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MODELING OF ECONOMIC GROWTH IN AZERBAIJAN IN THE POST-OIL PERIOD

ABSTRACT

Research Objective–to work and realize economic growth models of Azerbaijan in the post-oil period considering current realities.

Research Methodology –Economic stability is reflected in the economic functions of the state. Achieving economic stability means, first of all, achieving the level of economic growth, inflation and unemployment. Researchers have tried to explain reasons behind the development of countries in the world and differences in this development using economic growth models. In economic literature, economic growth models are classified on a variety of basis[1]. Taken as a whole, it is generalized in two major groups, namely traditional economic growth models and modern economic growth models[2]. Traditional economic growth models are, in essence, divided into classic models of economic growth (Smith, Maltus, Ricardo) and Karl Marx, Joseph Schumpeter, John Meynard Keynes. Modern economic growth models are based on neo-keynesian economic growth models (Harrod-Domar economic growth model, Samuelson-Hicksen multiplier and accelerator model) and neo-classical economic growth model (Solow model).Economic growth models are also distinguished by their other features. As macroeconomics is symbolically divided into two major parts, modern economic growth models are also divided into two parts:Short-Run and Long-Run[3]. In the short term, economic growth models study the causes and outcomes of emerging economies and the components and ways of sustaining economic growth. Long term models are learning the causes of equilibrium in the long run.
Research outcomes – The equilibrium state of the teconomic growth was assessed for Azerbaijani conditions,In real terms, marginal propensity to consume and invest, as well as marginal productivity of capital was determined.Then, the growth rate (speed) of sustainable economic growth pace for the post-oil cycle was determined.
Practical significance of the research - In post-oil period, economic growth problems in Azerbaijan are studied on scientific basisand can contribute to improve the effectiveness of the country's macroeconomic policy based on the outcomes achieved.
Key words: Post-oil period, economic growth, natural capital, macroeconomic equilibrium.

[1] http://www.undp.org/content/dam/azerbaijan/docs/publications/sustainabledevelopment/
[2] Taban, S. (2008).İktisadiBüyüme: KavramveModeller, Ankara, Nobel YayınDağıtım.
[3] Andrew B. Abel , Ben S. Bernanke, Dean Croushore. Macroeconomics, 6thed. 2008

1. Introduction

Oil production and exports play important role in economic development as well as economic growth of oil producing countries. No one can doubt that the oil prices, as the energy carriers, play a role in individual and global development trends of countries. However, world oil prices have fallen significantly in recent years, and it is less likely that oil price will rise to its previous high level.On the other hand, oil is a depleted resource.In some countries, including in Azerbaijan, the volume of oil extraction is getting down.From this point of view, the study of economic growth problems for the post-oil era in oil producing countries increases its significance. Developing economic growth models within the context of Azerbaijan's current economy for post-oil period is an actual problem.

It should be noted that the main problem of economic growth models is in income distribution. An effective division of income between consumption and savings creates a balanced and sustainable economic growth.Contemporary researchers believe that human capital is the main driving force behind economic growth.Such that, investing in physical capital reduces productivity (eg, Keynesian investment multiplier), whereas the knowledge gained through investments in human capital provides increased yields through transfer of retained knowledge. According to many researchers, the development of human capital determines the quality of administrative institutions.In countries with high human capital, the possibility of democratic governance is increasing, the level of protection of private property inviolability increases whilethe corruption phenomenon is declining[4].

Analysis of and research on macroeconomic processes using growth models helps to evaluate the results of economic activity, eliminate negative events, develop economic policy and make predictions based on certain theoretical concepts.Economic growth is a part of the economic development processes.

Purpose of the study isstudying the problem of economic growth by taking into account the realities of Azerbaijan, modeling and determining the basics of economic growth in post-oil period.

2. Theoretical-methodological aspects

The development of modern economic growth models is primarily based on the use of mathematical and statistical methods. The indicators are aggregated and the economy is analyzed in the form of a single organism. Thus, the economic growth reflects the amount and the share of the country's gross domestic product for a certain period of time.

Economic stability is reflected in the economic functions of the state. The achievement of economic stability means, first of all, achieving the level of economic growth, inflation and unemployment. Researchers have tried to explain causes of development of countries around the globe and differences in this development using economic growth models. In economic literature, economic growth models are classified on a variety of basis[5]. Generally, it is groupped in two major groups, namely traditional economic growth models and modern economic growth models[6]. **Traditional economic growth models** include classic economic growth models (Smith, Maltus, Ricardo) and models named after Karl Marx, Joseph Schumpeter, John Meynard Keynes. **Modern economic growth models are based on neo-keynesian economic growth**

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[4]Acemoglu D., Johnson S., Robinson J. A., Yared P. From Education to Democracy// American Economic Review. 2005. Vol. 95, No 2. P. 44—49.

[5]http://www.undp.org/content/dam/azerbaijan/docs/publications/sustainabledevelopment/

[6]Taban, S. (2008).İktisadiBüyüme: KavramveModeller, Ankara, Nobel YayınDağıtım.

models (Harrod-Domar economic growth model, Samuelson-Hicksen multiplier and accelerator model) and neo-classical economic growth model (Solow model). Economic growth models are distinguished by other features. As macroeconomics is symbolically divided into two major parts, modern economic growth models are also divided into two parts: **Short-RunLong-Run**[7]**.** In the short term, economic growth models examine the causes and outcomes of events emerging in the economy. These economic growth models study the components and ways of sustaining economic growth.

If the steady state growth in a number of economic growth models is explained using exogenous factors, then in Romer's, and then in Lucas's models the economic growth has been endogenously identified by using the technology since the mid-1980's. In these models, endogenous economic growth has been explained on the basis of technology and innovation. These models, along with the short-term analysis and forecasting, have enabled us to explore long-term economic fluctuations.

The hesitancy of the economic growth and its continuing prolongation led to the creation of the first long-term, wavelike economic growth model of English economist U.Cevan. Initially, the wave of economic growth was explained by price dynamics, but later the economic growth was linked with the rate of debt. The "multiplier and accelerator interaction models" of Nobel Prize winners in economics Paul Samuelson and Hicks, have for the first time given an analytical explanation of the upward and downward trend in economic growth.

It should be noted that existing economic growth models have certain deficiencies. Such that, causes of varying economic growth among countries have not been fully explained during the assessment of economic growth models. However, each of the economic growth models allows to analyze certain aspects of economic growth individually.

3. Neo-Keynesian economic growth models

Domar-Harrod's economic growth is considered to be neo-Keynesian growth models. The early stage of this model was set by English economists Evsey Dommar and Roy Harrod. The simplest form of the economic growth model is E.Domar's model. The model of the Domar is based on the fact that there is an abundance of supply in the labor market, which implies the stability of the price level. Harrod's economic growth model consists of three parts: – Fundamental Equality of Growth - Guaranteed Growth - Natural Growth.In general, when considering the model, it can be shown that if the actual and guaranteed growth creates a cyclical crisis, then it will result in chronic unemployment.Harrod's model imagines the periodic instability of market economy.E. Domar figured out a balanced growth equilibrium, independently, in comfort with Harrod's first guaranteed growth equilibrium. In the Domar model, it is assumed that the investment plays a dual role in the economy: On the one hand, they create production tools, and on the other hand create demand by multiplier effects.Domar shows that in order for growth in demand to be in comfort with the growth of production forces investments should be equal to the production of return on investment to the rate of savings in a steady state growth case. R.F.Harrud's "guaranteed" growth rate means that it is fully capitalized, but this is not a full-fledged emploment.Harrod has also brought the concept of "natural" growth rate to science. Natural growth is explained as the maximum rate allowed by population growth and technical progress.Harrod considered a steady increase in production and labor productivity, which sustained the ever-growing population to be the only factor of growth. As a third factor, he specifically mentioned the savings of capital and this specific instruction of Harrod was of particular importance.Harrod noted that the market economy was not self-regulating and that state control was essential for its regulation.At present the western countries have no growth economic development concept, because productivity per capita is high at the expense of

[7]Andrew B. Abel , Ben S. Bernanke, Dean Croushore. Macroeconomics, 6thed. 2008

scientific and technical achievements.The constant volatility of the economy's balance is considered to be one of the factors that hamper the implementation of the Domar-Horrod model. For this reason, the Harrod-Domar model is widely used in the analysis of short-term economic growth. Domar model, which is considered as a simple Keynsesian model of economic growth, is as follows:

$\frac{\Delta Y_t^S}{Y_{t-1}^S}$ =σ*S_y(1)

Where,$\frac{\Delta Y_t^S}{Y_{t-1}^S}$ -t is the speed of economic growth at time t,σ-marginal productivity of capital,S_y-isə savings.

As it is known, the marginal productivity and savings norm of capital are the major variables of the model, and in the experimental assessment they are determined by the following equations:

S_t=b+$S_y Y_t$ (2)

Δy_t=σ(K_t - K_{t-1})=σ*I_t (3)

Where Δy_t- t economic growth in production at time t,

I_t- tinvestment made to fixed capital at time t, S_t- t total volume of savings at time t,

Y_t - t production volume at time t,

b–constant.

One of the most important concepts of the model is that during dynamic equilibrium state economic growth (production of savings norm to marginal productivity of capital), production of goods? Investments and growth speed of captial is equal to one oanother, meaning:

$\frac{\Delta Y_t}{Y_{t-1}}=\frac{\Delta I_t}{I_{t-1}}=\frac{\Delta K_t}{K_{t-1}}$(4)

Acording to Domar equation (4) in the absence of technical progress, is a key indicator of dynamic equilibrium economic growth.

The Harrod model of Keynesian type economic growth model can be written as indicated below:

$\frac{Y_t - Y_{t-1}}{Y_{t-1}}=\frac{S_y}{\alpha - S_y}$ (5)

Where, $\frac{\Delta Y_t^S}{Y_{t-1}^S}$ - t speed of economic growth at time t, $\alpha -$ accelerator, $S_y -$ $marginal\ propensity\ to\ consume.$ Marginal propensity to consume and accelerator can be combined as follows from equation (2):

I_t= α * ($Y_t - Y_{t-1}$) (6)

(5) We will call the equilibrium state economic growth model which isdetermined by (5) as Harrod's "guaranteed" growth model. Thus, this growth rate guarantees the full utilization of existing production capacities.

As in the Domar model, the aggregate demand in the Harrod model is determined by the multiplier:

$$Y_t^D = \frac{I_t}{S_y} = \frac{\alpha * (Y_t - Y_{t-1})}{S_y} \qquad (7)$$

As the $\frac{\alpha}{S_y} > 1$ condition is set, then aggregate demand will be more than the aggregate supply.

4. Information base of the research

The study covers the following years of 2000-2015:
Evaluating the neo-Keynesian economic growth models for the country's economy, the dynamic and steady state of economic growth is determined during the period under review.
It should be noted that all the indicators of the study were used in non-nominal terms, and the year 2000 was chosen as the base year for this purpose.The given indicators were taken from the website of the Statistical Committee of the Republic of Azerbaijan (stat.gov.az) and the website of the National Bank of Azerbaijan (cbar.az).Econometric assessments were made in E-views7 software package.

5. Realization of Keynesian type Domar və Harrod models in Azərbaycan economy

Firstly, let's assess the balanced economic growth rate for Domar, and then Harrod models during the period of oil boom (2000-2013)where oil prices were high and production has risen and in post-oil perriod of 2014-2017 where oil prices declined sharply and reduced oil production.:

In order to evaluate the Domar model it is necessary to find the parameters of the savings norm and the marginal productivity of capital. For this purpose, the following results were obtained from the implementation of the Domarus model in the Eviews7program package of the real indicators for the period covered by the economy of the Republic of Azerbaijan.

Tabel 1.

Dependent Variable: R_SAVING				
Method: Least Squares				
Date: 05/02/17 Time: 02:47				
Sample (adjusted): 2000 2013				
Included observations: 13 after adjustments				
Convergence achieved after 18 iterations				
MA Backcast: 2000				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
REAL_GDP	0.205133	0.049011	4.185458	0.0019
AR(1)	0.754837	0.210021	3.594099	0.0049
MA(1)	0.888579	0.158206	5.616610	0.0002
R-squared	0.696393	Mean dependent var		3104.692
Adjusted R-squared	0.635672	S.D. dependent var		787.7870
S.E. of regression	475.5051	Akaike info criterion		15.36581
Sum squared resid	2261051.	Schwarz criterion		15.49618
Log likelihood	-96.87774	Hannan-Quinn criter.		15.33901
Durbin-Watson stat	1.471227			
Inverted AR Roots	.75			
Inverted MA Roots	-.89			

R_SAVING = 0.205133092015*REAL_GDP +
[AR(1)=0.754837146075,MA(1)=0.888578691287,BACKCAST=2001,ESTSMPL="2001 2013"] (8)

Where, Real_SAVINGSis the real volume of savings; Real_GDP – real volume of GDP (year-end figure in billions of local currency).
The numbers we write in brackets below the model's parameters are the t-statistics of the corresponding parameters.
As indicated in Model (8) savings norm is equal to $S_Y = 0.205133092015$.

As seen in appendix 1, t-statistics has statistical significance. Standard errors of parameters are significantly lower than the price of parameters found by least squares method which is reliable (excluding the constant coefficient).It is seen more clearly in Styudent's t-statistics and corresponding probability. (Appendix 1). This fact is also indicative of the change in the price of the coefficient of marginal propensity to save.
Assesment and tests made for model (8) are enough to consider this model to be adequate. These tests are given in appendix 1.
Let's now assess the marginal productivity of capital based on real data:

$$\Delta Y_t = a + \sigma I_t \quad (9)$$

Where ΔY_t- t change in GDP at time t, , I_t – t investments at time t or change in investmentsand σ are constant parameters. Following outcome was made by using real data in E-VİEWS program pack that covered a period from 2000 to 2015 (Apprendix 2):

D(REAL_GDP) = 0.242165079471*REAL_INVEST (10)
(s.e.) (0.065306)
(t-statisics) (3.708145)

σ-marginal prodcutivity of capital 0.242165079471
Outcomes of the model is given in Appendix 2. Based on these outcomes and tests it can be stated that the model is suffucuently adequate to real economy. Such that, t-statistics is close to3.708145 which indicates its statistical significance. Probability that σ coefficientis erroneous is 0.21% and considered to be adequate. Determination coefficient has no meaning as there is no constant parameter in this mode. Thus, both parameters which are important for the Domar model has been assessed. Let's calculate the speed of equilibrium state economic growth for years 2000-2013.

$$\frac{\Delta Y_t^S}{Y_{t-1}^S} = S_Y * \sigma = 0.205133092015 * 0.242165079471 = 0.064995$$

Thus, the speed of growth was found: 0.064995 or6,5%
A conclusion was made that annual real growth rate of GDP in Azerbaijan should be 6,5% in order to keep a long-term equilibrium between aggreate demand and aggreagate supply. In other words, in accordance with the Domar model equilibrium state economic growth rate is 6.5%. By the condition of the Domar model, the state of equality of the growth rate of GDP to the growth rate of investments and capital is the utmost peculiarity of dynamic equiibrium state economic growth.

The period after 2014 where the observations cleared reduced oil prices and reduction in production of oil is called the transition period to post-oil era in Azerbaijan. Having looked at the statistical information one can identify that savings norm has approximately reduced to 0.1 (S_Y =0.1), whereasσ-marginal productivity of capital has gone down to 0.2.
Thus, during the transition period to post-oil era the equilibrium state economic growth in Azerbaijan based on the Domar model can be described as indicated:

$\frac{\Delta Y_t^s}{Y_{t-1}^s}$=$S_Y * \sigma$ =0.1 *0.2=0.02, in other wors 2%.

Let's now take a look at the realization of the Harrod model forthe economy of Azərbaycan Republic coveringyear 2000-2015. Real data has yielded the following results in Eviews program pack: (Apendix 3)

REAL_INVEST = 1.95418472519*D(REAL_GDP) (11)
t-st (4.80829)

Where, Real_INVESTis the real volume of investment; Real_GDP –real volume of GDP. Determination coefficient has no meaning as there is no constant parameter.
As seen in equation (11)the speed of accelerator is$\propto$= 1.95418472519.t-Statistic=4.080956 which is appropriate. Thus, it can be concluded that GDP growth has a big impact on investment growth with statistical significance The fact that the price of accelerator is more than 1 indicates that the volume of GDP is prone to increase.

Thus, the outcomes of the Harrod model during the oil boom period of economic growth of Azerbaina is as follows:

$\frac{Y_t - Y_{t-1}}{Y_{t-1}} = \frac{S_y}{\propto - S_y} = \frac{0.205133}{1.95418472519 - 0.205133}$ =0.117282

Thus in accordance with Harrod model the equilibrium and "guaranteed" economic growth rate is 11.7%. In other words an 11.7%.annual growth speed allows the full use of production resources by providing an equilibrium between aggregate deamnd and aggregate supply.

Having analyzed both outcomes for Azerbaijan economy on Domar and Harrod models that the equilibrium state growth rate in the first model is less than the one in the second model.

IT should be noted that based on real statistical data GDP growth rate in Azerbaijan has been faster than equilibrium and "guaranteed" rate of growth which impeded the non-oil sector. For post-oil period, more precisely for most recent 2 years on average, marginal propensity to consume (S_y) and accelerator prices ($\propto$) went down to 0.1 and 1.8, respectively. Thus, the speed of growth is as follows:

$$\frac{Y_t - Y_{t-1}}{Y_{t-1}} = \frac{S_y}{\propto - S_y} = \frac{0,1}{1.8 - 0,1} = 0.037037 \quad (12)$$

Thus, during the transition process to post-oil period in accordance with Harrod model an equilibrium and "guaranteed rate of growth in our country was 3.7%.

6. Outcomes

- Short-term dynamic equilibrium level of economic growth was determined for both periods, oil boom and post-oil based on the assessment of conditions providing the equility of aggregate demand and aggregate supply.The equilibrium state economic growth level in Azerbaijan, whether by Domar or Harrod models, was law during the post-oil transition period.
- In accordance with the Domar model during years 2000-2013 the speed of equilibrium state economic growth was 6.5% (2% for post-oil period), In accordance with the Harrod modelthe speed of equilibrium state economic growth was 11,7%(3.7% for post-oil period). The fact that equilibrium state growth speed in the Harrod modelwas more than that of the Domar model is justified by the negative relationship between marginal productivity of capital and accelerator. In accordance with Domar modelthe equilibrium state growth speed is σ*S_y, in accordance wiht Harrod model the same indicator is characterized by $\frac{S_y}{\alpha - S_y}$. σ –marginal productivity is given as:

$\sigma = \lim_{\Delta Y \to 0} \frac{\Delta Y}{\Delta K} \approx \frac{\Delta Y}{\Delta K}$ or $\Delta K_t = \frac{1}{\sigma} \Delta Y_t$, $I_t = (K_t - K_{t-1}) = \Delta K_t = \frac{1}{\sigma} \Delta Y_t$.

If this equality is compared to the equality found in the Harrod model $I_t = \alpha * (Y_t - Y_{t-1})$, $\frac{1}{\sigma} = \alpha$ would be identified. In other words, marginal productivity of the capital is reciprocal to the accelerator. Thus, the growth speed of the Domar model is characterized as: $\sigma * S_y = \frac{1}{\alpha} S_y \qquad 0 < S_y < 1$,

Taken by the Harrod model the growth speed is characterized as:

$\frac{1}{\alpha - S_y} S_y 0 < S_y < 1$

If compared , because of $\frac{1}{\alpha} < \frac{1}{\alpha - S_y}$

We would get $\frac{1}{\alpha} S_y < \frac{1}{\alpha - S_y} S_y$. In other words, based on the Harrod modela guaranteed and equilibrium state speed of growth should be more than that of the Domar model. Such outcome was assessed based on official statistical data of Azerbaina Republic and was reflected in the outcomes of the Domar and Harrod models.

APPENDIX 1.

Estimation Command:
==========
LS(DERIV=AA) R_SAVING REAL_GDP MA(1) AR(1)

Estimation Equation:
==========
R_SAVING = C(1)*REAL_GDP +
[AR(1)=C(2),MA(1)=C(3),BACKCAST=2001,ESTSMPL="2001 2013"]

Substituted Coefficients:
==========
R_SAVING = 0.205133092015*REAL_GDP +
[AR(1)=0.754837146075,MA(1)=0.888578691287,BACKCAST=2001,ESTSMPL="2001 2013"]

Dependent Variable: R_SAVING
Method: Least Squares
Date: 07/02/17 Time: 02:47
Sample (adjusted): 2001 2013
Included observations: 13 after adjustments
Convergence achieved after 18 iterations
MA Backcast: 2000

Variable	Coefficient	Std. Error	t-Statistic	Prob.
REAL_GDP	0.205133	0.049011	4.185458	0.0019
AR(1)	0.754837	0.210021	3.594099	0.0049
MA(1)	0.888579	0.158206	5.616610	0.0002

R-squared	0.696393	Mean dependent var	3104.692
Adjusted R-squared	0.635672	S.D. dependent var	787.7870
S.E. of regression	475.5051	Akaike info criterion	15.36581
Sum squared resid	2261051.	Schwarz criterion	15.49618
Log likelihood	-96.87774	Hannan-Quinn criter.	15.33901
Durbin-Watson stat	1.471227		

Inverted AR Roots	.75
Inverted MA Roots	-.89

Heteroskedasticity Test: Breusch-Pagan-Godfrey

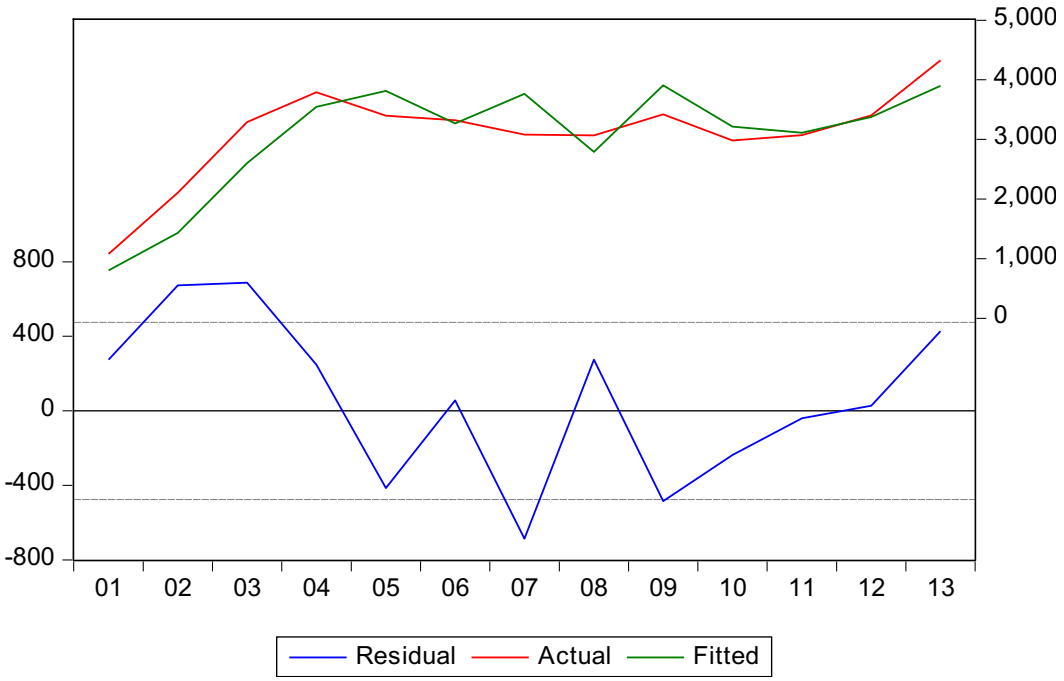
F-statistic	1.652667	Prob. F(1,11)	0.2250
Obs*R-squared	1.698035	Prob. Chi-Square(1)	0.1925
Scaled explained SS	0.504354	Prob. Chi-Square(1)	0.4776

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares

Date: 07/02/17 Time: 02:50
Sample: 2001 2013
Included observations: 13

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	314693.6	119958.8	2.623348	0.0237
REAL_GDP	-10.34300	8.045511	-1.285561	0.2250

R-squared	0.130618	Mean dependent var	173927.0
Adjusted R-squared	0.051583	S.D. dependent var	181384.8
S.E. of regression	176644.6	Akaike info criterion	27.14231
Sum squared resid	3.43E+11	Schwarz criterion	27.22922
Log likelihood	-174.4250	Hannan-Quinn criter.	27.12444
F-statistic	1.652667	Durbin-Watson stat	2.460090
Prob(F-statistic)	0.225001		



Null Hypothesis: RESID03 has a unit root
Exogenous: None
Lag Length: 0 (Automatic - based on SIC, maxlag=2)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.568190	0.0152
Test critical values:	1% level	-2.771926	
	5% level	-1.974028	
	10% level	-1.602922	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
and may not be accurate for a sample size of 12

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID03)
Method: Least Squares
Date: 07/02/17 Time: 02:48
Sample (adjusted): 2002 2013
Included observations: 12 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID03(-1)	-0.774627	0.301624	-2.568190	0.0261

R-squared	0.374480	Mean dependent var	12.69019
Adjusted R-squared	0.374480	S.D. dependent var	549.7592
S.E. of regression	434.8035	Akaike info criterion	15.06732
Sum squared resid	2079595.	Schwarz criterion	15.10773
Log likelihood	-89.40392	Hannan-Quinn criter.	15.05236
Durbin-Watson stat	2.014829		

APPENDIX 2.

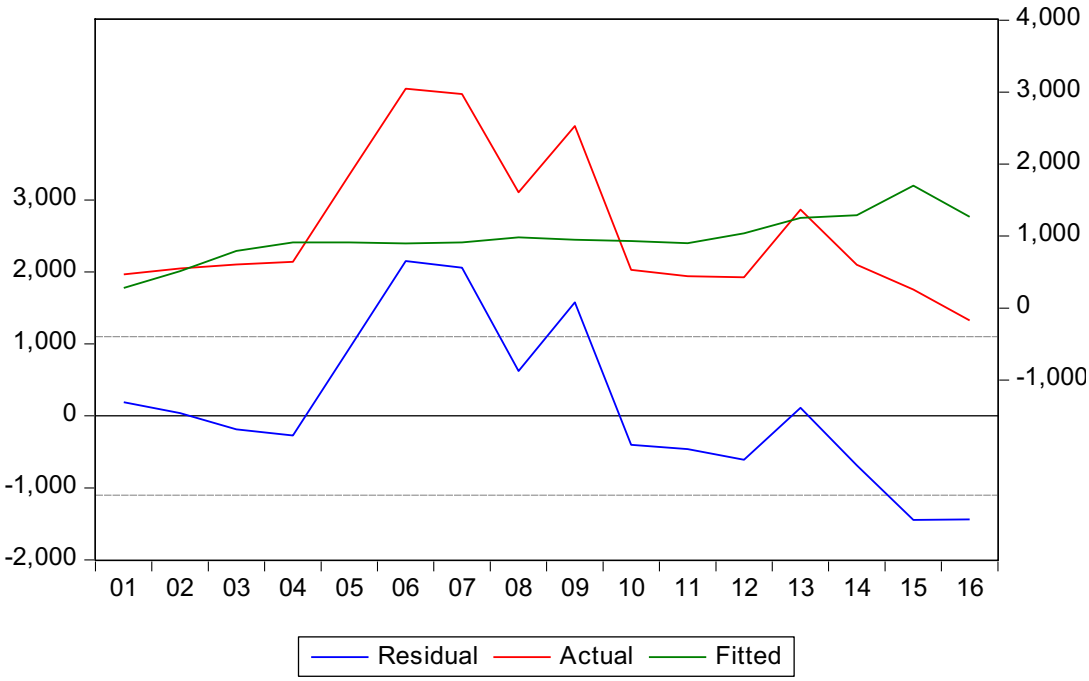
Estimation Command:
==========
LS D(REAL_GDP) REAL_INVEST

Estimation Equation:
==========
D(REAL_GDP) = C(1)*REAL_INVEST

Substituted Coefficients:
==========
D(REAL_GDP) = 0.242165079471*REAL_INVEST

Dependent Variable: D(REAL_GDP)
Method: Least Squares
Date: 05/05/17 Time: 13:57
Sample (adjusted): 2000 2013
Included observations: 14 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
REAL_INVEST	0.242165	0.065306	3.708145	0.0021


4,000
3,000
2,000
1,000
0
-1,000
3,000
2,000
1,000
0
-1,000
-2,000
01
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03
04
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07
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09
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11
12
13
14
15
16
Residual
Actual
Fitted

APPENDIX 3.

Estimation Command:
==========
LS REAL_INVEST D(REAL_GDP)

Estimation Equation:
==========
REAL_INVEST = C(1)*D(REAL_GDP)

Substituted Coefficients:
==========
REAL_INVEST = 1.95418472519*D(REAL_GDP)

Dependent Variable: REAL_INVEST
Method: Least Squares
Date: 05/05/17 Time: 14:35
Sample (adjusted): 2000 2013
Included observations: 14 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(REAL_GDP)	1.954185	0.406420	4.808290	0.0003