

**FINANCIAL LIBERALIZATION AND ECONOMIC GROWTH  
(GEORGIAN CASE)**

**Revaz GERADZE**

*Ivane Javakhishvili Tbilisi State University, 0179 Tbilisi, Georgia  
r.geradze@iset.ge*

**Abstract**

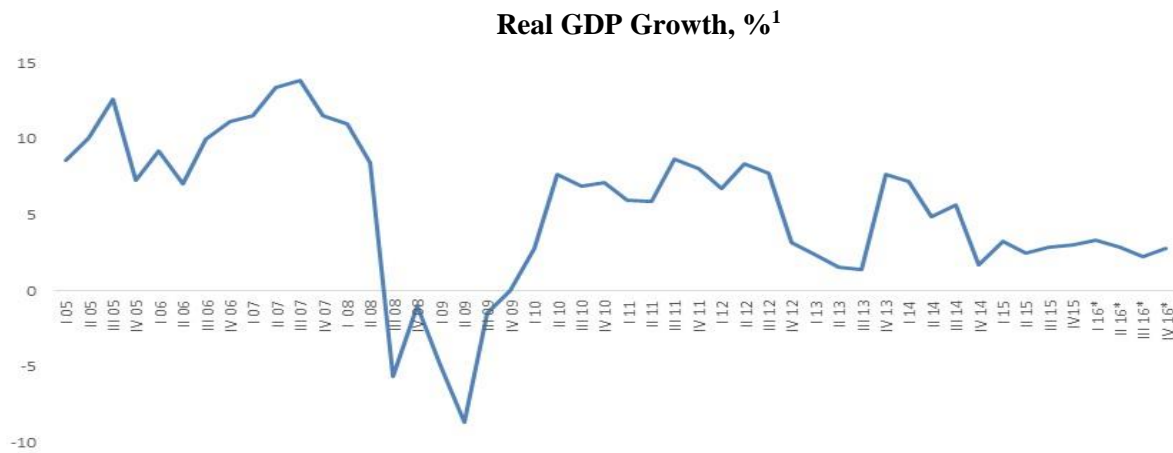
*Recent trends of financial globalization raise a question about an economic impact of regional integration and free capital mobility. Georgia is a small developing open economy and is significantly depended on the economic conditions in the region. This paper aims to identify influence of foreign demand and foreign direct investment flows to Georgian economy and tries to classify contagion effects of regional and global financial crisis on Georgia's economy. For checking above-mentioned hypothesis, Restricted Error Correction Model will be constructed. Results show that foreign demand and foreign direct investment inflows have a significant positive effect on the economic growth of Georgia. However, spillover effects of regional and international economic slowdown are a considerable source of external vulnerability of the country.*

**Key words:** *real GDP growth rate, real monetary policy rate, foreign direct investment, world demand, error correction model (ECM).*

**JEL Classification:** *F41; F43; F62; F63.*

**I. INTRODUCTION**

Recently Georgian economy was exposed to severe external economic shocks. Undesirable development in the region and global economic slowdown negatively affected economic growth. Consequently, in 2015 real GDP growth rate fell to 2.9 percent. In 2016 according to the preliminary estimate of National Statistics Office of Georgia GDP growth rate equaled to 2.7 percent.



**Figure 1 – Real GDP Growth Tend (2004-2016)**

During the last years, the main growth driver was investments. In 2016 contribution of Investments in GDP growth amounted to 2.5 percentage point (pp). In the first quarter contribution of consumption was negative, while from the second quarter it positively contributed to GDP growth. In 2016 contribution of real consumption amounted to 1.0 pp.

<sup>1</sup> Source: National Statistics Office of Georgia.

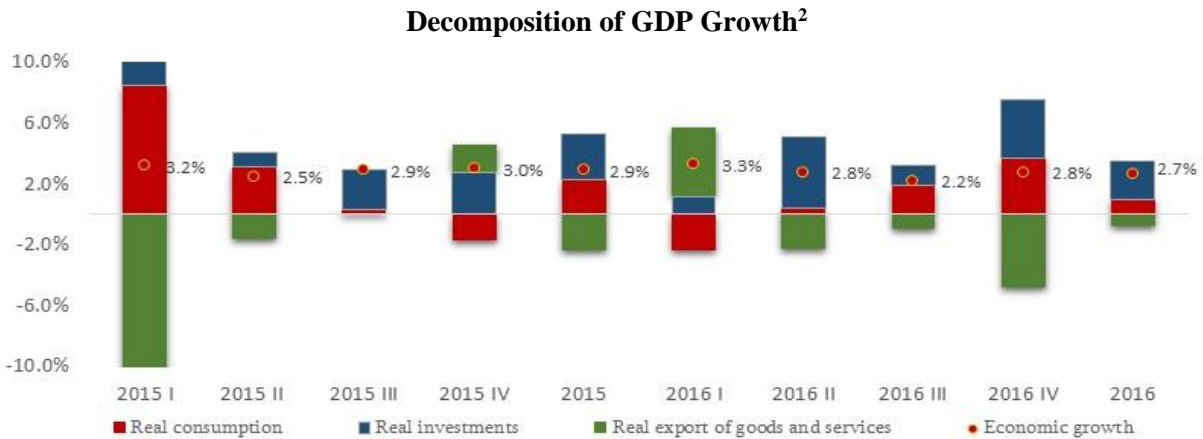


Figure 2 – Decomposition of GDP Growth (2015-2016)

Contribution of real net export was negative at the beginning of 2015, turning to positive starting from the third quarter of 2015; however at the end of 2016 it again had negative contribution to gross domestic growth of Georgia.

For the last three decades Georgia has significantly liberalized its trade and capital flows. In the direction of trade openness, country liberalized tariff and technical barrier policy, as a result Georgia has a one of the liberalized foreign trade flows. Starting from September 2006 number of import tariffs decreased from sixteen to three. Import tariffs were abolished on 85% of all import products.

Georgia has developed bilateral, multilateral and regional trade agreements as well as preferential and free trade regimes with European Union and main trade partner countries. In 2014 country signed Association Agreement with European Union, main part of which is agreement on Deep and Comprehensive Free Trade Area – DCFTA. Moreover Georgia has free trade agreement with all the CIS countries and Turkey.

Georgia also has significantly liberalized capital flows and foreign direct investment is one of the main components of financial account of the country.

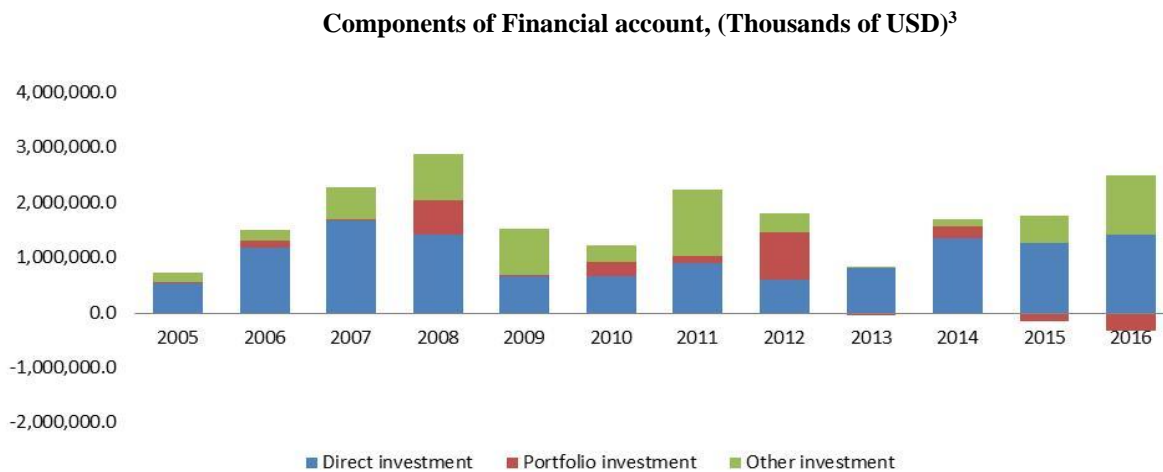


Figure 3 – Components of Financial account, Balance of Payments of Georgia (2005-2016)

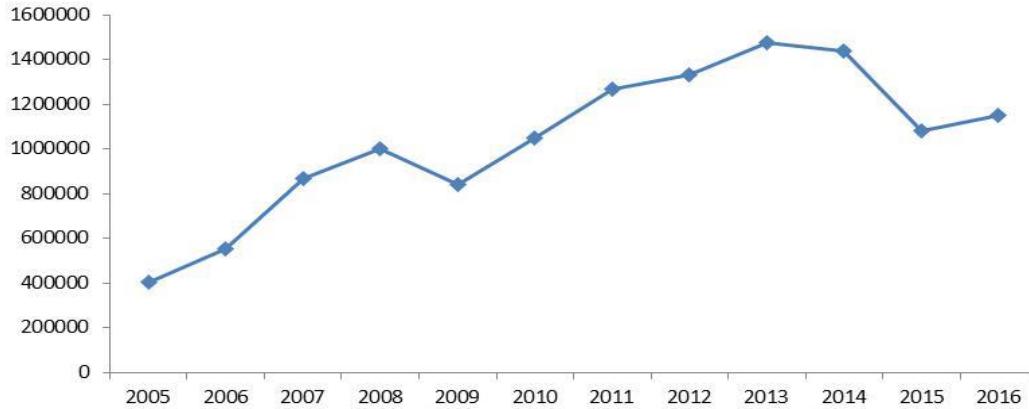
This level of economic integration and financial liberalization of the small open economy is always associated with a risk of high external vulnerability. If country like Georgia is significantly depended on the demand in the region, money transfers and foreign direct investment inflows, financial crises, which can emerge on the international markets, can have significant contagion effect on the country’s economy. This hypothesis actually was tested recently in 2008-2009 when global financial crisis emerged and in 2015-2016 when foreign demand on Georgian export and international money transfers fell drastically, which negatively affected on the

<sup>2</sup> Source: National Statistics Office of Georgia, Ministry of Economy and Sustainable Development of Georgia, own calculations.

<sup>3</sup> Source: National Bank of Georgia.

disposable income of households, consequently as it is demonstrated on the figure 2 above, contribution of real consumption to GDP growth became minor in 2016.

**Money Transfers (Inflow)<sup>4</sup>  
(Thousands of USD)**

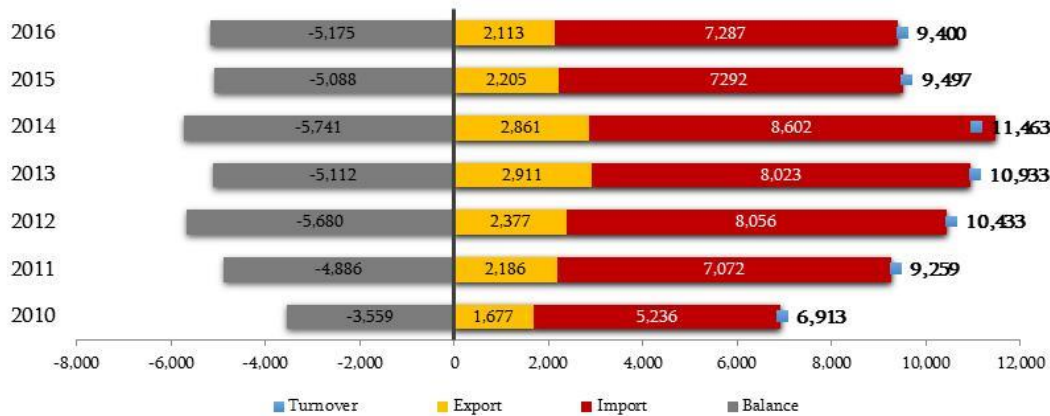


**Figure 4 – Money Transfers (2005-2016)**

From figure 4 above could be seen that money inflows in the country dropped dramatically since 2014, however transfers show some recovery already in 2016. According to National Bank of Georgia in 2015 money transfers has decreased by 25% compared to the previous year.

Similar to money transfers significant drop has occurred in exports, as a result Current Account (CA) deficit has deteriorated. Nominal drop in exports started in August of 2014 and prolonged to September 2016. Reduction of nominal amount of exports in 2015 was 22.9% and in 2016 amounted to 4%.

**External Trade (Millions of USD)<sup>5</sup>**



**Figure 5 – External Trade (2010-2016)**

Therefore, as real investment and real net export are very important components of GDP growth in Georgia, it is important to identify influence of foreign direct investments and world demand on GDP growth. Generally it is considered that small open economies are significantly influenced by change in world and regional economic conditions. This paper aims to identify significance and direction of effects of financial liberalization on Georgian economy.

<sup>4</sup> Source: National Bank of Georgia.

<sup>5</sup> Source: National Statistics Office of Georgia, Ministry of Economy and Sustainable Development of Georgia.

## II. LITERATURE REVIEW

There is a vast literature about the determinants of economic growth. Starting from Adam Smith and David Ricardo many authors investigated various models and tested various variables trying to explain economic growth.

First set of literature considers components of production function as main drivers of economic growth and ignores technological progress. Later, literature developed neoclassical growth model, based on the aggregate production function to determine main drivers of economic growth.

Romer (1986) and Lucas (1988) emphasize important role of knowledge and specialized human capital in economic growth. Later Romer (1990) and Mankiw (1992) underline the role of investment and technological progress and notice that these factors amplify GDP growth via increase in productivity of labor.

Second main part of literature concentrates on empirical approaches of economic growth. For the purpose of this paper two major directions of empirical studies could be identified: one that study country's local macro fundamentals and another that try to classify foreign factors significantly affecting on economic growth of the country.

Barro (1996) studies panel data of 100 countries for the 30 years period and finds out that main drivers of GDP growth are initial schooling and life expectancy, lower inflation, and improvements in the terms of trade.

Lately the most widely discussed factors for economic growth of developing countries are trade openness and free capital flow. Chirwa and Odhiambo (2016) underline idea of influence of foreign sector in their paper. The authors diversify between developing and developed countries and find out that for developing countries effect of foreign sector such as: foreign aid, foreign direct investment, trade and geographic, regional, political and financial factors are important elements of economic growth. Many researchers argue that countries with open economy reach highest levels of economic growth (Krueger, 1998; Stiglitz, 1998; Fischer, 2000).

Foreign Direct Investment (FDI) is another macroeconomic factor examined by researchers as a significant determinant affecting economic growth. According to Borensztein, De Gregorio and Lee (1995) FDI has a crowding out effect of the domestic investments, however via transfer of innovations and technology it is driving force of economic growth.

Moreover, recent global financial crises are also important factors to be taken into consideration while studying growth determinants. One of the demonstrations of this idea was the global financial crisis of 2008-2009 when regional contagion effect of crisis, for example in Euro Zone countries was very strong and affected significantly to the economic development and financial market risks of member countries<sup>6</sup>. According to Schmukler et al. (2011) an open economy could be influenced by external factors if it has strong links to the international financial markets and is depended on foreign trade or foreign direct investment inflows. Therefore paper concludes that global crises have contagion effect to open economies independently of their macroeconomic fundamentals.

This paper will try to construct restricted Error Correction Model (ECM) and combine domestic exogenous factors such as monetary policy rate, real effective exchange rate, with foreign variables such as: foreign demand and foreign direct investment to understand influence of foreign sector to economic growth of Georgia.

## III. DATA AND METHODOLOGY

The aim of this section is to find out fundamental determinants and identify significance of financial liberalization on economic growth of Georgia. For this purpose time series analysis will be introduced. The data includes variables on quarterly basis and covers 2003-2016 time periods. Official statistics of National Bank of Georgia, National Statistics Office of Georgia, Ministry of Finance of Georgia, World Bank and International Monetary Fund is used.

Error Correction Model (ECM) is constructed in the econometric program Eviews. For understanding the effects of foreign demand on the Georgian economy specific variables will be introduced (Such as foreign capital flow, foreign trade and foreign aggregate demand). Before the main ECM model will be introduced, auxiliary econometric analysis will be performed. Specifically, firstly Ordinary List Square (OLS) method will be performed for estimating determinants of the GDP growth in Georgia and afterwards estimated residual of OLS model will be used as an explanatory variable in the basic Error Correction Model.

According to one of the approaches used to determine the Gross Domestic Product of the country (expenditure approach): the value of the total product must be equal to the total expenditure of the economy.

<sup>6</sup> Geradze R. (2016) "The Role of Credit Rating Agencies and Spillover Effects of Financial Liberalization", Association 1901 "SEPIKE", Edition 15, Poitiers, Frankfurt, Los Angeles, p. 62.

$$Y=C+I+G+EX-IM$$

Each components of the expenditure approach formula are determined by various exogenous variables. Supportive econometric analysis discussed in the literature shows that:

$$C=F(RMPR,GDP,NET\ INC)$$

$$I=F(RMPR,GDP)$$

$$G=F(RMPR,DEBT,GDP)$$

$$EX=F(WGDP,REER,GDP)$$

$$IM=F(REER,GDP,FDI)$$

Where, the variables have following interpretation:

GDP: is Gross Domestic product of Georgia.

REER: is real effective exchange rate index of GEL (%). Index' growth means appreciation of exchange rate, decline indicates depreciation of exchange rate. REER is calculated in the base year of 2010.

RMPR: is real monetary policy rate corrected by inflation rate and is calculated using the following formula:  $((1 + mpr / 100) / (1 + inf / 100) - 1) \cdot 100$ .

WGDP: is weighted average gross domestic product of main trade partner countries. Weights are calculated as average weights of main trade partners in Georgian exports in 2010-2016 time intervals.

FDI: is a foreign direct investment inflow.

Due to specificity of the time series data (problem of stationarity, seasonality etc.) variables are seasonally adjusted and logarithm and first order differences are taken. Dependent variable is also in logarithm terms, seasonally adjusted with first order difference. Using above-mentioned exogenous variables ECM model can be constructed.

#### IV. RESULTS AND COMMENTS

The results of the main model specification are demonstrated on the table 1 below.

**Table 1. The results of ECM model<sup>7</sup>**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RMPR(-4))-D(RMPR(-8))	-0.001560	0.000625	-2.494526	0.0170
DLOG(REER_SA(-1))-DLOG(REER_SA(-5))	-0.073667	0.055124	-1.336393	0.1892
DLOG(WGDP_SA(-1))-DLOG(WGDP_SA(-5))	0.486295	0.127007	3.828885	0.0005
DLOG(FDI_SA(-3))-DLOG(FDI_SA(-7))	0.012964	0.004193	3.091805	0.0037
RESID01(-4)	-0.904912	0.174034	-5.199631	0.0000
D083	-0.104675	0.015272	-6.853987	0.0000
D093	0.074014	0.015121	4.894667	0.0000
D134	0.053295	0.014492	3.677519	0.0007
D051	0.064945	0.014423	4.502774	0.0001
D152	-0.031272	0.015511	-2.016056	0.0507
R-squared	0.846364	Mean dependent var		-0.000898
Adjusted R-squared	0.810909	S.D. dependent var		0.032829
S.E. of regression	0.014275	Akaike info criterion		-5.480650
Sum squared resid	0.007948	Schwarz criterion		-5.094564
Log likelihood	144.2759	Hannan-Quinn criter.		-5.334170
Durbin-Watson stat	2.205815			

Where, GDP, REER, RMPR, WGDP, RG, DEBT and FDI are variables explained above and RESIDOLS (-4) variable is estimated residual of the OLS regression model below.

Table 1 shows that an explanatory power of the model is high, all the statistics show that model is good.

<sup>7</sup> Source: author's own calculations.

Three variables: real monetary policy rate, external demand and foreign direct investment are significant variables at 5% significance level. Real effective exchange rate is not an important factor for explaining GDP growth in Georgia.

As it was expected real monetary policy rate has minus sign indicating that increase in policy rate distracts economic growth. Monetary policy rate has 4 quarter lag effect on economic growth.

Increase in foreign sector variables - aggregated foreign demand and foreign direct investment significantly support economic growth of Georgian. Elasticity of growth to foreign demand is 0.49 indicating that 1% growth in the foreign demand translates 0.49% increase in GDP growth of Georgia. The size of this elasticity indicates that Georgia is strongly linked to the economic size of the main trade partner countries. Effect of foreign direct investment has also time lag and modest effect of 0.01% on GDP growth. However, the model does not take into account spillover effects of FDI on the technological and innovative development of various sectors. Moreover FDI represents the main stable source of financing negative current account deficit in Georgia.

Current account deficit<sup>8</sup>



Figure 3 – Current Account Deficit vs. FDI (2010-2016)

Year dummy variables are included in the main model (for the years 2005, 2008, 2009, 2013 and 2015). This is due to the crisis effect in the 2008-2009 and for other structural breaks. Not surprisingly these structural break years are significant. Dummy variable of 2008 has significant negative effect on growth, while dummy variable of 2009 has important positive effect on growth, indicating fast post crisis recovery of the economy. Significant negative coefficient in front of the year dummy 2015 proves the logic developed above about the significant contagion effect of recent drop in foreign demand. For the rest uncontrolled factors estimated residual of the OLS model is included in the restricted ECM model and is significant variable with expected minus sign.

Table 2. The results of OLS model<sup>9</sup>

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.014070	0.002584	5.444199	0.0000
DLOG(REER_SA(-1))	-0.174299	0.086661	-2.011268	0.0507
D(RMPR(-4))	-0.001887	0.001007	-1.874552	0.0678
DLOG(WGDPC_SA(-1))	0.449363	0.161625	2.780274	0.0081
DLOG(FDI_SA(-3))	0.022113	0.006731	3.285222	0.0021
D083	-0.098494	0.013917	-7.077199	0.0000
D041	-0.082929	0.013931	-5.952648	0.0000
D124	-0.031009	0.014175	-2.187544	0.0343
D152	-0.045494	0.016493	-2.758370	0.0086
D093	-0.035415	0.015386	-2.301712	0.0264
R-squared	0.749944	Mean dependent var		0.013207
Adjusted R-squared	0.696361	S.D. dependent var		0.024584

<sup>8</sup> Source: National Bank of Georgia, Ministry of Economy and Sustainable Development of Georgia.

<sup>9</sup> Source: author's own calculations.

S.E. of regression	0.013547	Akaike info criterion	-5.594284
Sum squared resid	0.007708	Schwarz criterion	-5.219045
Log likelihood	155.4514	Hannan-Quinn criter.	-5.450426
F-statistic	13.99584	Durbin-Watson stat	2.622246
Prob(F-statistic)	0.000000		

For small open economy like Georgia economic conditions in the main trade partner countries is very important. Fall of purchasing power in the region, crisis in Ukraine, fall in Russian economy and global strengthen of United States Dollar had an important negative spillover effect on Georgian economy. This mainly was reflected in fall of export in the main trade partner countries, reduction of money transfers from abroad and depreciation of the national currency. Decrease in money transfers reduced purchasing power of the households and slowed economic activity in the country. Export mainly fall due to reduction of demand from the main trade partner countries (Azerbaijan, Armenia, Turkey, Russia and Ukraine). These two factors together with low foreign direct investments contributed significantly further depreciation of the national currency.

## V. CONCLUSIONS

Theoretical background and empirical evidence developed in this paper show that Georgian economy is significantly influenced by external factors. Therefore important drops in economic growth during the global financial crises could be observed. In case of Georgia this influence is mainly caused by real sector connections, namely drop in external demand and money transfers from abroad.

Model developed in this paper show that the coefficient of the foreign demand variable is significant and short run effect is quite high (+0.49). So, if country like Georgia is strongly linked to the main trade partners and foreign capital inflows, sudden change in the pattern of capital flow or foreign demand (factors that are not influenced from the local policymakers) can harm the economy.

However, coefficients of both variables: world demand and foreign direct investment have positive signs and are significant, meaning, for Georgia trade openness and free capital mobility is important for further development. Important notice is that export markets should be diversified; on the other hand local private savings level should be increased to support technological development and economic growth.

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