Bilgi | *Journal of Social Sciences*
Sosyal Bilimler Dergisi

Bilgi, 2022, 24 (1): 83-109

ARAŞTIRMA MAKALESİ ‖ RESEARCH ARTICLE

Türkiye ile Latin Amerika Ülkeleri Arasındaki Yolsuzluk, Doğrudan Yabancı Yatırım ve Ticari Özgürlük İlişkisi[1]

Alexander Camacho Murcia[*] Özgür Uysal[ϕ]

MAKALE BİLGİSİ

Başvuru: 02. 03. 2022
Düzeltme Talebi: 18. 03. 2022
Kabul: 29. 04. 2022
Online Yayım: 31. 05. 2022

Anahtar Kelimeler:

Doğrudan Yabancı Yatırım,
Ticaret Özgürlüğü
Ekonomik Özgürlük,
Yolsuzluk,
Kurumsal Şeffaflık.

Kaynak Gösterimi:
Camacho Murcia, A., & Uysal., Ö., (2022). Corruption, FDI, and Trade Freedom Relationship Between Turkey and Latin American Countries. Bilgi Dergisi, 24(1), 83-109 doi.org/10.54838/ bilgisosyal.1081905

Özet: Doğrudan Yabancı Yatırımlar (DYY), her zaman yüksek düzeyde ticari açıklık ve özgürlük ortamı ile ve daha düşük kurumsal yolsuzluk vakası ile ilişkilendirilmiştir. Çünkü siyasi istikrar ve kurumsal şeffaflıkta bir dalgalanma olduğunda yüksek düzeyde uluslararası sermaye hareketliliğinin, yabancı yatırımcıları daha temkinli hale getirdiği varsayılmaktadır. Çoğu Amerikan ülkesi (Kanada ve ABD hariç), önemli düzeylerde yolsuzluğa yol açan ve sonuçta belirgin şiddet düzeyi ve hatta eşitsizlik olgusu gibi diğer ciddi sorunlara yol açan kurumsal ve bürokratik prosedürlerinde her zaman şeffaflık eksikliği ile ilişkilendirilmiştir. Bu çalışma Türkiye ve Amerika ülkeleri arasında doğrudan yabancı yatırımlar üzerinde yolsuzluk endeksleri, ticari açıklık ve enflasyon oranları değişkenlerinin pozitif veya negatif etkisi olup olmadığını araştırmaktadır. Bu ekonometrik modeli analiz etmek için OECD, COMTRADE, TUIK, Heritage Foundation, UNCTAD ve Dünya Bankası Veritabanı'ndan bilgi toplanmıştır. Gözlemlenen veriler on yıla (2005-2014) tekabül etmektedir ve sadece 14 Amerika ülkesi ve Türkiye'den örneklem alınmıştır.
Mevcut çalışmanın ampirik sonuçları, ticari açıklık endeksi ile DYY arasında pozitif bir korelasyon olduğunu ortaya koymuştur; yolsuzluk endeksi, enflasyon ve DYY arasında pozitif bir ilişki bulunmuştur. Yolsuzluk endeksindeki artış, doğrudan yabancı yatırım girişinde %41'lik bir artışa neden olmaktadır.

[1]Bu çalışma 1. yazar tarafından Alanya Alaaddin Keykubat Üniversitesi Sosyal Bilimler Enstitüsü'nde savunulan yüksek lisans tezinden türetilmiştir. İkinci yazar, esas olarak çalışmanın literatür kısmına ve ampirik kısmın yorumlanmasına katkıda bulunmuştur. Bu çalışma, LATİN AMERİKA 1. ULUSLARARASI BİLİMSEL ARAŞTIRMA KONGRESİ'nde özet olarak sunulan çalışmanın gözden geçirilmiş halidir.

[*]Bilim Uzmanı, Alanya Alaaddin Keykubat Üniversitesi, Antalya, Türkiye ✉ lexmurcia2015@gmail.com, ORCİD: 0000-0002-6400-652X

[ϕ]**Sorumlu Yazar İletişim:** Dr. Öğr. Üyesi, Alanya Alaaddin Keykubat Üniversitesi, İktisadi, İdari ve Sosyal Bilimler Fakültesi, İktisat Bölümü, Antalya, Türkiye ✉ ozgur.uysal@alanya.edu.tr, ORCID: 0000-0003-0049-8550

Bilgi | *Journal of Social Sciences*
Sosyal Bilimler Dergisi

Bilgi, 2022, 24 (1): 83-109

Corruption, FDI, and Trade Freedom Relationship Between Turkey and Latin American Countries[2]

Alexander Camacho Murcia[*] Özgür Uysal[ϕ]

Abstract: Foreign Direct Investment (FDI) has been always associated with a high level of trade openness and freedom environment, and with a lower incidence of institutional corruption. Because it is assumed that a high level of international capital mobility makes foreign investors more cautious when there is a fluctuation in political stability and institutional transparency. Most American countries (except Canada and the USA) have been always related to a lack of transparency in their institutional and bureaucratic procedures, which conduct to important levels of corruption and in consequence, to other serious issues such as prominent level of violence, or even the inequality phenomena. This study investigates whether the variables of corruption indices, trade openness and inflation rates have positive or negative effects on FDI between Turkey and American countries. For analyzing this econometric model, it was gathered information from OECD, COMTRADE, TUIK, Heritage Foundation, UNCTAD, and the World Bank Database. The observed data correspond to a decade (2005-2014) and were only taken a sample of 14 American countries.

The empirical results of the present study revealed that there is a positive correlation between the trade openness index and FDI; and, it was found a positive correlation between corruption index, inflation, and FDI. The increase in the corruption index causes a 41% increase in FDI inflow.

ARTICLE INFO

Submitted: 02. 03. 2022
Revision Requested: 18. 03. 2022
Accepted: 29. 04. 2022
Published Online: 31. 05. 2022

Keywords:

Foreign Direct Investment,
Trade Freedom,
Economic Freedom,
Corruption,
Institutional Transparency.

To cite this article:
Camacho Murcia, A., & Uysal., Ö., (2022). Corruption, FDI, and Trade Freedom Relationship Between Turkey and Latin American Countries. Bilgi Dergisi, 24(1), 83-109. doi.org/10.54838/bilgisosyal.1081905

[2] This study is derived from the master's thesis defended by the 1st author at Alanya Alaaddin Keykubat University, Social Sciences Institute. The second author contributed mainly to the literature part of the study and to the interpretation of empirical part. This study is a revised version of the study presented as a summary at the LATIN AMERICA 1ST INTERNATIONAL SCIENTIFIC RESEARCH CONGRESS.

[*]Scientific Researcher, Alanya Alaaddin Keykubat University, Antalya, Turkey ✉ lexmurcia2015@gmail.com, ORCİD: 0000-0002-6400-652X

[ϕ] **Corresponding Author** Assist. Prof., Alanya Alaaddin Keykubat University, Faculty of Economics and Administrative Sciences, Department of Economics, Antalya, Turkey ✉ ozgur.uysal@alanya.edu.tr, ORCID: 0000-0003-0049-8550

Introduction

This paper seeks to econometrical analyze whether corruption has a positive correlation with foreign investment. For elaborating this model, we gathered the corresponding foreign investment inflows between 14 countries of the Americas and Turkey during a decade (2005 - 2014).

The objective of this study is to analyze whether corruption negatively or positively affects foreign direct investment inflows from Turkey to the American countries. To achieve this objective, we also included other explanatory variables such as inflation, GDP, the exchange rate, and the trade freedom index in our model. These variables were also considered for doing the present document since they were taken in other previous academic literature that explored the FDI inflows.

It is important to point out that the present work represents a first econometric analysis of Turkey's bilateral relations with the American countries, particularly with the Latin American & Caribbean region, since other studies only carry out a literary review but do not quantitatively measure the effects of the direct foreign investment between the two regions. Therefore, this work marks a milestone for the development of future quantitative studies around socio-political phenomena in the region, such as the levels of corruption or the effect of the interest rate on the flow of foreign investment, among others.

The main motivation for carrying out this work was to quantify the effects of various socioeconomic variables to quantitative understand the potential causes of various regional-development issues and be able to propose pragmatic solutions for sustainable growth in Latin America & Caribbean region the present and future; being this document the first precedent of rigorous scientific analysis for the academic community. Therefore, the main question of this work to be resolved is: does foreign direct investment decreases the levels of corruption in the Latin America & Caribbean region? Therefore, this paper constitutes a scientific contribution since it has not been performed other econometrical study regarding the bilateral relations between Turkey and Latin America & Caribbean region. The most important and academic contribution of the present paper is that is the first econometrical study between Turkey and Latin America & Caribbean region.

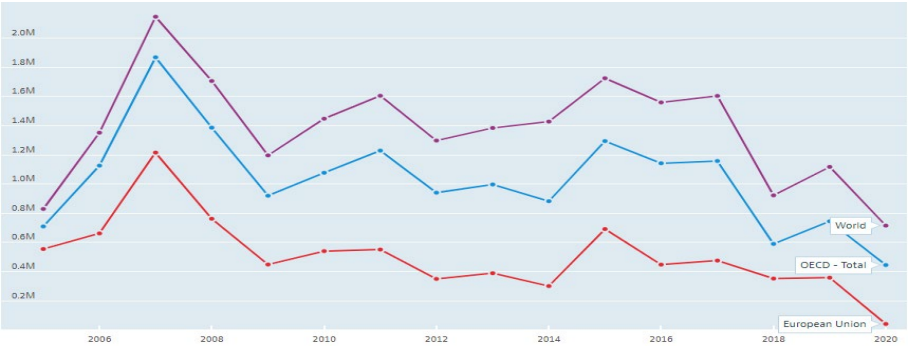
1. FDI Flows in Latin America & Caribbean Region

Foreign Direct Investment (FDI) flows measure the value of cross-border transactions related to direct investment during a given period, usually a quarter or a year. Financial flows instead are based on equity transactions, reinvestment of earnings, and intercompany debt transactions (OECD, 2022).

According to the United Nations in 2005, the flow of FDI reached an amount of 916 billion USD, in which more than a half of this flow came from businesses in developing countries. In 2013, this represented a total of $1.47 trillion and decreased in the following year in a proportion of 16%, reaching a total of $1.23 trillion in 2014 (UNCTAD, 2015).

After 2015, FDI flows have considerably decreased due to the weak recovery of the global financial crisis in 2008 and even more, due to the recent events of the COVID-19 pandemic. It has been estimated that the global flows of FDI fell by one-third to USD $1 trillion, below the records observed a decade ago. Latin America & Caribbean was one of the most hit regions around the world with an estimated plunge of 45% (UNCTAD, 2021).

Figure 1: FDI evolution during last decade



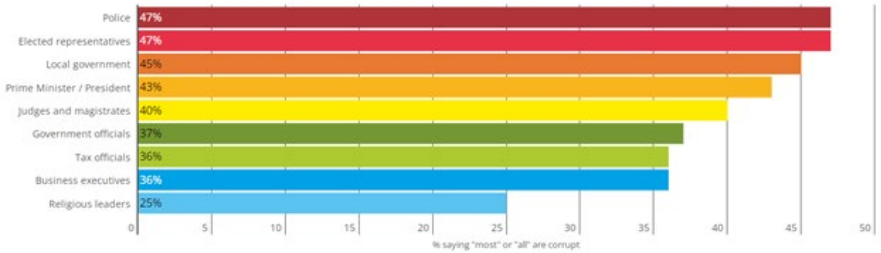
Source: OECD Data, 2022.

Even though the region has been severely damaged by the pandemic consequences, Latin America & Caribbean region is still considered a strategic region for the extraction of natural resources which are globally demanded by the international markets (UNCTADSAT, 2016) and multinational en-

terprises. Even the fact that Latin American might possess innumerable strategic resources, foreign investment has been also affected by another social phenomenon: Corruption.

Although no commonly accepted definition of corruption exists, most definitions share certain elements. Most of them would agree that corruption includes certain facts: the privatization of public resources for personal advancement and self-gratification through acts of embezzlement, bribery, extortion, nepotism, peculation, etc.; violation of the duties of public office and the public interest (Gould & Amaro-Reyes, 1987).

Figure 2: Corruption Perception by Institutions in Latin American & Caribbean Region



Source: https://www.transparency.org/en/gcb/latinamerica/corruption

A high level of corruption makes it impossible to develop institutional capabilities to address sustainable economic growth. Corruption permeates all institutional and governmental levels avoiding proper management of foreign capital and thus, affecting the local development. Multinational enterprises are also aware of the implications of corruption since these choose host countries for their foreign subsidiaries considering the stability of the framework and other possible operational costs associated that corruption might entail. Corruption has, consequently, been considered a deterrent to FDI (Godinez & Liu, 2015). Against this theoretical assumption, recent events have demonstrated that corruption might increase FDI inflows. This is the case of the Odebrecht scandal across the Latin American region. In 2016 the Brazilian construction firm (Odebrecht) was fined $2.6 billion by the USA Department of Justice. Between 2001 and 2016, this Multinational paid $788 million in bribes to politicians and public officials in 10 Lati

American countries and in more than one hundred contracts for major infrastructure projects (Campos, Engel, Fischer, & Galetovic, 2019).

2. Global Actors and Their Implication for the FDI in Latin America & Caribbean Region

During the last decade, China's presence in Latin America has been growing up throw the years. The rapid expansion of political and commercial ties between the People's Republic of China and Latin America has captured the imagination of a generation of business and political leaders throughout the Latin American region (Ellis, 2009). China's support to Venezuela and Argentina's government has been focused on financial aid.

This new China-Russia strategy does not obey solely to a political affinity against the interests of the USA but goes beyond the traditional foreign relation's paradigm: the geopolitical agenda is now focused on obtaining strategic commodities for covering their internal demand to continue developing their economies. Correspondingly, they have also shifted their foreign policies and aligned them to the Latin American & Caribbean needs, such as the creation of new commercial infrastructure or the financial assistance for regional projects.

On the same path, Russia's approach to the region goes in accordance with the traditional & anti-unipolar-USA world vision, offering financial aid for the economic and military capabilities, with the governments of Argentina, Cuba, Bolivia, Nicaragua, and Venezuela. (Lavrov, 2008).

After 2008, the renewed Russian strategy and its new foreign policy to the region continue to be strengthened with the multilateral integrative groups operating in the region with initiatives like the ALBA (Honduras, Bolivia, Cuba, Venezuela, Ecuador, Nicaragua, and Dominique), the meetings held under the "Rio Group (Russia, Brazil)"; or the Memorandum to create a mechanism for political dialogue and cooperation between Russia and the South American Common Market (MERCOSUR) (Russian MFA, 2009).

This new Era has not come only with China or Russian leadership, another old actor has appeared on the scene: the Turkish Government. During the

last decade, Turkish presence in the region has spread from Patagonia to the Caribbean region, from the Andean region to the Hudson Bay.

The Turkish government has also oriented its foreign policy towards a closer partnership will all American countries, in particular with the Latin America & Caribbean region. A century before, the Republic of Turkey had barely bilateral relations with the government of the USA, Canada, Brazil, and Chile; nowadays this situation has completely changed. Turkey's presence has widely expanded into the region by using two mechanisms: 1) Developing deep economic cooperation with the establishment of bilateral Free Trade Agreements to improve bilateral trade flows; 2) By supporting social & cultural relations. Most of these programs -developed by the new Turkish Cooperation Agency, TIKA- go beyond bilateral cooperation but also include cultural activities towards a better bilateral understanding. Nonetheless, foreign relations between American Countries and Turkey date back to the 19th century.

3. Bilateral Relations between Turkey and American Countries

The first approach to the North American region was done with the sign of a trade agreement between the Ottoman Empire and the USA government in February of 1830. In the next century and because of the I World War, there was an interruption of all diplomatic relations between both nations. In 1927, The USA decided to recognize the modern state of Turkey after the dissolution of the Ottoman Empire. Later, in 1949, the creation of NATO brings a new cooperation era in terms of economic & military cooperation (Turkey MFA, 2017).

In the case of Canada, Turkey decided to establish relations in 1944. Then, in 1947, a Turkish Government official opened an Embassy in Ottawa. In the following years, as friends and allies, Turkey and Canada have expanded the depth and variety of their bilateral links as valued commercial, political, strategic, and security partners (Canada Gov., 2022).

On the other hand, for the Latin America & Caribe region, the first approach took place in 1858, with the signature of the Treaty of Commerce and Navigation between both, Brazil, and the Ottoman Empires. In the early 20th century and because of the I World War, there was a huge

immigration wave from the Ottoman territories to Latin America & Caribbean countries. Most of the people that came from the old Ottoman Empire and held an Ottoman passport were known as the "Árabes" or "Los Turcos"[3] .

Years later, in January of 1926, under the Friendship Treaty, Chile became the first Latin American country that officially recognized the Republic of Turkey. In 1930, Turkey decided to open its Embassy in Santiago de Chile. The Chilean Embassy instead, opened its official representation in Ankara in 1941. In parallel, Brazil, which previously had a diplomatic representation with the Ottoman Empire, decided to renew their bilateral relations but with the newly formed Republic of Turkey in September 1927 (Turkey MFA, 2017).

After the II World War and during sixty years, there was no significant evolution in the America Countries and Turkey's foreign relations. The reason was the geographical-distance factor which affected the commercial development including the language and cultural factors.

At the end of the last century, in 1995 and under the mandate of President Süleyman Demirel it was opened a new chapter between both regions and with the official visit of the Turkish president to Argentina, Brazil, and Chile. Nevertheless, the most important approach has been taken place during the mandate of the current President of Turkey, Mr. Recep Tayyip Erdoğan, who decided to renew Trade & Cooperation agreements, improve commercial meetings, and explore new opportunities in terms of cooperation and social initiatives. With that aim, the current Turkish President has officially visited Colombia, Cuba, and Mexico in 2015; and Ecuador, Peru, and Chile in 2016. During the last years, the Turkish Government has also visited other strategic partners in the region like Venezuela, Argentina, and Panama. Thus, and in the words of the current Turkish Foreign Ministry, Mr. Cavusoglu, the value of trade volume

[3] These immigrants settled mainly in the Caribbean region and from there they created small colonies and businesses. That is the reason you can easily find "Arabs names and surnames" on most of the coast of the Caribbean countries.

between Latin America and Turkey passed from $1 billion in 2002 to $15 billion in 2021 (Tarhan, 2022).

4. Literature Overview

There are some studies in the literature that try to inquire about the main variables that have a direct correlation with the FDI inflows across regions and countries. Below are some of these studies:

Lipsey et al. (1999) analyzed FDI inflows from the USA to Asian countries. He observed that the market size and a high per capita income are the main variables that attract FDI inflows. Tuman (1999), by using a multiple regression model for the period of 1972-1992, demonstrate that market size, economic policy adjustments, and political instability had an impact on Japan's FDI to the Latin America region (Tuman, 1999). Love & Lage-Hidalgo (2000) analyzed investment inflows from the USA to Mexico for the period 1967-1994 (Love & Lage-Hidalgo, 2000). They found that local demand and other factors affect FDI inflows. It was also discovered that a variation in exchange rates conditioned investment decisions. On the other hand, Tung & Cho (2000) also examined whether the concessional tax rate and tax intensity are important in determining regional investments in China. They noticed that lower tax rates and increased tax intensities are suitable for attracting more FDI. Noorbakhsh et al. (2001), by evaluating whether human capital in the home country affects the geographical distribution of FDI or not, they observed that human capital is statistically significant in determining FDI inflows, since human capital is one of the most important determinants, and its importance comes from its increasing expansion over time (Noorbakhsh, Paloni, & Youssef, 2001). Bengoa & Sanchez-Robles (2003), by elaborating panel data for 18 Latin American countries for the period 1970-1999 in which added the economic freedom as a new variable inside their model, they found that FDI in the host country was positively associated with economic growth; therefore, increasing FDI inflows in the host country (Bengoa & Sanchez-Robles, 2003). Dritsaki et al. (2004), by conducting co-integration analysis found a relationship between FDI, economic growth, and trade, in Greece for the period 1960-2002 (Dritsaki, Dritsaki, & Adamopoulos, 2004). FDI

and economic growth are usually reinforced under free trade policies. Bibi et al. (2014), investigated the role of trade openness, FDI, exports, imports, real exchange rate, and inflation in enhancing economic growth in Pakistan. By using Co-integration and DOLS techniques for the period 1980 - 2011 they found long run relationship among the variables. DOLS results indicate that trade openness is negatively related to the economic growth in Pakistan. However, FDI was affected positively by the economic growth and foreign trade policy in Pakistan. FDI and trade are considered vital elements that improve the influence of economic growth (Bibi, Ahmad & Rashid, 2014). Alvarado et al. (2017), examined the effect of FDI on economic growth in 19 Latin American countries. Using panel data econometrics, they found robust empirical evidence that the effect of FDI on economic growth is not statistically significant.

There are also some studies examining the relationship between corruption and FDI inflow in the economics literature. Some of these are presented below.

Gaviria (2002) used a survey of private firms to evaluate the effects of corruption on the economic prospects of firms at Latin America countries. According to Gaviria (2002), corruption and crime reduce firm competitiveness. Voyer & Beamish (2004) tested the hypothesize that whether investors avoid countries where high corruption exists in 59 countries. Their results showed that in emerging nations, corruption serves to reduce FDI. Cuervo-Cazurra (2006) evaluated the impact of corruption on FDI inflows. He reached two different conclusions because of the analysis. First, corruption results in relatively lower FDI from countries that have signed the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions. Second, in countries with high levels of corruption, corruption results in higher FDI inflows. Also, Cuervo-Cazurra (2008), assessed that pervasive corruption is a deterrent for FDI as it increases investment costs, but arbitrary corruption has no such deterrent effect. Brouthers, Gao, & McNicol (2008), found that greater market attractiveness reduces the negative impact of corruption on investments, but the ability of market attractiveness to reduce the negative

impact of corruption on FDI declines rapidly as corruption levels increase. Reiter, S. L., Steensma, H. K. (2010) concluded that the relationship between FDI and improvement in human development is strongly positive when corruption is low. Barassi & Zhou (2012) investigated the effect of corruption on the incentives of Multinational Enterprises (MNEs) to make foreign direct investment in a particular country. They modeled the relationship between corruption and FDI using both parametric and nonparametric methods. They conclude that the effect of corruption on the FDI stock is different for different amounts of the FDI stock distribution. Helmy (2013), explored the link between corruption and FDI flows to the Middle East and North Africa (MENA) and whether corruption is more important than other determinants of FDI. Using the panel data method in 21 MENA countries over the period 2003-2009, he found that FDI changed positively with corruption. He also found that FDI in MENA varied positively with per capita income, openness, investment freedom and security, and negatively with tax and homicide rates. Subasat & Bellos (2013a) applied a panel data gravity model to determine the effects of corruption on FDI in selected Latin American countries. They found that high levels of corruption were associated with high levels of FDI. Also using a panel data extraction model, Subasat & Bellos (2013b), tried to validate the argument that poor governance is an attraction rather than an obstacle for MNCs in selected transition countries and Latin American countries. According to its results, the role of poor governance in increasing FDI is not only in transition countries but also in Latin America. Mudambi, Navarra & Delios (2013), applied empirical testing of FDI inflows in 55 countries in four different time periods. According to these test results, the level of economic regulation is an important determinant of the level of corruption as well as the extent of FDI inflows. However, corruption has no independent effect on the levels of FDI inflows. Delgado, McCloud & Kumbhakar (2014), investigated the FDI-growth relationship, and they found that corruption has a sizeable nonlinear role in the FDI-growth relation, weakening the effectiveness of FDI at improving growth rates in many developing countries. Godinez and Liu (2015) investigated the relationship between corruption and FDI in Latin American countries.

According to the results, corruption distance has an asymmetric effect on FDI. Countries with low levels of corruption do not experience a significant increase or decrease in inward FDI levels. However, in countries with high corruption, it is associated with significantly lower levels of internal FDI. According to them, corruption distance is a key determinant of FDI. Jalil, Qureshi and Feridun (2016) investigated the relationship between corruption and FDI inflows using ARDL panel cointegration tests in a panel of 42 countries between 1984 and 2012. They developed hypotheses to examine both the long- and short-term effects of corruption on FDI inflows. The results show that corruption has a positive effect on FDI inflows in Asian and African countries and has a negative effect on Latin American countries. Hossain (2016) analyzed using panel data between 48 different countries between 1998 and 2014 to determine the relationship between corruption and FDI. He grouped the countries into three regions. (South and South-East Asia, Latin America, the Caribbean, and Africa). It showed that a 1% decrease in the level of corruption could lead to an increase of 8.15%, 9.25% and 11.5% in FDI inflows by region, respectively. According to the results, other control variables such as gross domestic product per capita, gross domestic product growth rate, trade openness, bureaucracy, law, and democracy are statistically positive, while risk and inflation are negative statistically significant. Dutta, Kar, & Saha (2017), investigated the interactive effect of corruption and human capital on FDI. Also, they explore whether countries with higher or lower levels of corruption provide differential benefits in terms of FDI inflows following an equal improvement in human capital level. According to the panel data results they applied, an equal increase in the human capital stock provides 40% more FDI inflows in countries with high corruption scores than in countries with low scores. Kasasbeh, Mdanat, & Khasawneh (2018), examined the factors affecting foreign direct investment (FDI) inflows to developing economies. Using multivariate VAR analysis, they found that corruption had a significant negative impact on foreign direct investment inflows. Supportive policies, rule of law and good governance practices that tend to limit corruption can contribute positively to attracting foreign direct investment. Luu, Nguyen, Ho, and Nam (2019), investigated the

impact of corruption on FDI. They collected data from 131 countries. By using GMM estimator, they evaluated the impact of corruption on FDI inflows. According to their results, corruption significantly inhibits FDI inflows. Hamdi, & Hakimi (2020), examined the dynamic relationship between investment, corruption and economic growth in Tunisia in a multivariate framework. They analyzed the data between 1976 and 2015 with a vector error correction model and cointegration technique. According to the findings of their studies, corruption hinders Tunisia's economic growth in the short and long term. The main reason for the decrease in investment activities and low capital inflows is corruption.

5. Empirical Study

There are many theoretical and experimental studies on FDI in the literature. Although the scope of FDI is not limited to its relevance to economic growth, it can be affected by trade indicators (trade openness, business freedom, investment freedom), political stability, government dynamics, inflation, exchange rate and other factors. In the following sections, first, the definition of the variables used in the model is made, and then the results of the analyzes are evaluated.

5.1. Data Set for FDI Analysis

When the literature is examined, it is seen that the inflation rate, exchange rate and GDP variables are used as explanatory variables for the FDI analysis. In addition, in this study, some of the Heritage Organization freedom indexes such as trade freedom index and corruption index were included in the model as variables to be used in foreign direct investment analysis.

Economic Freedom is the fundamental right of every individual to control his own labor and property. In a free society, individuals are free to make decisions about work, production, consumption, and investment. In free societies, governments allow the free movement of labor, capital, and goods, avoiding coercion or restricting freedoms. Economic freedom brings greater wealth. The economic freedom index shows that there is a positive

relationship between economic freedom and many social and economic goals. There is a strong link between economic freedoms and a healthier society, cleaner environment, greater per capita welfare, human development, democracy, and poverty reduction.

Heritage organization divides economic freedom into 4 broad categories:

- Rule of Law (Property Rights, Corruption Index)

- Government Restrictions (Fiscal Freedom, Public Spending)

- Efficiency (Operational freedom, Labor freedom, Monetary freedom)

- Open Markets (Trade Freedom, Investment Freedom, Financial Freedom)

These indices are measured quantitatively and qualitatively, rated on a scale from 0 to 100. A country's overall score is obtained by averaging ten economic freedom factors.

In this study, the 'Corruption Index' belonging to the Rule of Law category and the 'Freedom of Commerce' index belonging to the Open Markets category were used.

Rule of Law: Corruption Index

The corruption factor significantly affects economic freedom, bringing insecurity and economic destabilization to a country. For this reason, this score has been called The Corruption Perceptions Index since 2011. The CPI index is measured on a 10-point scale: 0 points indicates a government with a lot of corruption, and 10 points indicates a government with almost no corruption. The corruption index is obtained by the Heritage Organization by multiplying the CPI score by 10. CPI shows countries' perceived level of public sector corruption. The higher the perceived level of public sector corruption in the country, the lower the CPI score (Wilhelm, 2002: 177).

Open Markets: Trade Freedom Index

According to the Heritage Organization, the Trade Freedom index is a measure of the absence of tariffs and non-tariff barriers that affect the import and export of goods and services. This index can be calculated by considering two factors, the trade-weighted average tariff rate, and the non-tariff barriers (NTB). Weighted average tariffs are basically numerical and the formula is as follows:

$$\textbf{Trade Freedom}_i = (1 * 100) - \textbf{NTB}_i \qquad (1)$$

Trade Freedomi means the commercial freedom of country i; Tariffmax and Tariffmin are the maximum and minimum tariff rates; and Tariffi is the weighted average tariff rate in country i. In this formula, the upper limit of the tariff is determined as 50 percent and the minimum percent is zero. An NTB penalty is also calculated and subtracted from the base score.

After carrying out a detailed analysis of the possible variables that may impact foreign direct investment between the American countries and Turkey; and bearing in mind our initial question of whether the flow of foreign direct investment is affected by corruption levels; the following mathematical model was created:

$$Lfdi_{it} = \beta 1 * Tradefree_{it} + \beta 2 * Inf_{it} + \beta 3 * Exch_{it} + \beta 4 * Lgdp_{it} + \beta 5 * Corrup_{it} + U_{it} \qquad (2)$$

$i = 1, \ldots, 15 \qquad t = 2005, \ldots, 2014$

In which:

$Lfdi_{it}$: is the dependent variable and represents the FDI inflows.

$Tradefree_{it}$, represents the trade freedom index for the American countries.

Inf_{it}, represents the inflation of the American countries.

$Exch_{it}$, represents the exchange rate given in USD dollars.

$Lgdp_{it}$, represents the GDP for American countries.

$Corrup_{it}$, represents the corruption index for American countries.

U_{it}, represents the single error.

It is important to mention that for elaborating this model, it was gathered the available data from the World Bank and the Heritage Organization between 2005 and 2014. In addition, there were taken 14 American countries excluding the USA (because Turkey has with this a large volume not only in terms of bilateral trade but also in terms of FDI inflows).

In the following stage, it was used the STATA 13.0 program for running all retrieved data and to start to validate our hypothesis, observing the following graphic-statistical distribution.

5.2. Analysis Results

As it can be noticed in the Figure 3, the countries to which Turkey's foreign direct investment is directed the most are Brazil, Canada, and Mexico. Towards the other countries, the investment is still null or scarce.

Figure 3. FDI between American Countries and Turkey 2005- 2014 (excluding the USA)

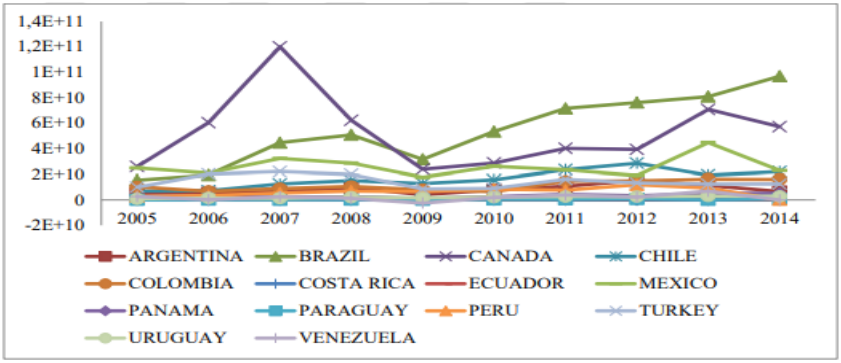
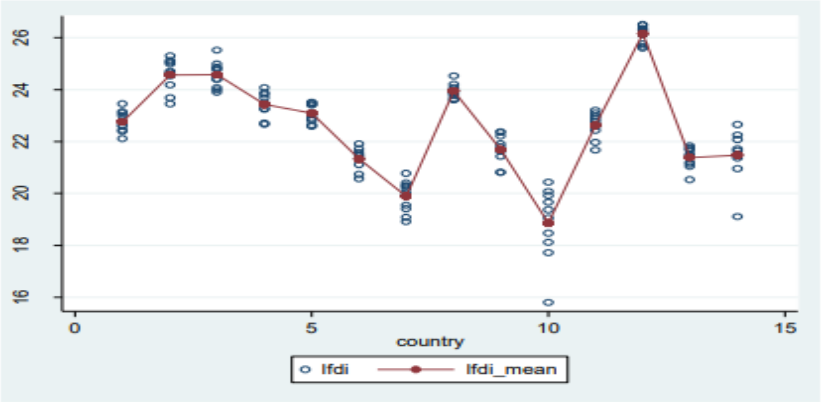


Figure 4 shows the difference between the variances of the countries by using the dependent variable (FDI). The red dots represent the mean of the variances. Our purpose determines which regression (Fixed or Random) will be used with this test.

Figure 4. Variation with countries for the dependent variable ($Lfdi_{it}$)



Considering that the mean of the variants is not linear, it should be used Random model (not linear).

Figure 5. Variation over years for the dependent variable (*Lfdi*$_{it}$)

According to the Figure 5, it can be said that there is a diversity among countries, but for the dependent variable (FDI), this diversity has not been observed throughout the years. Then Hausman test was applied to the model to make it right. It is suitable for associating single error (u_i) with the moderator (H_1) for regression or determining whether to use a fixed effect or random effects model in the absence of H_0.

Table 1. Hausman Test in Foreign Direct Investment Model

Variable	Fixed	Random	Prob. > chi2

Tradefree	0.009	0.021	0.0738
Inf	0.026	0.023	
Exch	-0.0008	-0.0004	
Corrup	0.393	0.413	
Lgdp	0.931	0.792	

Note: ***Tradefree*** refers to the Freedom of Trade index. ***Inf*** stands for inflation. ***Exch*** represents the exchange rate. ***Corrup*** indexes corruption; and ***Lgdp*** GDP is expressed in logarithms of American countries.

According to the Hausman test results, since Probability>chi2 = 0.0738, it is stated that the only errors with the modifier are not related. Therefore, the effects of trade freedom, inflation, corruption, exchange rate, and FDI between countries in the Americas on their GDP can be estimated using a random effect model.

The second step is to determine whether it is appropriate to use random effects regression or simple OLS regression. For this purpose, the Breusch-Pagan Lagrange multiplier (LM) test was performed. The LM test helps to choose between random effects regression or simple OLS regression. The distribution across organizations should be $H(0)$ if there is no significant difference across countries (no panel effect).

Table 2. Breusch-Pagan Lagrange Multiplier (LM) Test in FDI Model

	Var	**Prob. > chi2**
Lfdi	**3.94**	**0.000**
E	**0.20**	
U	**0.47**	

According to Table 2, each Probability>chi2 = 0.000 means a significant difference across countries. Therefore, it is necessary to perform random effects regression because the simple OLS was not convenient.

Table 3. FDI Using Random Effects Regression

Lfdi	*coefficient*	*Prob.*	R^2	*Number of obs.*
Tradefree	0.021	0.015	0.85	900
Inf	0.023	0.002		
Exch	-0.0004	0.002		
Corrup	0.41	0.029		
Lgdp	0.79	0.000		
const	0.13	0.953		

According to the analysis findings shown in Table 3, it is appropriate to state that there is a positive correlation with a coefficient of 0.021 between foreign direct investment and the trade freedom index. This proves that in the absence of tax and non-tariff barriers to exports and imports by countries in the Americas, net foreign direct investment flows are affected.

At the same time, according to estimates, an increase in inflation seems to have a positive effect on FDI flows with a coefficient of 0.023. This can be explained by the improvement in the economic situation across countries in the Americas. Second, a moderate increase in inflation has been observed in many countries, except for Argentina and Venezuela, where the general economic situation has a negative impact. For example, Argentina's inflation was affected by financial insolvency and foreign debt, while Venezuela's situation was affected by economic and political instabilities and issues.

On the other hand, the exchange rate has a low but negative effect on foreign direct investment inflows with a coefficient of 0.0004. It was also found that **the corruption index (0.41) and GDP (0.79) have a significant correlation with foreign direct investments**.

The last analysis performed is the correlation analysis, which indicates the effect or ineffectiveness of the dependent variable on the independent variables. This is presented below:

Table 4. Correlation Test in Foreign Direct Investment Model

	Lfdi	*Tradefree*	*Inf*	*Exch*	*Corrup*	*Lgdp*
Lfdi	1.0000					
Tradefree	0.3069* 0.0002	1.0000				
Inf	-0.1662 0.0505	-0.4952 0.0000	1.0000			
Exch	-0.5429 0.0000	0.1062 0.2119	-0.0432 0.6123	1.0000		
Corrup	0.5395* 0.0000	0.6811* 0.0000	-0.3722* 0.0000	-0.2725* 0.0011	1.0000	
Lgdp	0.8789 0.0000	0.1346 0.1127	-0.0643 0.4503	-0.4160* 0.0000	0.3501* 0.0000	1.0000

Note: * is significant at 1% level.

According to correlation test results, we observed that there is a positive correlation between FDI inflows and Trade Freedom Index (+0.30); a negative but insignificant correlation for Inflation (-0.16); a negative and significant correlation for the exchange rates (-0.54); a positive correlation for the Corruption index (+0.53) and a positive correlation for GDP (+0.87). This situation demonstrated that the absence of tax and non-tariff barriers for export and import in the Americas countries affects the net flows of FDI. For the Trade freedom index, there is an inversely proportional correlation for inflation; a positive correlation with the corruption index (+0.68). For Inflation, there is a negative correlation for the corruption index (-0.37). For the exchange rates, there is an inversely proportional correlation for corruption (-0.27) and for the GDP (-0.41). For the Corruption index, there is a positive correlation for the GDP (+0.35).

Conclusion

In this study we analyzed whether corruption negatively or positively affects foreign direct investment inflows from Turkey to the 14 American countries. For this purpose, we also included other explanatory variables such as GDP, inflation, exchange rate and trade freedom index in our model. After creating a mathematical model, we applied the Hausman test to determine whether to use a fixed effect or random effects model. As a result of the Hausman test, we decided that it was appropriate to use the random effects model. According to the FDI analysis using random effects regression, we found that the corruption index (0.41) and GDP (0.79) have a significant correlation with foreign direct investments. We also found that an increase in the trade freedom index seems to have a positive effect on foreign direct investment flows with a coefficient of 0.021. On the other hand, we found an increase in inflation seems to have a positive effect on foreign direct investment flows with a coefficient of 0.023. Besides the exchange rate has a low but negative effect on foreign direct investment inflows with a coefficient of 0.0004.

A lower level of corruption conducts to a higher level of FDI into the Latin America & Caribbean region. This means that increase in corruption index, increases in growth of GDP and Trade Freedom Index led to an increase in FDI inflows.

The results obtained in this study quantitatively revealed that there is a positive direct relationship between the increase in the corruption index and foreign direct investment inflows from Turkey to the 14 American countries. This study confirmed other previous studies regarding that there is a positive relationship between FDI and the trade freedom index. This situation can be empirically illustrated considering that the absence of tax and non-tariff barriers for export and import in the Americas countries affects the net flows of FDI and vice versa.

Finally, it is possible to state that this paper constitutes a scientific contribution since it has not been performed other econometrical study regarding the bilateral relations between Turkey and Latin America & Caribbean region. The most important and academic contribution of the present paper is that is the first econometrical study between Turkey and Latin America & Caribbean region. In addition, it was empirical demonstrated that FDI inflows can be explained by the corruption index.

As the increases in the corruption, commercial freedom and economic freedom index of countries increase, FDI inflow increases. Therefore, as policy recommendation, countries should place more emphasis on trade and economic freedom. It is necessary to increase the level of social awareness against corruption. For this purpose, an independent institutional structure that shares its reports with the people of the country should be established to prevent corruption. Anti-corruption policies need to be strengthened in countries. FDI entries must be based on legal procedures that do not neglect the degree of freedom and openness of the economy.

References

Alvarado, R., **Iniguez**, M., **Ponce**, P. (2017), Foreign Direct Investment and Economic Growth in Latin America, **Economic Analysis and Policy**, 56: 176-187.

Barassi, M. R. **Zhou**, Y. (2012), The Effect of Corruption on FDI: A Parametric and Non-Parametric Analysis, **European Journal of Political Economy**, 28(3): 302-312.

Bengoa, M., & **Sanchez-Robles**, B. (2003), Foreign Direct Investment, Economic Freedom and Growth: New Evidence from Latin America, **European Journal of Political Economy**, 19 (3): 529–545.

Bibi, S., **Ahmad**, S. T., **Rashid**, H. (2014), Impact of Trade Openness, FDI, Exchange Rate and Inflation on Economic Growth: A Case

Study of Pakistan, **International Journal of Accounting and Financial Reporting**, 4 (2): 236-257.

Campos, N., **Engel**, E., **Fischer**, R. D., **Galetovic**, A. (2019), Renegotiations and corruption in Infrastructure: The Odebrecht Case. Padova, Italy: Marco Fanno Working Papers - 230, Universita degli Studi di Padova.

Canada Gov. (2022, 02 21), **Canada-Turkey Relations. Retrieved from Canada Government**: https://www.international.gc.ca/country-pays/turkey-turquie/relations.aspx?lang=eng

Cuervo-Cazurra, A. (2006), Who Cares About Corruption?, **Journal of International Business Studies** , 37: 807–822.

Cuervo-Cazurra, A. (2008), Better the Devil You Don't Know: Types of Corruption and FDI in Transition Economies, **Journal of International Managemen**t, 14 (1): 12-27.

Delgado, M. S., **McCloud**, N., **Kumbhakar**, S. C. (2014), A Generalized Empirical Model of Corruption, Foreign Direct Investment, and Growth, **Journal of Macroeconomics**, 42: 298-316.

Dritsaki, M., **Dritsaki**, C., **Adamopoulos**, A. (2004), A Causal Relationship between Trade, Foreign Direct Investment and Economic Growth for Greece, **American Journal of Applied Science**, 1 (3): 230-235.

Dutta, N., **Kar**, S., **Saha**, S. (2017), Human Capital and FDI: How Does Corruption Affect the Relationship?, **Economic Analysis and Policy**, 56: 126-134.

Ellis, R. E. (2009**), China in Latin America: The Whats and Wherefores, Colorado**, USA: Lynne Rienner Publishers.

Gaviria, A. (2002), Assessing the Effects of Corruption and Crime on Firm Performance: Evidence from Latin America, **Emerging Markets Review**, 3, (3): 245-268.

Godinez, J. R., **Liu** L. (2015), Corruption Distance and FDI flows into Latin America, **International Business Review**, 24 (1): 33-42.

Gould, D. & **Amaro-Reyes** J. A. (1987), The Effects of Corruption on Administrative Performance, Illustrations from Developing Countries. **World Bank Staff Working Paper**, No: 580. Washington, D.C.: World Bank.

Hamdi, H. & **Hakimi**, A. (2020), Corruption, FDI, and Growth: An Empirical Investigation into the Tunisian Context, **The International Trade Journal**, 34:4, 415-440.

Helmy H. E. (2013), The Impact of Corruption on FDI: Is MENA an Exception?, **International Review of Applied Economics**, 27(4), 491-514.

Hossain, S. (2016). Foreign Direct Investment (FDI) and Corruption: Is it a Major Hindrance for Encouraging Inward FDI?, African Journal of Business Management, 10 (10): 256-269.

Jalil, A., **Qureshi**, A., **Feridun**, M. (2016), Is Corruption Good or Bad for FDI? Empirical Evidence from Asia, Africa and Latin America, **Panoeconomicus**, 63(3): 259-271.

Kasasbeh, H. A., **Mdanat**, M. F., & **Khasawneh**, R. (2018), Corruption and FDI Inflows: Evidence from a Small Developing Economy, **Asian Economic and Financial Review,** 8(8): 1075–1085.

Lavrov, S. (2008, November 07), **Russian Ministry of Foreign Affairs. Retrieved from Russian Ministry of Foreign Affairs**: https://www.mid.ru/en/search/?q=latin+america&sort=rele&lang=ru&order=desc&count=10

Lipsey, R. E. **Feenstra**, R. C., **Hahn**, C. H., **Hatsopoulos**, G. N. (1999), The Role of Foreign Direct Investment in International Capital Flows, **NBER Working Paper Series**. No. 7094.

Love J. H., & **Lage-Hidalgo**, F. (2000), Analysing the Determinants of US Direct Investment in Mexico, **Applied Economics**, 32 (10): 1259–1267.

Luu, H.N., **Nguyen**, N.M., **Ho**, H.H. and **Nam**, V.H. (2019), The Effect of Corruption on FDI and Its Modes of Entry, **Journal of Financial Economic Policy**, 11 (2): 232-250

Mudambi, R., **Navarra**, P. & **Delios**, A. (2013), Government Regulation, Corruption, and FDI, **Asia Pacific Journal of Management**, 30: 487–511.

Noorbakhsh, F., **Paloni**, A., **Youssef**, A. (2001), Human Capital and FDI Inflows to Developing Countries: New Empirical Evidence, **World Development**, 29 (9): 1593-1610.

OECD. (2022, 02 22), **FDI flows**. Retrieved from https://data.oecd.org/: fdi/fdi-flows.htm

Reiter, S. L., **Steensma,** H. K. (2010), Human Development and Foreign Direct Investment in Developing Countries: The Influence of FDI **P**olicy and Corruption, **World Development**, 38(12): 1678-1691.

Russian MFA. (2009, March), **The Foreign Policy and Diplomatic Activities. Moscow: Ministry of Foreign Affairs of Russia**. Retrieved from https://www.mid.ru/upload/iblock/f91/THE%20FOREIGN%20POLICY%20AND%20DIPLOMATIC%20ACTIVITIES%20OF%20THE%20RUSSIAN%20FEDERATION%20IN%202008.pdf

Subasat, T., **Bellos**, S. (2013a), Corruption and Foreign Direct Investment in Latin America: A Panel Gravity Model Approach, **Journal of Management and Sustainability**, 3(4): 151-156.

Subasat, T., **Bellos**, S. (2013b), Governance and Foreign Direct Investment In Latin America: A Panel Gravity Model Approach, **Latin American Journal of Economics**, 50 (1): 107-131.

Tarhan, M. (2022), Turkey's Goal in Its Relations with Latin America is to Deepen Cooperation. Retrieved from www.aa.com.tr: https://www.aa.com.tr/en/americas/-turkiye-s-goal-in-its-relations-with-latin-america-is-to-deepen-cooperation-/2480067

Tuman, J. E. (1999), Explaining Japanese Foreign Investment in Latin America, 1979– 1992, **Social Science Quarterly**, 80: 539– 555.

Tung, S. & **Cho** S. (2000), The Impact of Tax Incentives on Foreign Direct Investment in China, **Journal of International Accounting**, **Auditing and Taxation**. 9 (2): 105-135.

Turkey MFA. (2017), **Ministry of Foreign Affairs of Turkey. Retrieved from Ministry of Foreign Affairs**: https://www.mfa.gov.tr/i_-turkiye_nin-latin-amerika-ve-karayiplere-yonelik-politikasi-ve-bolge-ulkeleri-ile-iliskileri.tr.mfa

UNCTAD. (2015), **World Investment Report. Retrieved** from https://unctad.org/topic/investment/world-investment-report

UNCTAD. (2021, 6 21), **Foreign Direct Investment in Latin America Plunges** by 45% Amid Pandemic. UNCTAD. https://unctad.org/topic/investment/world-investment-report.

UNCTADSAT. (2016**), United Nations Conference on Trade and Development.** http://unctadstat.unctad.org/wds/TableViewer/tableview.aspx?ReportId=96740

Voyer, P.A., **Beamish**, P.W. (2004), The Effect of Corruption on Japanese Foreign Direct Investment, **Journal of Business Ethics**, 50: 211–224.

Wilhelm, P. G. (2002), International Validation of the Corruption Perceptions Index: Implications for Business Ethics and Entrepreneurship Education, **Journal of Business Ethics**, 35: 177–189.

‖Beyan ve Açıklamalar/Disclosure Statements ‖

1. Bu çalışmanın yazarı, **Bilgi Dergisi**'nce beyan edilen araştırma ve yayın etiği ilkelerine uyduğunu beyan etmektedir (The author confirms that his

work complies with the principles of research and publication ethics announced by **Bilgi**).

2. Yazar tarafından herhangi bir çıkar çatışması beyan edilmemiştir ve araştırmadan herhangi bir üçüncü şahıs/kurumun etkilenebileceğine dair bildirim bulunmamaktadır (No potential conflict of interest and the research's effects on any person/institution was reported by the author).

3. Makalenin Alexander **CAMACHO MURCİA** ve Özgür **UYSAL** tarafından kaleme alınmış olduğu bildirilmiştir. Makalenin ilk yazarının Alanya Alaaddin Keykubat Üniversitesi'nde savunmuş olduğu tezin, bu makaleyi oluşturduğu ve ikinci yazarın temel olarak literatür kısmında katkısı olduğu beyanı yapılmıştır. Aynı şekilde Birinci Latin Amerika Çalışmalarına dair konferans bünyesinde yapılan sunumun makaleye temel oluşturduğu ifade edilmiştir. (It was reported that the article was written by Alexander **CAMACHO MURCİA** and Özgür **UYSAL**, as this study is derived from the master's thesis defended by the 1st author at Alanya Alaaddin Keykubat University, Social Sciences Institute. The second author contributed mainly to the literature part of the study and to the interpretation empirical part. This study is a revised version of the study presented as a summary at the Latin America 1st International Scientific Research Congress.