THE ASSESSMENT OF CORRUPTION IMPACT ON THE INFLOW OF FOREIGN DIRECT INVESTMENT (IN THE CASE OF GEORGIA, ARMENIA AND AZERBAIJAN)

ABSTRACT

The aim of this study is to investigate the influence of corruption on the inflow of foreign direct investment (FDI) in Georgia, Armenia and Azerbaijan, from 2012 till 2018. The study attempts to answer the question: “What influence does corruption have upon the volume of foreign direct investment inflow to a country?” Using the statistical data from UNCTAD for foreign direct investment and Corruption Perception Index (CPI) from Transparency International, within a period of 7 years, that is between 2012–2018, we assess the specific influence of corruption on FDI using GDP as the control variable. A regression model was developed to establish the relationship between FDI and Corruption Perception Index. Co-integrating Regression analysis was carried out using relevant econometric techniques. The model is grounded in a theoretical approach to be found in relevant economic literature. The results obtained in the present research paper confirm the standpoint of the majority of literature on the subject and show a significantly negative correlation between the variables analyzed, but to a lesser degree than expected.

Keywords: Corruption Perception Index, Corruption, Foreign Direct Investment, Gross Domestic Product.
1. INTRODUCTION

Nowadays, given the fact that the economies of the countries recipient of FDI’s are developing, the said flows play a major role. FDI can supply foreign currency for investment and foreign capital, create domestic investment in matching funds, increase local market competition, support the transfer of technological knowledge and managerial skills, generate modern job opportunities, increase global market access for export commodities, etc. Corruption currently serves as one of the determinants that influence FDI in the host country. The influences of corruption on economic activities have received ample attention in modern economic literature. In theory, corruption can act as either “a grabbing hand” by increasing transaction costs and confusion, which should thwart FDI, or “a helping hand” by “greasing” the wheels of commerce in the existence of feeble regulatory framework, which should promote FDI (Quazi, 2014).

Thus, in general, there are two hypotheses on how corruption influence the FDI, which are: the “grabbing hand” theory, which has it that corruption gives rise to uncertainty and scares foreign investors from entering the recipient country, whereas the “helping hand” theory states that corruption helps to decrease the “red tape” in the host country and increases the FDI in the recipient country.

Therefore, there are two theories on how corruption affects the FDI, which are the “grabbing hand” theory indicates that corruption produced uncertainties and deterred foreign investors from entering the host country and the “helping hand” theory, which indicates that corruption helps to reduce the red tape in the host country and increase the FDI in the host country. The level of corruption in the host country has been introduced as one factor among the determinants of FDI allocation (Al-Sadiq, 2009).

The results found in the empirical literature can be described as “indeterminate”, as several studies found the data seemingly supporting the grabbing hand hypothesis, i.e. corruption reduces FDI, just as several other studies alluded to the opposite data that seems to corroborate the helping hand hypothesis, i.e. corruption facilitates FDI, and a few studies found no evidence to support either hypothesis.

Generally, corruption affects the investment attractiveness of the country, but it is not the major factor affecting the FDI inflow. First of all, investments go into the countries with an attractive, transparent and open economy, with low levels of corruption. The reason is that it is then easier for investors to make the decision about an investment, or to calculate the profitability of the project. This is confirmed by the exemplars of such countries as the USA, UK, Canada, Australia and others. However, the Kohonen map shows that the leading positions are occupied by the countries with high level of corruption, as well as of foreign direct investment, such as China, Brazil, India, which constitute – among others – top ten investment-attracting countries, and also Russia, which fell down to 16th position due to its economic sanction. Wide markets, low labor costs, a wide banking network, wealth of natural resources, access to warm seas - all these factors increase the investment attractiveness of BRIC countries and outweigh the corruption costs. Also, BRIC countries are relevantly similar in the type and stage of their respective economies and have similar political regimes, hence corruption in these countries has common roots – it is controlled and predictable. So, the investors operating in these countries have an opportunity to take into account the corruption costs in business projects.
2. LITERATURE REVIEW

While there are many different definitions of corruption in the modern economic literature, the one given by the World Bank, which is (WB) “the abuse of public power for private gain” (World Bank, 2000) and by Transparency International (TI), which is “the abuse of entrusted power for private gain” (Transparency International, 2017), are the ones which are most often applied. World Bank maintains that corruption “undermines the rule of law and weakens the institutional foundation on which economic growth is based, that is why it is one of the biggest obstacles to economic and social development” (World Bank, 2017). The causes and consequences of corruption, because of these above effects, are one of the main concerns of policy makers and economists. Corruption includes bribery and any other behaviors of persons, having the responsibility in the public or private sector, which violates their duties in order to secure any improper advantage for themselves. The majority of researchers regard corruption as an illegal tax, a barrier for entering of new participants, as well as the undermining of the legitimacy of the state and its ability to provide services that support the proper functioning of an economy.

The modern literature on the impact of corruption on investment decisions of foreign investors contains two opposing views: the “grabbing-hand” and the “helping-hand” theory of corruption.

The “grabbing-hand” theory addresses the issue of corruption by resorting to the concept of cost, and so this theory posits a negative relationship between corruption and FDI. The theory claims that the necessity to bribe in order to enter profitable foreign contracts, to get privileged access to markets or to obtain government permits and licenses creates an extra cost to foreign investors. Thus, corruption, just like a tax, decreases the expected return/profit of an investment project by increasing the cost of doing business, engendering uncertainty, and disrupting the allocation of resources, thus deterring foreign investors, whose main goal is to make profit, and hence ultimately decreasing FDI inflows. According to researchers, corruption negatively impacts the other determinants of FDI, such as the productivity of public investment, economic growth, and quality of infrastructure, having an indirect negative effect on FDI inflows (Al-Sadiq, 2009; Alemu, 2012; Castro & Nunes, 2013; Quazi, 2014).

By contrast, some researchers argue that corruption does not necessarily reduce FDI inflows, with the relevant evidence being the fact that some developing and developed countries known to have high levels of corruption also attract a high amount of FDI. For instance, the researchers Teixeira and Guimarães (Teixeira & Guimarães, 2015) and Habib and Zurawicki (Habib & Zurawicki, 2002) report that despite high levels of corruption in recent years Argentina, Brazil, Belgium, China, Indonesia, India, Italy, Malaysia, Mexico, Poland, Russia and Thailand have attracted high amounts of FDI. This can be accounted for by the helping-hand theory of corruption, wherein corruption is regarded as a factor encouraging FDI inflows rather than reducing them. According to the helping-hand theory, especially in countries with a weak institutional structure and rigid red tape, corruption can be an effective “lubricant” (Quazi, 2014; Fahad & Ahmed, 2016).

The World Bank studies show that corruption significantly reduces the volume of domestic and foreign investment. Looking at corruption as a kind of “tax” on business, they believe that every increase of this “tax” by 1% reduces the inflow of direct investment into the country by 5%. Joseph S. Brada conducted a study using the data of FDI in 49 donor countries and 167 host countries in 2005-2009 years. The results showed that the corruption of the
host countries has a negative impact on the volume of FDI inflows. Daniel F. Runde used the data of 48 countries from 1998 to 2014 in order to determine the relationship between FDI and corruption. The results showed that corruption constitutes a statistically significant variable and has a negative impact on the investments inflow. He argues that the 1% decrease of corruption level can lead to the approximately 10% increase of FDI inflow into the country. Cuervo-Cazurra analyzed the inflow of foreign investment in 106 host countries. His research also showed that corruption has a negative impact on the investment inflow. In this work what is also highlighted is that investors from OECD member countries with a high level of corruption are not afraid to invest in countries with high levels of corruption. This is owing to the fact that these investors already have experience working with corrupted officials, so the mechanisms for doing business in such an environment are well known to them.

Johnson and Dahlström conclude that in developing countries corruption has a negative influence on the inflow of foreign direct investment. Furthermore, many economists such as Aparna, Woo and Alemu found that corruption discourages investments and all these researchers have concluded that the reduction of the corruption level at 1% can lead to an increase of FDI inflows in emerging economies by 9%. However, these scholars did not pay special attention to the countries that counted as exceptions and neither did he analyze the reasons why these countries did not conform to the generally accepted rules. The aim of this paper is an assessment of the impact of corruption on FDI inflows, as well as determining the countries which are exceptions to the common rule.

3. FOREIGN DIRECT INVESTMENTS

Types of FDI:
1. Mergers and acquisitions: The partial or full acquisition of companies by foreign investors;
2. Business development: increasing FDI holdings in companies;
3. Greenfield investment: Greenfield pertains to the establishment of companies; direct investment;

The effects of FDI:
A) Direct effects (capital formation, commercial transactions growth, employment,);
B) Indirect effects (transfer of managerial skills and technology to local firms);
C) Horizontal effects = horizontal spillovers (within the industry):
   – Positive (diffusion of technology within the industry by job reallocation; imitation process; entry of international firms specialized in related services);
   – Negative: “stealing market” or competition effects (market/business stealing effect).
D) Vertical effects = vertical spillovers (between industries – organizing vertical supply chain):
   – Upstream chain: when locals enterprises are suppliers of inputs for foreign firms (positive effect due to increased demand for inputs for local firms, which could lead to a decrease in average costs);
   – Downstream chain: foreign enterprises are suppliers of inputs for local companies (positive effect).
Corruption Index – “The Corruption Perception Index (CPI) provides a metric regarding the perceived levels of corruption in a given country and is available for 180 countries” (Corruption perceptions index 2018, 2019). A Perception Index is employed to classify countries by their level of abuse of power for private gains among Governmental Institutions and the integrity of people in a position of authority is specified by the Corruption Index.

Categories of corruption:
- Systematic corruption (high level Institutionalized corruption as social corruption that modifies national Laws, Legislative Norms in favor of specific private firms);
- Instrumental corruption (“big corruption” which could affect a given social Institution and/or an entire economic sector);
- Incidental corruption (individual “small corruption” that doesn’t affect the majority of people from a country).

4. METHODOLOGY

To analyze issues related to corruption and FDI, one needs sound data concepts for the purpose at hand, an empirical dynamic model of FDI, and an econometric approach devoid of important inconsistencies that could bias consequences when dealing with panel data.

Data variables – FDI inflows are drawn from UNCTAD database for 3 countries Georgia, Azerbaijan and Armenia. We also use the real GDP for the countries analyzed as a control variable and the Corruption Perceptions Index, Transparency International’s flagship research product. The most frequently used measure is the Corruptions Perceptions Index (CPI), reported annually by Transparency International and investigating the phenomenon of corruption. Since 1995 this non-governmental organization studies corruption trying to draw attention to the damage caused by corruption and to stimulate governments to adopt and implement anti-corruption regulations (Amarandei, 2013). By ranking countries and territories from all over the globe, the index presents an annual snapshot of the relative degree of corruption. In 2018 in 180 countries and territories, CPI draws on 13 surveys and expert assessments to measure public sector corruption, giving each a score ranging from zero (highly corrupt) to 100 (very clean)” (Corruption perceptions index 2018, 2019).

Tab. 1. Description of the variables

<table>
<thead>
<tr>
<th>Measure</th>
<th>Data Source(s)</th>
<th>Calculation</th>
<th>Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>Foreign direct investment: Inward and outward flows and stock in millions USD</td>
<td>Log FDI</td>
<td>2017–2018</td>
</tr>
<tr>
<td>CPI</td>
<td>Transparency International draws on 13 data sources from 11 globally dispersed institutions for this index. It ranges from 0 to 100, with high values indicating absence of corruption.</td>
<td>The CPI is a composite index using data compiled or published between 2017 and 2018 for the 2018 measure. Specifically, it is computed as an unweighted average of all estimates for a particular country. Currently, 180 countries are assessed.</td>
<td>2017–2018</td>
</tr>
<tr>
<td>DDP</td>
<td>UNCTAD database</td>
<td>real GDP in billions US dollars</td>
<td>2017–2018</td>
</tr>
</tbody>
</table>
The present article analyzes the Foreign Direct Investments inflows in Georgia, Azerbaijan, and Armenia, with respect to their GDP and Corruption Perception Index. The main data was gathered from Transparency International, UNCTAD Organizations, with the data being published online, for the period 2012–2018. Based on theoretical and empirical research we want to see if there is a correlation between Corruption Perception Index and FDI inflows. Table 2 presented below juxtaposes the changes across the years 2012–2018.

Tab. 2. The evolution of FDI, CPI and GDP for Georgia, Azerbaijan and Armenia in the years 2012–2018

<table>
<thead>
<tr>
<th></th>
<th>Georgia</th>
<th></th>
<th>Azerbaijan</th>
<th></th>
<th>Armenia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FDI (usd million)</td>
<td>CPI (score)</td>
<td>GDP (usd billion)</td>
<td>FDI (usd million)</td>
<td>CPI (score)</td>
</tr>
<tr>
<td>2012</td>
<td>1023</td>
<td>52</td>
<td>15.50</td>
<td>2005</td>
<td>27</td>
</tr>
<tr>
<td>2013</td>
<td>1021</td>
<td>49</td>
<td>16.14</td>
<td>2632</td>
<td>28</td>
</tr>
<tr>
<td>2014</td>
<td>1818</td>
<td>52</td>
<td>16.51</td>
<td>4430</td>
<td>29</td>
</tr>
<tr>
<td>2015</td>
<td>1653</td>
<td>52</td>
<td>13.99</td>
<td>4048</td>
<td>29</td>
</tr>
<tr>
<td>2016</td>
<td>1566</td>
<td>57</td>
<td>14.30</td>
<td>4500</td>
<td>30</td>
</tr>
<tr>
<td>2017</td>
<td>1894</td>
<td>56</td>
<td>15.00</td>
<td>2867</td>
<td>31</td>
</tr>
<tr>
<td>2018</td>
<td>1232</td>
<td>58</td>
<td>16.21</td>
<td>1403</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: Transparency International and UNCTAD.

The Ranking in Table 1 is based upon studies about corruption in 180 countries between years 2012-2018. With just above the medium score Georgia with approx. 55 points out of 100, for the time period 2012–2018 and the lowest score and most corrupted country, Azerbaijan (29 out of 100).

When comparing Table 2 in the case of Georgia, within the time period 2012–2018, in search of a connection between Corruption Perception Index and FDI inflow, we see that Georgia is being perceived as a moderately corrupted country (with its scores changing very little from 2012 to 2018) but still with some impact on FDI inflows. As the country is perceived as more corrupt and the Corruption index gets lower, FDI inflows decrease from 2012 to 2013. There is a little discrepancy in 2018, in which although the country gets a corruption score lower than the year before, 2017, the amount of FDI inflows increases. We may assume that the difference in corruption score from 52 in 2012 with a FDI inflow of 1023 million dollars, to 58 corruption score in 2018, with a 1232 million dollars FDI inflow, wasn’t an “alarm trigger” for foreign investors, Georgia being a country with a medium level of corruption. Azerbaijan doesn’t follow the trend of Georgia, in 2018 registering the lowest corruption score for the country (25 corruption score), the amount of FDI inflows for 2016 surpassing the 2017 amounts of FDI inflows, when Azerbaijan was perceived less corrupt than the year before (in 2016 – 1 4500 million dollars FDI inflows, 2017 – 2867 million dollars FDI inflows). In the case of Azerbaijan, there isn’t a connection between the Corruption Perception Index and the amount of FDI inflows received by the country from 2012 to 2018. Also, Armenia records a better total of FDI inflows from 2012 to 2014. Therefore, having analyzed table 1, one can conclude that there is no correlation or strong connection between
a country’s perceived corruption and investment inflows to that country, with these facts sustaining the opinion of some researchers about the influence and impact of only corruption on the volume of FDI flows in a country.

5. ECONOMETRIC ANALYSIS

The model is based on a theoretical approach found in the relevant academic literature. We use control variables such as GDP, in order to isolate the effect of corruption on foreign direct investment.

\[
F_{DIV} = \alpha + \beta_1 CPI_{t-1} + \beta_2 GDP_{t-1} + \varepsilon_{t}
\]

where:
- \( i \) – the country subscript,
- \( t \) – the time subscript,
- \( \varepsilon_{t} \) – the usual random disturbance term,
- \( \beta_n \) – unknown parameters to be estimated,

In order to avoid simultaneity with the dependent variable, all independent variables are one year shifted back in time, because taking into account those decisions to invest abroad take time.

6. INTERPRETATIONS AND RESULTS

The multivariate regression technique is used in our analysis. According to the Correlations table, the results show that between the perceived corruption and FDI there is a negative and statistically significant correlation, that is, a rise in the number of the recorded instances (or the suspicion) of corruption in the countries analyzed deter the expected inflows of FDI for the next years. Also, what can be noticed is a moderate direct relation between market potential and foreign direct investments received by Georgia, Azerbaijan and Armenia.

Table 3 shows that the model chosen for our analysis is significant (.Sig<.005) and adequate.

<table>
<thead>
<tr>
<th>Pearson Correlation</th>
<th>FDI</th>
<th>CPI</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>1.002</td>
<td>-.386</td>
<td>.747</td>
</tr>
<tr>
<td>CPI</td>
<td>-.386</td>
<td>1.002</td>
<td>-.109</td>
</tr>
<tr>
<td>GDP</td>
<td>.747</td>
<td>-.109</td>
<td>1.002</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sig. (1-tailed)</th>
<th>FDI</th>
<th>CPI</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>CPI</td>
<td>.001</td>
<td>.</td>
<td>.125</td>
</tr>
<tr>
<td>GDP</td>
<td>.000</td>
<td>.125</td>
<td>.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>N</th>
<th>FDI</th>
<th>CPI</th>
<th>GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>CPI</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
<tr>
<td>GDP</td>
<td>120</td>
<td>120</td>
<td>120</td>
</tr>
</tbody>
</table>

Source: author’s own calculations using SPSS 20.
Tab. 4. Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>Change df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.766</td>
<td>.548</td>
<td>.537</td>
<td>3327.2017</td>
<td>R Square Change</td>
<td>.478</td>
<td>2</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>F Change</td>
<td>47.249</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>df1</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>df2</td>
<td>115</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Predictors: (Constant), GDP, CPI.

Source: author's own calculations using SPSS 20.

The Model Summary table displays that by adding other institutional variables in equation beside corruption, with the former variables being such as, say, democracy and the quality of bureaucracy, government stability, democracy, law and order, our model could be improved in order to have better values of R and R square.

Our analysis confirms the results of empirical analyses for the qualitative assessment of the influence of corruption on FDI for the countries.

Fig. 1. The evolution of FDI and CPI for Georgia in the years 2012–2018

Source: Transparency International and UNCTAD.

Still, we must mention that the country of Caucasus with the greatest degree of freedom from corruption is Georgia with a CPI score higher than 55. The highest level of FDI inflows is attracted by Georgia even if the CPI index shows the lowest levels for the country under analysis. These results can be explained by the active policy promoted by the Georgian government for attracting foreign direct investors (by dint of mainly fiscal incentives). Georgia stands alone in the group. We can see that in Georgia even if the effect of the economic crises is reflected in the levels of FDI inflows; from 2012 to 2018, the perceived corruption is constantly improving.
First of all, the figure 2 shows that Azerbaijan is considered a highly corrupted country. The evolution of perceived corruption improved over time. Regarding FDI inflows attracted by Azerbaijan, we can observe that they are correlated with the evolution of CPI index. The decrease of the measure of corruption (meaning a rise in the perceived corruption (0—highly corrupted to 100—very clean)), correspond with lower values of FDI inflows in the next year.

Analyzing Georgia, Azerbaijan and Armenia we can observe a mainly indirect relation between foreign direct investments and CPI. Azerbaijan and Armenia have a characteristic trend of the perceived corruption showing the same evolution. After a period of reforms and particular efforts made towards reducing corruption, the emergence of the economic crises marked decreases in the levels of corruption perception index and in FDI inflows.
7. CONCLUSIONS

The aim of this paper is an assessment of the impact of corruption on FDI inflows, as well as singling out the countries which are exceptions from the common rule. Generally, corruption affects the investment attractiveness of the country, but it is not the major factor affecting the FDI inflow.

Receiving the FDI, the host countries expect foreign investments to support technological and employment progress, and competitiveness and economic growth. For Georgia, Azerbaijan and Armenia they were also expected to improve their respective efficiency and to facilitate the transition process. But the transformation from a centralized economy to market economy exhibited many challenges handled by each country under consideration in their own peculiar ways. The emergence of systematic corruption proved to be one of these challenges for these countries.

Our investigations focus on the effects of corruption on foreign direct investment flows attracted by Georgia, Azerbaijan and Armenia. Our conclusions show a negative statistically significant correlation between FDI and corruption and GDP using such determinants as the CPI index, and between GDP and FDI there is a noticeable positive significant correlation. These results can be explained by the fact that after a complex analysis of the business environment the foreign direct investors decide to invest or not. So, we can affirm that for Georgia, Azerbaijan and Armenia the influence of market potential, however high, is still diminished by the other factors related to stability and predictability of the regulatory system. Our analysis shows that when it comes to the perceived corruption, what is necessary are immediate reforms of public administration in order to lessen all the forms of corruption and bribery. Armenia, as a highly corrupted country after Transparency International methodology, needs reasonable reforms in reducing corruption, and simultaneously it needs to enhance its locational attractiveness for foreign direct investors.

Summing up, it can be concluded that generally corruption affects the investment attractiveness of the country, but it is not the major factor affecting the FDI inflow.

REFERENCES


