

## **Foreign Direct Investment and Growth Relationship in Georgia**

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**ABSTRACT:** This paper aims to investigate the empirically the impact of FDI on economic growth of Georgia over the period of 1997-2010. The Engle-Granger cointegration and Granger causality tests are used in order to analyse the causal relationship between FDI and economic growth. It is crucial to see the directions of causality between two variables for the policy makers to encourage private sectors. It is found that these two variables are cointegrated. Our empirical findings suggest that it is FDI that causes GDP in the case of Georgia.

**Keywords:** Economic growth; Foreign direct investment; Granger causality

**JEL Classifications:** C32; F21; O4

### **1. Introduction**

It's a well-known fact that Foreign Direct Investment (FDI) has recently become more crucial, and this statement most of all applies to the developing countries which strive for modernization of their industries and support their socio-economic developments. By definition, made by many international organizations such as the international Monetary Fund (IMF), The Organization for Economic Cooperation and Development (OECD), and the United Nations Conference on Trade and Development (UNCTAD), FDI can be understood as the long term financial participation by an investor from one particular country in an enterprise to another country, thereby having a significant degree of influence on management of the enterprise (at least a 10 % share of capital). It can take in the form of acquisition of already existing host firms or establishment of new companies in the host country, usually referred to as Greenfield investments.

Many policy makers and academicians agree on the issue that FDI can have a long-term beneficial impact on a country's development since it is generally directly linked to productive investments. Many of the empirical studies regarding the role of FDI in the host countries suggest that FDI may also assist developing countries through the provision of capital with creating new job opportunities, through the inflow of technology, through the inflow of managerial know-how and marketing skills, and through its impact on the development of efficient markets.<sup>1</sup> Beside the positive effects of FDI to the host countries, some firm-level studies do not support the idea that FDI promotes the economic growth.<sup>2</sup>

Since 1970, there have been only five major downturns in FDI inflow trend. In 1976 FDI inflows fell by 21%, in 1982-1983 the decline was 14% a year on average, in 1991 FDI inflow was

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<sup>1</sup> See Mello (1997, 1999), Ozturk (2007) and Acaravci and Ozturk (2012) for a comprehensive survey of the nexus between FDI and growth as well as for further evidence on the FDI-growth relationship, Mody and Murshid (2002) for an assessment of the relationship between domestic investment and FDI, Neuhaus (2006) shows theoretically FDI not only raises the level of physical capital but also improves the quality of physical capital.

<sup>2</sup> See Carkovic and Levine (2005) and the references therein. Hanson (2001) has found weak evidence that FDI generates positive spillovers for host countries. For a recent, comprehensive discussion at the firm level see also Grog and Greenaway (2004).

down 24%, in 2001-2002 the bust in FDI registered 31% a year on average (UNCTAD, 2003), and finally, after a 16 % decline in 2008, global FDI inflow fell a further 37% in 2009 (UNCTAD, 2010). FDI remains the biggest component of net resource flows to developing countries, and since 1990 it has been a growing part of total investment in these countries. The amount of FDI flowing to developing countries increased remarkably in the 1990s and now account for about 25% of global FDI (Erdal and Tatoglu, 2002). From only \$15 billion in 1985 and \$23.7 billion in 1990, FDI inflow to developing countries rose up to \$162 billion in 2002 (Farrell, Remes, & Schulz, 2004) which is significant. Developing countries which proved to be relatively immune to the global turmoil in 2008 were not spared in 2009 but did better than developed countries. After six years of uninterrupted growth, reaching the historical record in 2008, 658 billion, FDI flows to developing countries decline by 24% in 2009 (UNCTAD, 2010).

Georgia is a newly independent country after the collapse of the Soviet Union. The country has attracted interest and attention of foreign investors since the early 1991s, and has started to become the subject of FDI inflow. Georgia has relatively small markets and do not have rich natural resources (e.g. oil, natural gas and rich minerals) compared to other countries in the region, such as Azerbaijan, Turkmenistan, Kazakhstan and Uzbekistan. A majority of the foreign investment flows toward the region is in the form of FDI. After obtaining independence in 1991, Georgia encountered problems such as ethnic conflicts and civil war. During the 1992-1995 periods, Georgian economy was in a very poor situation. Severe economic problems coupled with increased criminal condition hindered FDI inflows to the country (Economist, 1993). The cumulative decline in real GDP is estimated to have been more that 70% between 1990 and 1994, and by the end of 1996, Georgian economy had shrunk to around one-third of its size in 1989.

Starting from 1995, Georgian economy began to show the signs of improvement and development with the macro-economic stabilization programs carried out with the assistance of the IMF and the World Bank. But the remarkable increases in the economy occurred after the Rose Revolution of 2003 with the Saakashvili's new government, mostly due to the introduction of political and economic stabilization programs, which involved the strengthening of central authority, decline of crime rates, fighting effectively against corruption, competitive trade regime, low taxes and acceleration of privatization. These efforts had a positive impact on the economy and led to an increase in the value of FDI. As mentioned by Gursoy and Kursun (2008) in their survey study that the issues such as government regulations (regulatory burden), infrastructure, or safety do not act as major deterrents of FDI inflows, especially after the successful reforms of the Saakashvili government. In 2007, the inflow of FDI more than doubled, reaching 1.75 billion, which was 17% of GDP. However, the global financial crisis coupled with the August war in 2008 and their aftermath had impeded growth. FDI nosedived to \$1.56 billion in 2008 and fell further to \$658 million in 2009 and \$814million in 2010. This is just 7 % of GDP, not only well below the pre-crisis level but also at a record low level since 2004 (Edilashvili, 2011).

The present paper is organized as follows. Section II includes literature review. Section III describes the methodology employed and the sources of data collected. Section IV reports the estimated results. Last section is the conclusion.

## **2. Literature Review**

According to the general growth theories, the two major factors driving economic growth are the capital accumulation and the technological advances. Naturally, this has drawn the attention of the scholars' researches on the relationship between FDI and economic growth. As mentioned by Ozturk and Kalyoncu (2007), the consensus view seems to be that there is a positive relationship between FDI inflow and growth provided receiving countries have reached a minimum level of educational, technological and/or infrastructure development. However, there is no universal agreement about the positive association between FDI inflow and economic growth. Research that focuses on data from only less developed countries (LDC's) has tended to find a clear positive relationship, while studies that have focused on data from only developed countries (DC's), have found no growth benefit for the recipient country.

For example, Mullen and Williams (2005) and Choe (2003) have found that FDI has a positive effect on economic growth. But Borensztein et al. (1998), Alfaro et al. (2008), conclude that FDI will promote economic growth only when certain economic conditions are met in the host country, like a

threshold level of human capital. Also, Hansen and Rand (2006) argue that FDI promotes economic growth, but the extent at which a country can benefit by FDI depends on its trade policies, labor force skills and absorptive capabilities. Agrawal and Khan (2011) in their study suggest that economic development depends on conductiveness of economic climate. In the absence of such a climate FDI may be counterproductive; it may thwart rather than promote growth.

As contrary to this, Carkovic and Levine (2005) provide the evidence that FDI does not have any significant impact on economic growth in the host country. Herzer et al. (2007) has argued that with 28 developing countries data there exists neither a long-term nor a short-term effect of FDI on growth; in fact, there is not a single country where a positive unidirectional long-term effect from FDI to GDP is found.

As for developing countries, consensus has been reached among academia and practitioners that - subject to economic climate- FDI tends to have positive effect on overall economic development.

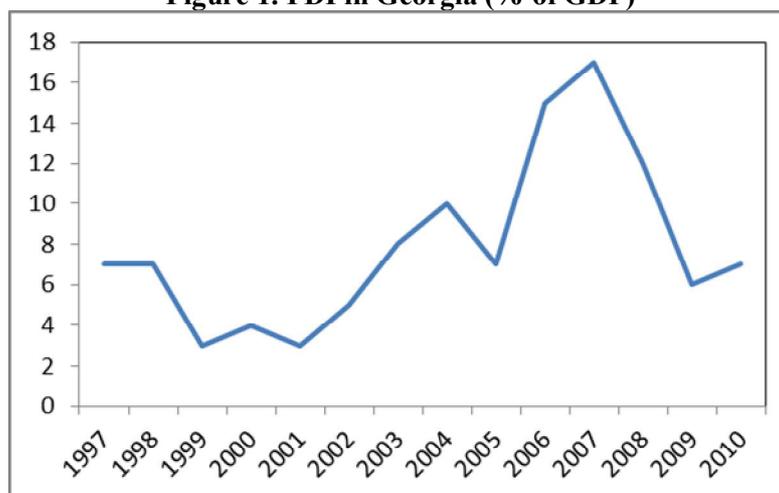
### 3. Model Specification and Data

In order to investigate the impact of FDI on economic growth, the following following empirical model was used:

$$GDP = \alpha + \beta * FDI \quad (1)$$

The empirical analysis employs annual data on GDP and FDI for Georgia over the period of 1997–2010. The datas for Georgia are obtained from the database of the World Bank. Figure 1 shows the total amount of FDI as a percentage of GDP for Georgia. All the variables considered in the model are expressed in natural logarithms.

**Figure 1. FDI in Georgia (% of GDP)**



### 4. Empirical Results

The present section analyzes the time-series properties of the data obtained. The Augmented Dickey-Fuller (ADF) unit root test was conducted. The unit-root tests were performed on both levels and first differences of all variables.

As can be seen, Table 1 reports the results of non-stationary tests for FDI and GDP series using Augmented Dickey-Fuller (ADF) test. We reported a constant but no time trend result of ADF tests. Test results indicate that the hypothesis of a unit root in FDI and GDP cannot be rejected as a level. The hypothesis of a unit root in FDI and GDP is rejected as a first difference at the 5 percent level of confidence for FDI and 10 percent level of confidence for GDP. These results indicate that all the variables in question are integrated of order one I(1).

**Table 1. ADF unit roots test results**

	Level	AIC(lag)	First Difference	AIC(lag)
FDI	-0,927	0.278 (0)	-3.303 *	0.457 (0)
GDP	0,188	-2.275 (0)	-2.725 **	-2.245 (0)

Note: \*,\*\* denote significantly at the 5% , 10% level respectively.

Having established that all variables are integrated at the same order, the Engle-Granger's (EG) residual-based ADF test was conducted by us. As the first step of the EG cointegration test, we estimated Equation (1) using the OLS method. The second step of the EG procedure considered to check the stationarity of residuals by using the ADF test. Table 2 presents the results from Engle-Granger (EG) cointegration test. These results indicate that long-run equilibrium exists between GDP and FDI for Georgia.

**Table 2. Results for EG Cointegration Tests**

Country	Model	ADF
Georgia	$GDP = 5.265 + 0.520* FDI$	-1,758 0**

Note: \*,\*\* denote significantly at the 5% , 10% level respectively.

After finding cointegration, the causality among variables was investigated. As Granger (1988) points out, if there exists a cointegration vector between GDP and FDI, there is causality among these variables at least in one direction. Thus, Granger causality test are employed to determine the causal relationships between GDP and FDI. There are four possible outcomes regarding causal relationships between GDP and FDI: unidirectional causality from GDP and FDI or vice versa; bidirectional causality between the two variables; and, lack of any causal relationship.

In table III the causality test results between GDP and FDI is reported. Lag length is selected by using the SC criterion. The probability values for F statistics are given on the right side of Table 3. If these probability values are less than any  $\alpha$  level, then the hypothesis would be rejected at that level. We found uni-directional causality running from FDI to GDP for Georgia. The content of policy implications has been determined according to the direction of causality between these two variables.

**Table 3. Results for Granger Causality Tests**

Null Hypothesis:	Lag	F-Statistic	Prob.	Result
FDI does not Granger Cause GDP	1	0.49454	0.04979	FDI $\Rightarrow$ GDP
GDP does not Granger Cause FDI		0.30922	0.59038	

## 5. Conclusion

Increase in the FDI flow in the world economy, especially in the last decades, attracted the attention of researchers', as FDI is supposed to be a vehicle transferring both technology and physical capital. However, the existing study results on the FDI and economic growth affect remains uncertain in the literature. These obscurities emphasize the need for the further investigation in the FDI and economic growth literature.

The paper examines the causal relationship between FDI and GDP by using Engle-Granger cointegration and Granger causality tests for Georgia over the period of 1997–2010. It is very important to understand the directions of causality between two above mentioned variables, in order to establish the policies that will encourage private investors, specially in developing countries. In our findings, causality direction runs from FDI to GDP is confirmed in the case of Georgia.

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