

Relationship between Government Expenditure and Economic Growth in Transition Countries: Case of Kyrgyzstan and Tajikistan

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Abstract

After the collapse of Soviet Union the membercountries was accompanied by economic and political crises. Each country has chosen own monetary and fiscal policy considering the economic situation. Even though that their economic situation is similar, Kyrgyzstan and Tajikistan are pursuing opposite fiscal policy. More precisely, Kyrgyzstan in recent years has changed its fiscal policy towards expansionary policy, when Tajikistan is continuing contractionary policy. This paper analyses the long and the short-run causality relationships between government expenditure and economic growth in Kyrgyzstan and Tajikistan to reveal the results of such fiscal policies on real output, using Engle-Granger Cointegration and Granger Causality Tests. Results show that, over the 2000:1-2013:4 period, there is a long run relationship between GDP and government expenditure in both countries. According to Granger Causality Test it was found unidirectional causality from government expenditures to economic growth in Kyrgyzstan. But Granger causality test on economy of Tajikistan does not give any causality relations between these variables.

Keywords

Economic Growth, Government Expenditure, Engle-Granger Cointegration Test, Granger Causality Test, Contractionary Fiscal Policy, Expansionary Fiscal Policy

JEL Classification: H50, N15, O23, O16.

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1. Introduction

Fiscal policy can help government to regular demand and supply in the country. One of the main fiscal instruments that used to achieve macro-economic goals is government expenditures. The empirical analyses showed controversial results about the effect of the government expenditures to the economic growth. Several empirical studies find positive relationship between government expenditures and growth (Ram 1986, Holmes and Hutton 1990, Aschauer 1989). Devarajan et al. (1996) using the data from 43 developing countries over 20 years, found the positive relationship between current government expenditure and growth. Sáez and García (2006) found a positive relationship between government spending and economic growth using data from the EU-15 countries. Taiwo (2011) also revealed a positive relationship between GDP and recurrent and capital expenditure by analyzing data on Nigeria.

On the contrary, Grier and Tullock (1989) used pooled regression on five-year averaged data in 113 countries to analyze the relationship between cross-country growth and various macroeconomic variables. They found that the mean growth of government share of GDP generally has a negative impact on economic growth. The results of Landau's (1983) study also found a negative relationship between the growth rate of real per capita GDP and the share of government consumption expenditure to GDP, using a cross-section study of 104 countries. Barro (1990) discovered the negative relationship between the size of government and economic growth, too. Miller and Russek (1997) indicated that debt-financed increases in government expenditure retarded growth. Ramayandi (2003), using a time series data on Indonesia for the period 1969-1999, found that the raising of government consumption spending decreases economic growth. Niloy et al. (2003) examined growth effects of government expenditure for a panel of thirty developing countries over 1970-80. They found that the share of government capital expenditure in GDP is positively and significantly correlated with economic growth, but current expenditure is insignificant. Hsieh and Lai (1994), using data from the G-7 countries, didn't reveal any evidence of a relationship between the share of government spending to GDP and per capita GDP growth. Terasawa and Gates (1998) explored data by country groups and found that the increase of government size effects negatively on developed and positively on developing countries.

Islam and Nazemzadeh (2001) examined the causal relationship between government size and economic growth using long annual data of the United States. They indicated that the causal linkage was running from economic growth to relative government size. Yamak and Küçükale (1997) using the data on Turkey found long term relationship between government expenditure and economic growth and indicated that the causal linkage was running from economic growth to relative government size.

Based on these works, this paper attempts to explore the relationship between economic growth and government expenditure in the context of two transition economies such as Kyrgyzstan and Tajikistan for the period 2000:1-2013:4. Understanding the relationship between different macroeconomic variables ensures effective designing and implementation of macroeconomic stabilization policies. To the best of our knowledge, this is the first empirical analysis of the relationship between the public expenditure and economic growth in the case of Kyrgyzstan and Tajikistan.

Section 2 presents a brief history of fiscal policy in Kyrgyzstan and Tajikistan. Section 3 presents the methodology and empirical results and section 4 gives conclusions.

2. Fiscal Policy in Kyrgyzstan and Tajikistan

Kyrgyzstan and Tajikistan are both became independent republics after the dissolution of USSR. Both countries are mountainous with small population. As showed below (Table 1) these two countries have much in common. Gross Domestic Product of Kyrgyzstan in 2013 was 7.33 billion dollars, in Tajikistan 8.51 billion dollars.

In 2013, significant economic growth was observed in the Kyrgyz Republic. According to data of the National Statistics Committee of the Kyrgyz Republic (NSC) in 2013 the volume of GDP in real terms increased by 10.5 percent against the decrease of the similar indicator by 0.1 percent in 2012. The growth was mainly conditioned by rehabilitation of production at the Kumtor gold mining enterprises. The share of industry in GDP structure amounted to 16.1 percent in 2013 and 48.2 percent of industrial output accounts for the 'Kumtor' gold mining enterprises. The share of agriculture in GDP was 15.2 percent, trade and repairs of motor vehicles 16.1 percent, transport and communications 9.5 percent and others 22 percent (National Bank of the Kyrgyz Republic 2013: 8).

In Tajikistan in 2013 share of industry in GDP was 13 percent, agriculture 21.1 percent, construction 10.2 percent, trade 15.7 percent, transport and communications 13.9 percent and services 13.4 percent (Agency on Statistics under President of the Republic of Tajikistan <http://www.stat.tj/ru/analytical-tables/real-sector/> (08.06.17)).

Number of unemployed registered at the government employment offices in 2013 in Kyrgyzstan reached 58 thousand people, while in Tajikistan 54 thousand people. Life expectancy at birth in Kyrgyzstan was 70 years and in Tajikistan was 72.8 years in 2012. Rate of poverty in 2013 in Kyrgyzstan was 38 percent and in Tajikistan – 35 percent.

Table 1. *Macroeconomic Indicators of Kyrgyzstan and Tajikistan in 2013*

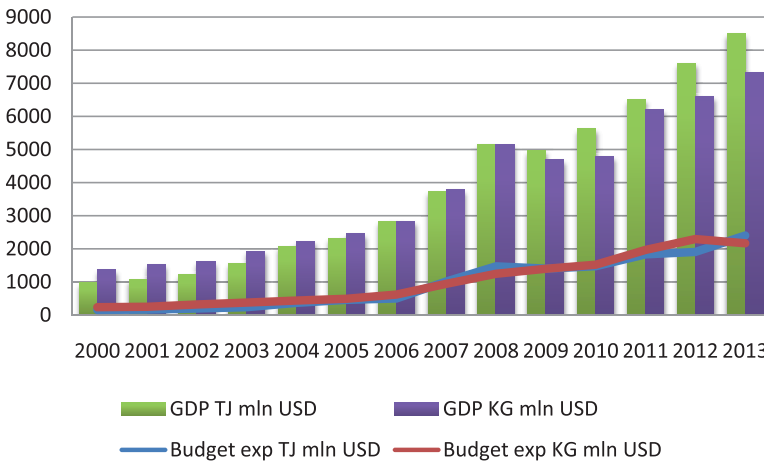
	Kyrgyzstan	Tajikistan
GDP in 2013 (million \$)	7335.0	8513.5
GDP per capita in 2013, \$	1323.3	1056.0
Population (thousand person) in 2014	5776.6	8161.1
Life expectancy at birth in 2012	70	72.8
Number of unemployed registered at governmental employment offices (end of the year) in 2013 (thousand persons)	58	54
Consumer price indices for goods and services in September 2014 (as percent to December of the previous year)	105.0	105.7
Poverty in 2013	38%	35%

Source: Statistic Committee of CIS, www.cisstat.org (01.04.15), Statistic Committee of Tajikistan, www.stat.tj (02.04.15), Statistic Committee of Kyrgyzstan, www.stat.kg (03.04.15).

Similar to other republics of Former Soviet Union (FSU), the Kyrgyz Republic suffered a number of severe shocks during the early years of independence. It lost its traditional markets in the other FSU republics, as well as substantial transfers and subsidies from the Soviet Unions. Its GDP fell by over 50 percent during the first 5 years of transition (IMF 2004: i). In Kyrgyzstan also held two political crises in 2005 and 2010. Three fourth of the government expenditures consist of social expenditure on education, health and social security. Likewise the country still needs structural reforms for instance key sectors such as financial and energy sector (IMF 2011: 6).

In the early years of independence Tajikistan faced with political crisis, too. During the 1992-1997 years in Tajikistan waged civil war. GDP of Tajikistan also fell by over 60 percent during 1992-1997 period. In 1998, the government of Tajikistan adopted a medium-term economic development strategy for 1998-2001. As the results, macroeconomic stability was established from the end of the 90s, during the period 1999-2008 GDP growth sustained and the average growth of GDP was 8.3 percent per year, exports increased and tax collection improved (Zoidov and Zoidov <http://www.ipr-ras.ru/articles/zoidov12-1-int.pdf> (10.05.15)).

Figure 1: GDP and Government Expenditure in Kyrgyzstan and Tajikistan

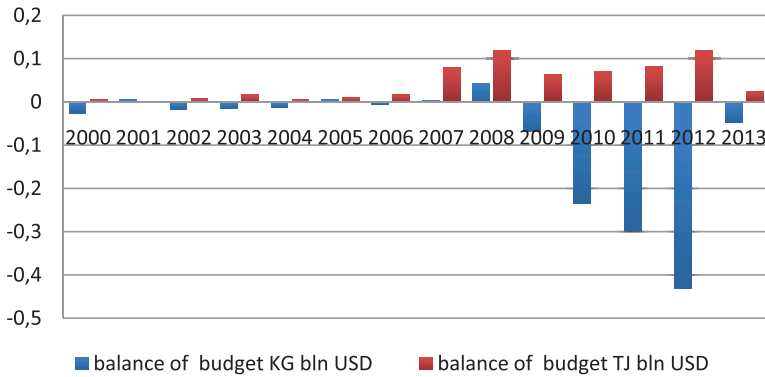


Source: Statistic Committee of CIS, www.cicstat.org (01.04.15), Statistic Committee of Tajikistan, www.stat.tj (02.04.15), Statistic Committee of Kyrgyzstan, www.stat.kg (03.04.15).

As showed in Figure 1, GDP of Tajikistan is little higher from the GDP of Kyrgyzstan. The ratio of government expenditure to GDP in Kyrgyzstan in 2013 was 29.8 percent, while in Tajikistan – 28.2 percent. Generally, these variables of two countries are similar to each other. Both in Kyrgyzstan and Tajikistan budget is socially oriented i.e. main expenditure items are education, social protection and healthcare. For instance, in 2013 in Kyrgyzstan 51.7 percent of budget expenditure spent to education, social protection and healthcare (Statistics Committee of Kyrgyz Republic available at: <http://stat.kg/en/statistics/finansy/> 07.06.2017.).

In Tajikistan 18 percent of public expenditure spent on education, 7 percent on healthcare and 19 percent on social protection in 2013 (Secretariat under the Committee Majlisi Namoyandagon Majlisi Oli of Republic of Tajikistan for Economy and Finance 2014:11).

Figure 2: *Balance of Budget in Kyrgyzstan and Tajikistan*



Source: Statistic Committee of CIS, www.cicstat.org (01.04.15), Statistic Committee of Tajikistan, www.stat.tj (02.04.15), Statistic Committee of Kyrgyzstan, www.stat.kg (03.04.15).

In Kyrgyzstan the balance of budget in majority years was resulted with deficit. Economy of Kyrgyz Republic in early years of transition experienced severe shock: transfers from general government budget of USSR stopped, budget implementation sharply worsened. Decline of economic activity led to challenges with tax administration and decreased revenues. The society was faced with the increased need for spending on defense purposes, disaster management and social assistance (Asanov 2004: 10).

Budget deficit increased sharply from 2008 and in 2009 increased to 1.5 percent of GDP out of necessity for additional budget expenditure during the world financial crisis and decrease of tax revenue as a result of the overall business loss in the country, the reduction in the volume of imports, and amendments made to the tax legislation (National Bank of Kyrgyz Republic 2010: 11). In 2010 political instability led to the growth reduction in state budget revenues, in particular, there was a significant decrease in receipts of official transfers; on the other hand, there was an expansion of budget expenditures in spheres of social protection, economic issues, defense, public order and security that resulted in substantial increase of budget deficit

which rose to 5.1 percent of GDP (National Bank of Kyrgyz Republic 2011: 10). Also insufficient tax revenues after the revolution, and untargeted use of budgetary allocations and unforeseen expenses from the budget led to huge budget arrears after the revolution in 2010 (Tyulyundieva 2011: 112).

In 2012, expenditures for payment of wages, subsidies and social benefits, as well as expenditures related to implementation of large-scale projects in power industry and transport increased. At the same time, resource part of the state budget shrank. As a result, the budget deficit increased and according to the data of the Central Treasury it amounted to KGS 20.2 billion or 6.6 percent of GDP (National Bank of Kyrgyz Republic 2013: 10).

In Tajikistan, on the contrary, it was observed budget surplus for the whole period. Budget surplus was mainly due to increase in receipt of taxes. For instance, in 2005 and 2006 income tax (National Bank of Tajikistan 2006: 6), profit tax and Value Added Taxes (National Bank of Tajikistan 2007: 9) income significantly increased. In Tajikistan income tax rate is progressive (0%, 8% and 13%) and profit tax rate is 25% (<http://www.asia-realty.ru/co-zakon-tajikistan.php?Id=394> (08.06.17)). In Tajikistan there are 21 kinds of different taxes. International tax system expert Martin Vizir declared that he has never seen any amount of taxes in any country in the world and there are a lot of unnecessary taxes in Tajikistan (Chorshanbiev 2010). Boimirzoev (2002) believes that reducing the tax burden and number of taxes, simplifying the tax system should be the main objectives of tax reform in Tajikistan. This will increase the collection of taxes; stimulate the withdrawal of income from the informal sector of the economy. Ziyaev (2011: 103) also emphasizes that the Tajikistan is one of the last country among the CIS countries that initiate radical economic reforms including reforms of the budget system.

Summing up, it can be said that Kyrgyzstan implements expansionary fiscal policy, while Tajikistan contractionary fiscal policy. It was interesting to analyze the relationship between GDP and government expenditure in these two countries with different fiscal policies.

3. Methodology and Empirical Results

The quarterly data on government expenditure were obtained from the site of Statistical Committee of Tajikistan and Kyrgyzstan as well as data on the exchange rate and GDP obtained from the site of the CIS (www.cisstat.org,

04.04.2015). Public spending data and Gross Domestic Product (GDP) data were converted to dollar dividing to the exchange rate of the dollar to the corresponding period. The data are analyzed according to the following estimation procedures.

3.1. Unit Root Test

The unit root test of stationarity of time series data was determined prior to cointegration and causality tests. The unit root tests for stationarity of time series called PP test proposed by Phillips and Perron (1988) and the Augmented Dickey-Fuller (ADF) are employed (Table 2). These tests determine the existence of a unit root of each series. The series are examined whether they are stationary or integrated of the same order. If the two variables are non-stationary in level, but stationary in first differences in other words I(1), cointegration test can be performed. The theory of cointegration is discussed in details by Engle and Granger (1987). In brief, cointegration determines if the linear combination of these variables is stationary. The series are cointegrated or have a long-run relationship if there is exists a linear combination of these series.

Table 2. *Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) Tests*

Variable	ADF		PP	
	Intercept	Intercept & Trend	Intercept	Intercept & Trend
G_{TJ}	-0.70	-3.80**	-0.53	-3.80**
ΔG_{TJ}	-6.95***	-6.90***	-22.25***	-19.71***
Y_{TJ}	-0.90	-0.96	-0.82	-4.29**
ΔY_{TJ}	-3.64***	-3.68**	-16.17***	-17.84***
G_{KG}	-0.82	-3.43*	-0.81	-3.25*
ΔG_{KG}	-10.95***	-10.89***	-11.48***	-11.46***
Y_{KG}	-0.43	-3.24*	-0.64	-3.93**
ΔY_{KG}	-2.70**	-2.67	-17.10***	-17.69***

Note: Δ is the first difference operator. ***, ** and * indicates the statistical significance at 1, 5, and 10 percent levels, respectively. Newey-West bandwidth selection with Bartlett Kernel was used for the PP test. The maximum lag lengths were set to 5 and Schwarz Info Criterion was used to determine the optimal lag length. Before stationarity tests logarithm of the variable were taken and seasonally adjusted. **Source:** Authors' calculations.

Stationarity tests of our variables showed in Table 2. Where:

G_{TJ} and G_{KG} - government expenditure of Tajikistan and Kyrgyzstan, respectively;

Y_{TJ} and Y_{KG} - GDP of Tajikistan and Kyrgyzstan, respectively.

It seems that GTJ is trend stationary at level, but Dickey-Fuller (1981) tests have shown that series contain not deterministic but stochastic trend. So the results of the unit root tests show that all variables are non-stationary in level but stationary in first difference, in other words I (1), so the two-step Engle and Granger cointegration test between the two variables, G and Y, can be performed for both countries.

3.2 Engle - Granger Cointegration Test

Cointegration analysis allows non-stationary data to be used so that spurious results are avoided. It also provides applied econometricians an effective formal framework for testing and estimating long-run models from actual time-series data. Among a number of alternative methods, the EGM, originally suggested by Engle and Granger (1987), has received a great deal of attention in recent years. One of its benefits are the long-run equilibrium relationship (namely the cointegrating regression) can be modeled by a straightforward regression involving the levels of the variables. In the first step, all dynamics are ignored and the cointegrating regression is estimated by the OLS (eq. a). If error terms (ε_t) of the OLS stationary in level we can say that there is a long run relationship among two variables.

$$Y_t = \beta_0 + \beta_1 X_t + \varepsilon_t \quad (a)$$

In our case there are two cointegrating equations for each country and totally four equations. Consequently we have four error terms and stationarity tests of them reported in Table 3.

Table 3. *ADF Stationarity Test of the Residuals*

	Number of sample	None		
Levels of the statistical significance		1%	5%	10%
<i>critical values</i>	50	-4.12	-3.29	-2.90
<i>critical values</i>	100	-3.73	-3.17	-2.91
(G dependent)	56	-6.22		
(Y dependent)		-6.21		
(G dependent)	56	-6.38		
(Y dependent)		-6.45		

Note: *critical values were obtained from Engle – Yoo (1987).* The maximum lag lengths were set to 5 and Schwarz Info Criterion was used to determine the optimal lag length.

As we have seen in Table 3, error terms of all equations are stationary in level and it implies that there is a long run relationship among government expenditures and GDP in both countries.

The second step involves estimating a short-run model with an error-correction mechanism (ECM) by the OLS (b).

$$\Delta y_t = c + \beta_0 \Delta x_t + \gamma \hat{\varepsilon}_{t-1} + u_t \text{ (b)}$$

The coefficient of the lagged error correction term (ECT) is short term adjustment coefficient and represents the proportion by which the long run disequilibrium (or imbalance) in the dependent variable is being corrected in each short period. So in order to say that error correction mechanism is working the sign of lagged error correction terms coefficient (must be negative and statistically significant.

Results of error correction models show that all error-correction terms coefficients carries correct sign and statistically significant at 1 percent level (Table 4).

Table 4. *Results of ECM*

	$\Delta Y_t = c + \beta_0 \Delta G_t + \gamma \hat{\varepsilon}_{t-1} + u_t$	$\Delta G_t = c + \beta_0 \Delta Y_t + \gamma \hat{\varepsilon}_{t-1} + u_t$
Tajikistan	$\Delta Y_t = 0.02 + 0.37 \Delta G_t - 0.50 \hat{\varepsilon}_{t-1} + u_t$	$\Delta G_t = 0.017 + 0.85 \Delta Y_t - 0.78 \hat{\varepsilon}_{t-1} + u_t$
	[1.40][5.02][-3.83] (0.17) (0.00) (0.00) R ² =0.34 Adj. R ² =0.32 DW=2.18 F=13.65 Prob (F-statistic)=0.000	[0.74][4.94][-6.06] (0.46) (0.00) (0.00) R ² =0.51 Adj. R ² =0.49 DW=2.09 F=26.80 Prob (F-statistic)=0.000
Kyrgyzstan	$\Delta Y_t = 0.015 + 0.40 \Delta G_t - 0.70 \hat{\varepsilon}_{t-1} + u_t$	$\Delta G_t = 0.021 + 0.61 \Delta Y_t - 0.63 \hat{\varepsilon}_{t-1} + u_t$
	[1.23][4.11][-4.99] (0.22) (0.00) (0.00) R ² =0.37 Adj. R ² =0.34 DW=2.03 F=14.99 Prob (F-statistic)=0.000	[1.38][4.06][-5.11] (0.17) (0.00) (0.00) R ² =0.38 Adj. R ² =0.35 DW=2.22 F=15.65 Prob (F-statistic)=0.000

Figure in parentheses () and brackets [] are *p*-value and *t*-statistic, respectively.

Speed of convergences to equilibrium very high in both countries that confirms the stability of the system. As large absolute values of ECT shows equilibrium agents remove a large percentage of disequilibrium in each pe-

riod, in other words the speed of adjustment is very rapid. The significant coefficients of the ECT for each time series depict that they all cause one another in the long run. Positive β_0 coefficients mean that there is a positive relationship among G and Y in both countries, in other words if government expenditure increases Gross Domestic Product also increases, and vice versa.

First model estimated for Tajikistan shows that if there have been shock in the economy and GDP moved from equilibrium, 50 percent of disequilibrium removes in each next period. So the equilibrium can be established in two periods. Also, 1 percent increases in the government expenditures cause to 0.37 percent increasing of Gross Domestic Product. The second model indicates that 1 percent increase in GDP cause to 0.85 percent increase in the government expenditure. Error correction term in the model equal to -0.78, it means that if any cause of crises or shock budget expenditures moves from equilibrium, than 78 percent of disequilibrium removes in next period.

The third model estimated for Kyrgyzstan tells that 1 percent increase in the government expenditure (G) will cause 0.40 percent increasing in GDP (Y) and if there is any disequilibrium in Y the equilibrium will be established less than 1.5 periods ($1/0.7=1.42$). Also, the last equation shows that 1 percent increase in Y cause 0.61 percent increasing in government expenditure. Speed of adjustment equals to 0.63. That means if there is deviation from the cointegration equilibrium in G, deviation removes completely in 0.59 periods ($1/0.63=1.59$). This cointegration test does not tell direction of the relationship between the variables, but we can use Granger Causality test for this purpose.

3.2. Granger Causality Test

The standard Granger causality test developed by Granger (1969, 1980) that is popularly used to test whether past changes in one variable help explain current changes in other variables. Equation (1) is used to test whether y Granger causes x while equation (2) is used to test whether x Granger causes y. The bivariate Granger causality test requires that two variables used in the test must be stationary even though they are not integrated of the same order.

The Granger causality test is performed by the following two equations:

$$x_t = a_0 + \sum_{i=1}^k a_i y_{t-i} + \sum_{i=1}^k \beta_i x_{t-i} + \varepsilon_t \quad (1)$$

$$y_t = \gamma_0 + \sum_{i=1}^k \gamma_i x_{t-i} + \sum_{i=1}^k \delta_i y_{t-i} + v_t \quad (2)$$

With no long-run relationship between government expenditures (G) and economic growth (Y), the standard Granger causality test is performed using first differences of variables. The optimal lag length for the causality test is determined by a vector autoregressive (VAR) form. The standard Granger causality test results estimated for Kyrgyzstan economy reported in Table 5.

Table 5. *Lag Order Selection Criteria based on VAR*

Lag	LogL	LR	FPE	AIC	SC	HQ
0	70.75839	NA	0.000207	-2.806465	-2.729248	-2.777169
1	77.72424	13.07875	0.000184	-2.927520	-2.695869	-2.839632
2	81.13513	6.125665	0.000188	-2.903475	-2.517389	-2.756994
3	92.43057	19.36361	0.000140	-3.201248	-2.660728	-2.996175
4	106.3180	22.67336*	9.40e-05	-3.604816	-2.909862*	-3.341152
5	112.1496	9.045002	8.79e-05*	-3.679577*	-2.830189	-3.357321*
6	113.1357	1.448879	0.000100	-3.556559	-2.552736	-3.175710
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5 percent level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

As we can see in the table LR and SC criterion tell that 4 lag is appropriate, when HQ, AIC and FPE advices 5 lag. So we decided to look on both lags and results are showed in

Table 6.

Table 6. *Granger Causality Tests*

Direction of causality	Lag=4			Lag=5		
	Obs	F-Statistic	Prob.	Obs	F-Statistic	Prob.
$\Delta G_{KG} \rightarrow \Delta Y_{KG}$	51	2.4314	0.062*	50	2.5566	0.043**
$\Delta Y_{KG} \rightarrow \Delta G_{KG}$		0.7888	0.539		0.5500	0.737

** and * indicates the statistical significance at 5 and 10 percent levels, respectively.

The null hypothesis that means ‘government spending (G) does not Granger cause economic growth (Y)’ was rejected at the 5 percent level of significance. Thus, unidirectional causality from government expenditures (G) to economic growth (Y) exists. On the contrary, the ‘economic growth (Y) does not Granger cause of government expenditures (G)’ hypothesis was accepted. This supports the Keynesian view which stipulates that causation runs from government expenditures to growth.

Unfortunately, Granger causality test applied on Tajikistan economy didn’t give any causality directions. The probable cause of this result could be a simultaneous causality(s) among variables.

4. Conclusion

Empirical analyses showed different results about the influence of the government expenditure on economic growth. Some of them found positive relation, while others showed negative relationship between government expenditure and economic growth.

In this study we analyzed the relationship between government expenditure and economic growth in short and long term with the Engle - Granger cointegration test and Granger Causality model of two transition economies as Kyrgyzstan and Tajikistan. These countries are similar in terms of mountainous, small population and high rate of poverty. In addition, in both countries have problems with political and economic stability. The level of GDP and government expenditure is close to each other, but in Tajikistan has been chosen contractionary fiscal policy, whereas in Kyrgyzstan expansionary policy. It was interesting to analyze the relationship between GDP and government expenditure in two countries with different fiscal policies.

The results of Engle and Granger cointegration test showed that there is long and short run relationship between GDP and government expenditure both countries. Effect of GDP to the government expenditures is higher

than the effect of government spending to GDP in both countries. When compared the two countries, it is seen that GDP growth impact on budget expenditure in Tajikistan is higher for 24 percent than in Kyrgyzstan. Also, as error correction terms indicated, the speed of convergences to equilibrium of government expenditures is higher than in Tajikistan. The reason for these results could be the high level of tax collection and contractionary fiscal policy of Tajikistan.

On the other hand, the speed of convergence to equilibrium of the impact of government expenditures on GDP in Kyrgyzstan is higher than in Tajikistan to 20 and 0.03 percent, respectively. We guess it is the result of Kyrgyzstan's expansionary fiscal policy.

According to the Granger Causality Test, there is a unidirectional causality from government expenditures to economic growth in Kyrgyzstan. This supports the Keynesian view which stipulates that causation runs from government expenditures to growth. But we didn't find any causality relationships between these two variables in Tajikistan.

On the other hand, despite of large volume of budget deficit, the impact of the government expenditure on GDP in Kyrgyzstan is higher than in Tajikistan for only 0.03 percent. Also, GDP growth impact on budget expenditure in Tajikistan is higher for 24 percent than in Kyrgyzstan. It can be assumed that contractionary fiscal policy is more effective.

References

- Aschauer, David Alan (1989). "Is Public Expenditure Productive?". *Journal of Monetary Economics* 23: 177-200.
- Barro, Robert J. (1990). "Government Spending in a Simple Model of Endogenous Growth". *Journal of Political Economy* 98: 103-125.
- Devarajan, Shantayanan et al. (1996). "The Composition of Public Expenditure and Economic Growth". *Journal of Monetary Economics* 37: 313-344.
- Dickey, David A. and Wayne A. Fuller (1981). "Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root". *Econometrica* 49 (4): 1057-1072.
- Engle, Robert F. and Clive W. J. Granger (1987). "Cointegration and Error Correction: Representation, Estimation, and Testing". *Econometrica* 55: 251-276.
- Engle, Robert F. and Byung Sam Yoo (1987). "Forecasting and Testing in Co-Integrated Systems". *Journal of Econometrics* 35: 143-159.
- Granger, Clive W. J. (1969). "Investigating Causal Relations by Econometric Models and Cross-Spectral Methods". *Econometrica* 37: 424-438.

- (1980). "Testing for Causality". *Journal of Economic Dynamic and Control* 4: 229-252.
- Grier, Kevin B. and Tullock Gordon (1989). "An Empirical Analysis of Cross-National Economic Growth 1951-1980". *Journal of Monetary Economics* 24: 259-276.
- Holms, James M. and A. Patricia Hutton (1990). "On the Causal Relationship between Government Expenditures and National Income". *Review of Economics and Statistics* 72: 87-95.
- Hsieh, Edward and Lai S. Kon (1994). "Government Spending and Economic Growth: the G-7 Experience". *Applied Economic* 26: 535-42.
- International Monetary Fund (2004). "Kyrgyz Republic Expenditure Review Fiscal Policies for Growth and Poverty Reduction". Report No. 28123-KG.
- (2011). "Staff Report for the 2011 Article IV Consultation and Request for a Three-Year Arrangement under the Extended Credit Facility". Country Report No. 11/155, June.
- Islam, Anisul M. and Nazemzadeh Ashgar (2001). "Causal Relationship between Government Size and Economic Development: An Empirical Study of the U. S.". *Southwestern Economic Review* 28: 75-88.
- Landau, Daniel (1983). "Government Expenditure and Economic growth: a Cross-Country Study". *Southern Economic Journal* 49: 783-92. <http://dx.doi.org/10.2307/1058716>, (02.03.15).
- Miller, Stephen M. and Frank S. Russek (1997). "Fiscal Structures and Economic Growth: International Evidence". *Economic Inquiry* 35: 603-613.
- National Bank of the Kyrgyz Republic (2010). Annual Report 2009, LLC "Triada Print", Bishkek.
- (2011). Annual Report 2010, LLC "Triada Print", Bishkek.
- (2013). Annual Report 2012, LLC "Triada Print", Bishkek.
- (2014). Annual Report of the National Bank of the Kyrgyz Republic for 2013, LLC "Triada Print". (available at: <http://www.nbkr.kg/DOC/23062014/00000000027435.pdf> (08.06.17)).
- Niloy, Bose et al. (2003). "Public Expenditure and Economic Growth: A Disaggregated Analysis for Developing Countries". *The Manchester School* 25 (5): 533-556.
- Phillips, Peter C. B. and Pierre Perron (1988). "Testing for a Unit Root in Time Series Regression". *Biometrika* 75: 335-346.
- Ram, Rati (1986). "Government Size and Economic Growth: A New Framework and Some Evidence from Cross-Section and Time Series". *American Economic Review* 76: 191-203.
- Ramayandi, Arief (2003). "Economic Growth and Government Size in Indonesia: Some Lessons for the Local Authorities". *Working Paper in Economics and Development Studies*. No. 200302.
- Sáez, Marta Pascual and Alvarez-García Santiago (2006). "Government Spending and Economic Growth in the European Union Countries: An Empirical

- Approach”. *Working Paper Series* (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=914104, 05.03.15)
- Seddighi, Hamid R. et al. (2000). *Econometrics: A Practical Approach*. London: Routledge.
- Statistics Committee of Kyrgyz Republic, <http://stat.kg/en/statistics/finansyl/07.06.2017>.
- Taiwo, Muritala (2011). “Government Expenditure and Economic Development: Empirical Evidence from Nigeria”. *European Journal of Business and Management* 3 (9): 18-28.
- Tajikistan Statistics Committee, [http://www.stat.tj/ru/analytical-tables/real-sector/\(08.06.17\)](http://www.stat.tj/ru/analytical-tables/real-sector/(08.06.17)).
- Terasawa, Katsuaki L. and William R. Gates (1998). “Relationships between Government Size and Economic Growth: Japan’s Reforms and Evidence from OECD”. *International Public Management Journal* 1 (2):195-223.
- Yamak, Nebiye ve Yakup Küçükale (1997). “Türkiye’de Kamu Harcamaları Ekonomik Büyüme İlişkisi”. *İktisat- İşletme ve Finans Dergisi* 12 (131): 5- 14.
- Asanov, Turusbek (2004). «Fiskal’ naya politika Kyrgyzskoy Respubliki v perekhodnom mire k rynochnoy ekonomike». *Vestnik KRSU* 4 (2): 6-12.
- Boimirzoev, Boimirzo (2002). *Byudzhethnoye regulirovaniye ekonomiki v usloviyakh perekhoda k rynochnomu khozyaystvu: na materialakh Respubliki Tadjikistan*. PhD thesis. Khudzhand, Nauchnaya biblioteka dissertatsiy i avtoreferatov dissercat (available at: <http://www.dissercat.com>)
- Ziyaev, Rustam D. (2011). “Etapy byudzhethnoy reformy v Tadjikistane”. *Izvestiya Sankt- Peterburgskogo gosudarstvennogo ekonomicheskogo universiteta* 1:101-103.
- Zoidov, K. H. and Z. K. Zoidov (2012). “Retrospektivnyy analiz i prognozirovaniye tsiklicheskih resheniy makroekonomicheskoy dinamiki Respubliki Tadjikistan na osnove ekonometricheskikh metodov”. Central Economics and Mathematics Institute of the Russian Academy of Sciences (available at: www.ipr-ras.ru/articles/zoidov12-1-int.pdf (10.05.15)).
- Secretariat under the Committee Majlisi Namoyandagon Majlisi Oli of Republic of Tajikistan for Economy and Finance. (2014). “Analiz rezul’tatov gosudarstvennogo byudzheta Respubliki Tadjikistan za 2013 god”. Projekt ‘Ukrepleniye potentsiala parlamenta Respubliki Tadjikistan v oblasti gosudarstvennykh finansov’. (available at: <http://www.pbo.tj/upload/Analisis/>).
- Tyulyundieva, Nazira (2011). *Kontseptsiya upravleniya byudzhetom gosudarstva*. Bishkek (available at: www2.hss.de/fileadmin/centralasia/Kirgistan/images/Publikationen/lehrbuch_29.pdf, 10.06.17).
- Chorshanbiev, Payrav (2010). “Nalogovyie stavki v Tadjikistane ne takiye vysokiye po sravneniyu s drugimi stranami - Nalogovyy komitet pri pravitel’sve RT”. (available at: <http://www.news.tj/ru/news/>, 12.06.2013).

Geçiş Ülkelerinde Devlet Harcamaları ile Ekonomik Büyüme İlişkisi: Kırgızistan ve Tacikistan Örneği

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Öz

Sovyetler Birliği dağıldıktan sonra bu birliğe üye olan ülkeler piyasa ekonomisine geçmeye başlamışlardır. Geçişin ilk yıllarında ülkelerin çoğu ekonomik ve siyasi krizlerle karşılaşmışlardır. Her ülke, kendi ekonomik durumunu göz önüne alarak para ve maliye politikası seçmişlerdir. Ekonomik durumları benzer olmasına rağmen, Kırgızistan ve Tacikistan farklı maliye politikasını uygulamaktadırlar. Son yıllarda Kırgızistan genişletici maliye politikası uygularken, Tacikistan daraltıcı maliye politikasını seçmiş bulunmaktadır. Bu çalışmada Kırgızistan ile Tacikistan'da kamu harcamaları ve ekonomik büyüme arasındaki uzun ve kısa dönemli ilişkiler, 2000:1 – 2013:4 dönemine ait çeyrek veriler ve Engle-Granger eşbütünleşme ve Granger nedensellik testleri kullanılarak incelenmiştir. Araştırma sonuçlarına göre, her iki ülkede de GSYİH ile kamu harcamaları arasında eşbütünleşme ilişkisi vardır. Granger nedensellik testine göre, Kırgızistan'da kamu harcamalarından ekonomik büyümeye doğru tek yönlü nedensellik ilişkisi mevcuttur. Fakat Tacikistan'da kamu harcamaları ile ekonomik büyüme arasında herhangi bir nedensellik ilişkisi bulunmamıştır.

Anahtar Kelimeler

Ekonomik Büyüme, Kamu Harcamaları, Engle-Granger Eşbütünleşme Testi, Granger Nedensellik Testi, Daraltıcı Maliye Politikası, Genişletici Maliye Politikası

JEL Sınıflaması: H50, N15, O23, O16.

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Взаимосвязь между государственными расходами и экономическим ростом в странах с переходной экономикой: на примере Кыргызстана и Таджикистана

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АННОТАЦИЯ

После распада Советского Союза страны столкнулись с экономическими и политическими кризисами. Каждая страна выбрала собственную денежно-кредитную и фискальную политику с учетом экономической ситуации. Несмотря на схожесть экономического положения, Кыргызстан и Таджикистан проводят противоположную фискальную политику. Кыргызстан изменил свою фискальную политику в сторону экспансионистской, тогда как Таджикистан продолжает сдерживающую политику. В данной статье анализируется долгосрочная и краткосрочная причинно-следственная связь между государственными расходами и экономическим ростом в Кыргызстане и Таджикистане, в целях определения влияния налогово-бюджетной политики на реальный объем производства, с использованием метода коинтеграции Энгла-Грейнджера, а также теста Грейнджера на причинность. В результате в период 2000:1-2013:4 выявлена долгосрочная зависимость между ВВП и государственными расходами в обеих странах. Согласно тесту Грейнджера, в Кыргызстане существует однонаправленная причинность от государственных расходов к экономическому росту, тогда как в Таджикистане не обнаружено никаких причинно-следственных связей между этими переменными.

Ключевые слова

экономический рост, государственные расходы, метод коинтеграции Энгла-Грейнджера, тест Грейнджера на причинность, сдерживающая фискальная политика, экспансионистская фискальная политика.

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