the research hypothesis was tested consists of low income and lower middle income countries (according to the World Bank classification), with active capital markets. The period of time between 2008 and 2014 was analysed in order to control for the effects of the business cycle and due to data availability. The rationale for selecting this sample is represented by the international consensus concerning the low income levels of these countries. Furthermore, the international organizations have undertaken actions for the development of these countries and put pressure on them to adopt an international accounting perspective in order to facilitate the monitoring of implemented programs. Consistent with prior literature, according to which IFRS is relevant only for countries with active capital market (Amiraslani, Iatridis and Pope, 2013) the sample includes 38 poor countries with active capital markets (**Table no. 1**). Out of these, 10 require or permit listed companies to use IFRS, 6 adopt IFRS between 2008 and 2014 and 22 apply domestic standards for financial reporting purposes of listed companies. Liberia, Leshoto, Pakistan, Cambodia, Lao, Sierra Leone, Somalia and Syria were not included in the sample because these did not have active capital market during 2008 and 2014. Zimbabwe, Republic of Congo, Ivory Coast, Egypt, Honduras, Kenya, Myanmar, Nicaragua, Nigeria, Papua New Guinea, Uzbekistan and Zambia were not included in the analysis due to data unavailability.

Table no. 1. Sampled countries

Apply IFRS		Adopt IFRS during the period		Apply domestic accounting standards	
Country	Adoption year	Country	Adoption year		
Malawi	2001	Rwanda	2009	Benin	Bolivia
Kyrgyzstan	2003	El Salvador	2011	Burkina Faso	Chad
Tanzania	2004	Moldova	2011	Central African Republic	Cameroon
Uganda	1998	Sri Lanka	2012	Cabo Verde	India
Armenia	2003	Swaziland	2009	Guinea Bissau	Indonesia
Bangladesh	1987	Ukraine	2012	Mozambique	Morocco
Mauritius	2001			Nepal	Mali
Ghana	2007			Niger	Philippines
Guatemala	2008			Senegal	Sudan
Mongolia	2000			Togo	Tunisia
				Bhutan	Vietnam

Source: PwC (2014); Deloitte (2016)

Data were collected from several sources: World Bank datasets (World Bank, 2016a, 2016b, 2016c), the PwC report on IFRS adoption around the world (PwC, 2014), the website IasPlus (Deloitte, 2016), published by Deloitte, which provides information regarding IFRS use within each country and the study conducted by Daniels, Trebilcock and Carson (2011) which provides information regarding the membership of countries to the former British colony. Table 2 prezents the data source for each variable introduced in the analisys. Data were processed using Stata 12.0 software.

2.3. Variables

The variables used in this study are presented in **Table no. 2**. The selection of variables was performed using the model developed by Gordon, Loeb and Zhu (2012). According to the authors, this model includes the factors that are most frequently used in the literature to examine the evolution of FDI flows. Thus, 12 variables, for which it was possible to collect a complete data set were included in the analysis.

Table no. 2. Variables used

Category	Indicators	Description	Source	References
Foreign direct investment	LnFDI	Natural logarithm of inward foreign direct investment.	World Bank (2016a)	Marquez-Ramos (2011); Gordon, Loeb and Zhu (2012); Chen, Ding and Xu (2014)
IFRS adoption status	IFRS	Dummy variable, takes the value of 1 for countries which impose or permit financial reporting in accordance with IFRS and 0 otherwise	PwC (2014), Deloitte (2016)	Marquez-Ramos (2011); Gordon, Loeb and Zhu (2012); Chen, Ding and Xu (2014)
Degree of capital market development	LnGDP	Natural logarithm of GDP.	World Bank (2016a)	Marquez-Ramos (2011); Gordon, Loeb and Zhu (2012); Chen, Ding and Xu (2014)
Degree of economic openness	OPEN	The aggregated value of imports and exports relative to GDP.	World Bank (2016a)	Asiedu (2006); Gordon, Loeb and Zhu (2012)
Infrastructure development level	INFR	Number of mobile phone subscription per 100 inhabitants.	World Bank (2016a)	Asiedu (2006); Gordon, Loeb and Zhu (2012)
Degree of freedom	FREE	Captures perceptions of the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, and freedom of association; measured in units ranging from -2.5 to 2.5; proxy for corporate governance quality	World Bank (2016b)	Globerman and Shapiro (2002); Busse and Hefeker (2007); Gordon, Loeb and Zhu (2012)
Governance quality	GOV	Captures perceptions of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation; measured in units ranging from -2.5 to 2.5; proxy for corporate governance quality.	World Bank (2016b)	Globerman and Shapiro (2002); Busse and Hefeker (2007); Gordon, Loeb and Zhu (2012)
Degree of privatization	PRIV	Captures perceptions concerning the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development; measured in units ranging from -2.5 to 2.5; proxy for corporate governance quality	World Bank (2016b)	Globerman and Shapiro (2002); Busse and Hefeker (2007); Gordon, Loeb and Zhu (2012)
Regulation quality	REG	Captures perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.; measured in units ranging from -2.5 to 2.5; proxy for corporate governance quality.	World Bank (2016b)	Globerman and Shapiro (2002); Busse and Hefeker (2007); Gordon, Loeb and Zhu (2012)

Table no. 2. Variables used

Category	Indicators	Description	Source	References
Corruption level	CORRUPT	Captures perceptions of the extent to which public power is exercised for private gain; measured in units ranging from -2.5 to 2.5; proxy for corporate governance quality.	World Bank (2016b)	Globerman and Shapiro (2002); Busse and Hefeker (2007); Gordon, Loeb and Zhu (2012)
Income level	INCOME	Dummy variable, takes the value of 0 for lower-middle income countries and 1 for low income countries.	World Bank (2016c)	Zeghal and Mhedhbi (2006)
Membership to the former British Colony	BRIT	Dummy variable, takes the value of 1 for former British colonies and 0 otherwise.	Daniels, Trebilcock and Carson (2011)	Daniels, Trebilcock and Carson (2011), Poudel, Hellmann and Perera (2014)

3. Data analisys and results

Descriptive statistics are presented in **Table no. 3**. The different values of the mean, median, standard deviation, skewness and kurtosis indicate the absence of symmetry of the data series (Stock and Watson, 2003).

Table no. 3. Descriptive statistics

Variable	Mean	Median	Standard deviation	Minimum	Maximum	Skewness	Kurtosis
LnFDI	1.0317	1.1158	1.0565	-4.8368	3.8127	-0.8155	6.7666
IFRS	0.3609	0.0000	0.4811	0.0000	1.0000	0.5792	1.3355
LnGDP	23.6751	23.3371	1.6305	20.5318	28.3451	0.6216	3.3467
ECON	74.6588	67.8814	30.7638	19.1187	169.5345	0.8102	3.0102
INFR	73.3228	70.7345	35.8568	10.6639	149.0691	0.2308	1.9961
FREE	-0.4131	-0.3200	0.6219	-1.7800	0.9700	-0.0618	2.6095
GOV	-0.4853	-0.5400	0.5180	-1.8700	1.0400	0.0683	3.3274
PRIV	-0.4139	-0.3800	0.4697	-1.4900	1.1200	0.1908	3.5233
REG	-0.5284	-0.4950	0.5218	-1.8200	1.0000	0.2723	0.3018
CORRUPT	-0.5309	-0.5900	0.5277	-1.5100	1.2700	1.0137	4.1388
INCOME	0.3947	0.0000	0.4897	0.0000	1.0000	0.4307	1.1855
BRIT	0.2105	0.0000	0.4084	0.0000	1.0000	0.1668	1.4200

The comparative descriptive statistics (**Table no. 4**) indicate that there are differences between the two types of observations concerning the mean values of the variables under analysis.

The t test was used to check if the differences between the two types of observations suggested by the descriptive statistics are statistically significant. The test revealed significant differences between treated and control observations regarding the mean value of FDI flows (LnFDI, t = -2.9977), infrastructure development (INFR, t = -2.9408), degree of freedom (FREE, t = -2.1247), quality of governance (GOV, t = -3.2567), degree of privatization (PRIV, t = -7.3039), quality of regulation (REG, t = -3.0661), income level (INCOME, t = 2,8790) and the variable reflecting the membership to the former British colony (BRIT, t = -9.7458). These results are statistically significant at 5% significance level. Also, the mean values of the degree of economic openness (OPEN, t = -1.7313) differ significantly between the two categories of observations at 10% significance level.

Table no. 4. Comparative descriptive statistics

	Variables	Mean	Median	Standard deviation	Minimum	Maximum
Treated observations	LnFDI	1.2863	1.3476	0.9016	-0.6359	3.8127
	IFRS	1.0000	1.0000	0.0000	1.0000	1.0000
	LnGDP	23.5787	23.2295	1.0718	21.8689	25.9236
	OPEN	79.0364	69.6348	31.9503	37.8028	146.1061
	INFR	81.8050	84.3143	37.1061	10.6639	144.0822
	LIBER	-0.3060	-0.2900	0.5605	-1.3100	0.9400
	GOV	-0.3501	-0.5150	0.4353	-0.9500	1.0400
	PRIV	-0.1581	-0.2000	0.4463	-0.9400	1.1200
	REG	-0.3998	-0.3900	0.5050	-1.3600	1.0000
	CORRUPT	-0.4635	-0.5250	0.5020	-1.2300	0.8300
	INCOME	0.2812	0.0000	0.4519	0.0000	1.0000
	BRIT	0.4895	0.0000	0.5025	0.0000	1.0000
Controls	LnFDI	0.8879	0.9569	1.1115	-4.8368	3.7331
	IFRS	0.0000	0.0000	0.0000	0.0000	0.0000
	LnGDP	23.7295	23.3915	1.8747	20.5318	28.5431
	OPEN	72.1948	65.5903	29.8909	19.1187	169.5345
	INFR	68.5329	67.7092	34.3239	12.8758	149.0691
	LIBER	-0.4736	-0.3300	0.6479	-1.7800	0.9700
	GOV	-0.5617	-0.5600	0.5459	-1.8700	0.6200
	PRIV	-0.5584	-0.4850	0.4193	-1.4900	0.3800
	REG	-0.6010	-0.5900	0.5185	-1.8200	0.5900
	CORRUPT	-0.5690	-0.6200	0.5394	-1.5100	1.2700
	INCOME	0.4588	0.0000	0.4997	0.0000	1.0000
	BRIT	0.0529	0.0000	0.2245	0.0000	1.0000

Consistent with the propensity score matching algorithm, the probability of getting the treatment (in this case IFRS adoption) was estimated by means of a probit model. Within the model, the dependent variable is the treatment variable (IFRS), and the exogenous variables are those on the basis of which matching between treated and control observations will be made (Tucker, 2011). The probit model has the following form:

$$\text{Prob IFRS} = \beta_0 + \beta_1 \text{LnGDP} + \beta_2 \text{OPEN} + \beta_3 \text{INFR} + \beta_4 \text{FREE} + \beta_5 \text{GOV} + \beta_6 \text{PRIV} + \beta_7 \text{REG} + \beta_8 \text{CORRUPT} + \beta_9 \text{INCOME} + \beta_{10} \text{BRIT} + \varepsilon_i, \quad (7)$$

where β_i are the coefficients of the probit regression and ε_i are the residuals.

Table no. 5 shows the results obtained after running the model on the data set.

Compared to the classic linear regression model, in the case of the probit model, only the signs of coefficients can be interpreted, not their values. Similar to the case of the logit regression, this is because the model is not linear and, therefore, the coefficients change according to the values of the independent variables.

The results of the probit model suggest that the degree of capital market development (LnGDP, -0.5929), the degree of economic openness (OPEN, -0.0149), the infrastructure development level (INFR, 0.0162), the degree of privatization (PRIV, 2.0323) and the corruption level (CORRUPT, -1.7722) have a statistically significant impact on the probability that a country adopts IFRS at 5% significance level. The estimated coefficients suggest that a decrease in the corruption level (CORRUPT), an increase in infrastructure development (INFR) and an increase in the degree of privatization (PRIV) are positively associated with FDI growth. With regard to the degree of capital market development (LnGDP) and the degree of economic openness (OPEN), the

estimated coefficients indicate that a decrease in these indicators is positively associated with an increase in the likelihood to adopt IFRS.

Table no. 5. Results of the probit regression

Dependent variable : IFRS				
Sample	266	R^2	0.5322	
chi^2	181.55	chi^2 probability	0.0000	
Variables	**Coefficients**	**Standard error**	**z statistic**	**Probability**
Intercept	13.1238	3.2512	4.0400	0.0000
LnGDP	-0.5929	0.1299	-4.5600	0.0000
OPEN	-0.0149	0.0057	-2.6100	0.0090
INFR	0.0162	0.0053	3.0400	0.0020
FREE	-0.0032	0.2471	-0.0100	0.9900
GOV	-0.7795	0.6741	-1.1600	0.2480
PRIV	2.0323	0.5720	3.5500	0.0000
REG	0.3296	0.4941	0.6700	0.5050
CORRUPT	-1.7722	0.5207	-3.4000	0.0010
INCOME	-1.9269	0.4061	-4.7400	0.0000
BRIT	3.4787	0.4319	8.0500	0.0000

The coefficients associated with the dummy variables indicate that the affiliation to the group low income countries (INCOME, -2.9269) decreases a country's' likelihood to adopt IFRS, while former British colonies are more likely to adopt the standards (BRIT, 3.4787). We can be more than 95% confident that these phenomena were not random and will be reflected by the population.

The chi^2 probability ratio is 181.95 and has an associated probability of 0.0000 showing that the research model is valid.

Propensity scores were computed using the probit model. Based on these scores, matchings between the two categories of observations were made.

The common support region was determined using the functions implemented in Stata 12.0. Thus, for the data set collected, the common support region is given by the interval [0.0351, 0.9999]. Observations with propensity scores outside this range were dropped from analysis because it was not possible to find them a match. The final sample size is 197 observations.

In order to apply the stratification matching method, blocks of observations were created using the modules implemented in Stata 12.0. Within each block the average propensity scores of treated and controls must not be significantly different. Thus, six blocks of observations were obtained.

The t test was used to check if errors occurred in the process of creating the blocks of observations, namely if the average propensity scores of treated and control observations differ significantly within each block (Urkaregi, Martinez-Indart and Pijoán, 2014). The differences between the mean values of the propensity scores are not statistically significant at 5% significance level (**Table no. 6**). This indicates that treated and control observations were optimally distributed into the six blocks of observations.

Within each block, treated and control observations were matched through stratification matching. Subsequently, the average treatment (IFRS adoption) effect was computed as the weighted average of all observed effects in each block of observations (**Table no. 7**).

The average treatment effect (ATE) suggests that IFRS adoption has generated on average a 0.4410 units growth in FDI flows in poor countries. The result is statistically significant at 5% significance level and validates the general hypothesis of this study, according to which *IFRS adoption contributes to FDI growth in poor countries*. This result is consistent with those obtained by previous studies (Marquez-Ramos, 2011; Gordon, Loeb and Zhu, 2012; Chen Ding and Xu 2014).

Table no. 6. Descriptive statistics of the propensity scores

Blocks of observations	IFRS	Number of observations	Mean	t-statistic	p-value
Block 1	0	61	0.0937	0.6983	0.4874
	1	8	0.0827		
Block 2	0	24	0.2915	0.9890	0.3314
	1	5	0.2636		
Block 3	0	5	0.4413	-1.3166	0.2360
	1	3	0.4722		
Block 4	0	8	0.6399	-0.8651	0.4027
	1	7	0.6520		
Block 5	0	2	0.7144	-1.5063	0.1528
	1	15	0.7524		
Block 6	0	3	0.8712	-2.0050	0.0503
	1	50	0.9425		

Table no. 7. Average treatment effect

Method	Number of treated observations	Number of control observations	ATE	Standard deviation	t-statistic
Stratification matching	88	109	0.4410	0.1540	2.8670*

* significant at 5% significance level.

Conclusions

The objective of this study was to examine the relationship between IFRS adoption and FDI growth in poor countries. The general research hypothesis was tested on the sample of 38 poor countries between 2008 and 2014 using the propensity score matching method.

Results are statistically significant at 5% significance level and suggest that the transition to international accounting framework contributes to FDI growth in poor countries.

The relevance of the research results is subject to limits. First, the initial data collection was possible for only 38 countries. Based on this data a panel data set of 266 observations was obtained. This sample was subsequently reduced to 197 observations which allowed matching. Second, the model estimates the average effect of IFRS adoption on FDI growth once the effects of the vector of exogenous variables have been controlled for. Limited data availability allows us to operationalize ten exogenous variables. According to Tucker (2011), the existence of other exogenous factors omitted from the analysis may affect the validity of the results. Including other factors such as the exchange rate, the interest rate and the cost of labour into the analisys can open new research avenues.

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