LAMPIRAN

RAW DATA

YEAR	CONS	Y
2003	170357916	334331300
2004	192029419	375561523
2005	264212010	501771740.88
2006	309451496.85	566449360.08
2007	368161312.14	677044743.16
2008	419129332.8	757696594.05
2009	474358713.47	861992094.86
2010	542133712.191	982533602.46
2011	809845077.26	1369432639.11
2012	939160695.69	1546876491.42
2013	1065088137.67	1762316399.06
2014	1208347375.84	1989088747.71
2015	1313385627.11	2159073617.96
2016	1437261814.83	2365353854.95
2017	1571964454.61	2592606571.93
2018	1719143962.44	2816760054.16
2019	1726005834.07	2772381118.28
2020	1044156481.84	1792794592.02

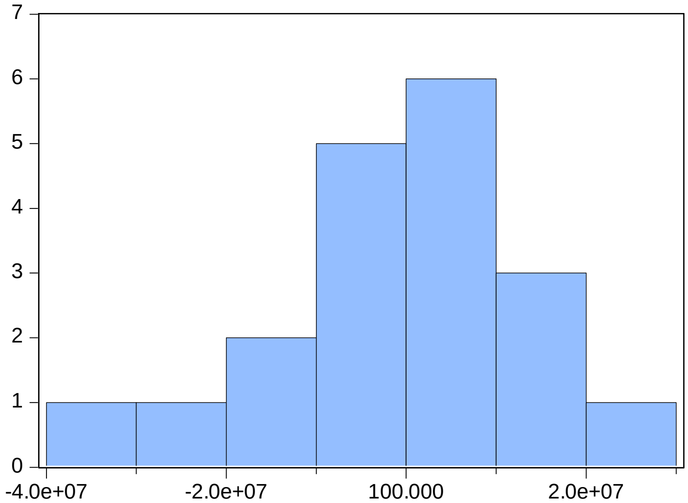
LONG-TERM REGRESSION

Dependent Variable: CONS
Method: Least Squares
Date: 05/12/21 Time: 14:56
Sample: 2002 2020
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Y	0.630934	0.004146	152.1852	0.0000
C	-53052097	6778968.	-7.825984	0.0000

R-squared	0.999267	Mean dependent var	8.28E+08
Adjusted R-squared	0.999223	S.D. dependent var	5.52E+08
S.E. of regression	15385238	Akaike info criterion	36.03502
Sum squared resid	4.02E+15	Schwarz criterion	36.13443
Log likelihood	-340.3326	Hannan-Quinn criter.	36.05184
F-statistic	23160.32	Durbin-Watson stat	1.692271
Prob(F-statistic)	0.000000		

Normality Test



Series: Residuals
Sample 2002 2020
Observations 19

Mean	1.07e-07
Median	679036.6
Maximum	29867215
Minimum	-33927265
Std. Dev.	14951764
Skewness	-0.371975
Kurtosis	3.239974
Jarque-Bera	0.483747
Probability	0.785156

Heteroskedasticity Test: Glejser

F-statistic	0.209622	Prob. F(1,17)	0.6529
Obs*R-squared	0.231430	Prob. Chi-Square(1)	0.6305
Scaled explained SS	0.235650	Prob. Chi-Square(1)	0.6274

Test Equation:
Dependent Variable: ARESID
Method: Least Squares
Date: 05/12/21 Time: 15:16
Sample: 2002 2020
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9451206.	4332703.	2.181365	0.0435
Y	0.001213	0.002650	0.457845	0.6529

R-squared	0.012181	Mean dependent var	11144810
Adjusted R-squared	-0.045927	S.D. dependent var	9614992.
S.E. of regression	9833305.	Akaike info criterion	35.13975
Sum squared resid	1.64E+15	Schwarz criterion	35.23916
Log likelihood	-331.8276	Hannan-Quinn criter.	35.15657
F-statistic	0.209622	Durbin-Watson stat	1.194013
Prob(F-statistic)	0.652861		

Ramsey RESET Test
Equation: UNTITLED
Specification: CONS Y C
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	1.414354	15	0.1777
F-statistic	2.000398	(1, 15)	0.1777
Likelihood ratio	2.253358	1	0.1333

F-test summary:

	Sum of Sq...	df	Mean Squares
Test SSR	4.36E+14	1	4.36E+14
Restricted SSR	3.71E+15	16	2.32E+14
Unrestricted SSR	3.27E+15	15	2.18E+14

LR test summary:

	Value	df
Restricted LogL	-322.1665	16
Unrestricted LogL	-321.0398	15

Unrestricted Test Equation:
Dependent Variable: CONS
Method: Least Squares
Date: 05/16/21 Time: 10:53
Sample: 2003 2020
Included observations: 18

Variable	Coefficien...	Std. Error	t-Statistic	Prob.
Y	0.605912	0.019232	31.50528	0.0000
C	-4092768...	12872866	-3.179376	0.0062
FITTED^2	2.28E-11	1.61E-11	1.414354	0.1777

R-squared	0.999347	Mean dependent var	8.65E+08
Adjusted R-squared	0.999260	S.D. dependent var	5.43E+08
S.E. of regression	14764946	Akaike info criterion	36.00442
Sum squared resid	3.27E+15	Schwarz criterion	36.15282
Log likelihood	-321.0398	Hannan-Quinn criter.	36.02488
F-statistic	11472.30	Durbin-Watson stat	1.634156
Prob(F-statistic)	0.000000		

Autocorrelation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.007351	Prob. F(2,15)	0.9927
Obs*R-squared	0.018605	Prob. Chi-Square(2)	0.9907

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 05/12/21 Time: 15:15
Sample: 2002 2020
Included observations: 19
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Y	-9.17E-05	0.004494	-0.020406	0.9840
C	180180.0	7366981.	0.024458	0.9808
RESID(-1)	-0.026540	0.335071	-0.079208	0.9379
RESID(-2)	-0.022371	0.403936	-0.055383	0.9566

R-squared	0.000979	Mean dependent var	1.07E-07
Adjusted R-squared	-0.198825	S.D. dependent var	14951764
S.E. of regression	16370815	Akaike info criterion	36.24456
Sum squared resid	4.02E+15	Schwarz criterion	36.44339
Log likelihood	-340.3233	Hannan-Quinn criter.	36.27821
F-statistic	0.004901	Durbin-Watson stat	1.658660
Prob(F-statistic)	0.999505		

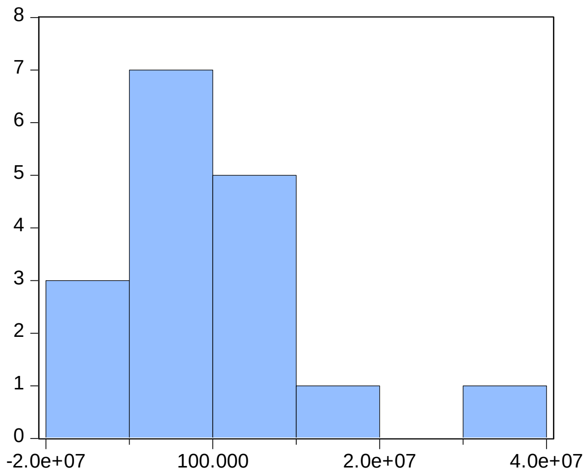
SHORT-TERM REGRESSION

Dependent Variable: D(CONS)
Method: Least Squares
Date: 05/16/21 Time: 09:52
Sample (adjusted): 2004 2020
Included observations: 17 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(Y)	0.664800	0.014527	45.76420	0.0000
ECT(-1)	-0.642014	0.337065	-1.904717	0.0776
C	-4368590.	3698190.	-1.181278	0.2572

R-squared	0.995980	Mean dependent var	51399916
Adjusted R-squared	0.995406	S.D. dependent var	1.99E+08
S.E. of regression	13475012	Akaike info criterion	35.82936
Sum squared resid	2.54E+15	Schwarz criterion	35.97639
Log likelihood	-301.5495	Hannan-Quinn criter.	35.84397
F-statistic	1734.489	Durbin-Watson stat	2.091659
Prob(F-statistic)	0.000000		

Normality Test



Series: Residuals	
Sample 2004 2020	
Observations 17	
Mean	1.75e-09
Median	-749778.7
Maximum	36780874
Minimum	-17379280
Std. Dev.	12604719
Skewness	1.420957
Kurtosis	5.408250
Jarque-Bera	9.828931
Probability	0.007340

Heteroscedasticity

Heteroskedasticity Test: Glejser

F-statistic	1.722882	Prob. F(2,14)	0.2143
Obs*R-squared	3.357721	Prob. Chi-Square(2)	0.1866
Scaled explained SS	4.043687	Prob. Chi-Square(2)	0.1324

Test Equation:
Dependent Variable: ARESID
Method: Least Squares
Date: 05/16/21 Time: 10:12
Sample: 2004 2020
Included observations: 17

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10421033	2414992.	4.315141	0.0007
D(Y)	-0.015235	0.009486	-1.606061	0.1306
ECT(-1)	-0.376807	0.220110	-1.711901	0.1090

R-squared	0.197513	Mean dependent var	8370926.
Adjusted R-squared	0.082872	S.D. dependent var	9188418.
S.E. of regression	8799454.	Akaike info criterion	34.97706
Sum squared resid	1.08E+15	Schwarz criterion	35.12410
Log likelihood	-294.3050	Hannan-Quinn criter.	34.99168
F-statistic	1.722882	Durbin-Watson stat	2.862866
Prob(F-statistic)	0.214322		

LINEARITY

Ramsey RESET Test
Equation: UNTITLED
Specification: D(CONS) D(Y) ECT(-1) C
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	1.593097	13	0.1352
F-statistic	2.537960	(1, 13)	0.1352
Likelihood ratio	3.031723	1	0.0817

F-test summary:

	Sum of Sq...	df	Mean Squares
Test SSR	4.15E+14	1	4.15E+14
Restricted SSR	2.54E+15	14	1.82E+14
Unrestricted SSR	2.13E+15	13	1.64E+14

LR test summary:

	Value	df
Restricted LogL	-301.5495	14
Unrestricted LogL	-300.0337	13

Unrestricted Test Equation:
Dependent Variable: D(CONS)
Method: Least Squares
Date: 05/16/21 Time: 10:11
Sample: 2004 2020
Included observations: 17

Variable	Coefficien...	Std. Error	t-Statistic	Prob.
D(Y)	0.628432	0.026670	23.56325	0.0000
ECT(-1)	-0.729578	0.324636	-2.247372	0.0426
C	3028897.	5821050.	0.520335	0.6116
FITTED^2	-1.03E-10	6.49E-11	-1.593097	0.1352

R-squared	0.996637	Mean dependent var	51399916
Adjusted R-squared	0.995861	S.D. dependent var	1.99E+08
S.E. of regression	12790755	Akaike info criterion	35.76867
Sum squared resid	2.13E+15	Schwarz criterion	35.96472
Log likelihood	-300.0337	Hannan-Quinn criter.	35.78816
F-statistic	1284.200	Durbin-Watson stat	1.667208
Prob(F-statistic)	0.000000		

Autocorrelation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.407240	Prob. F(2,12)	0.1321
Obs*R-squared	4.867599	Prob. Chi-Square(2)	0.0877

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 05/16/21 Time: 10:29
Sample: 2004 2020
Included observations: 17
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(Y)	-0.010051	0.017566	-0.572180	0.5778
ECT(-1)	1.221738	0.718748	1.699815	0.1149
C	-2438793.	3649182.	-0.668312	0.5166
RESID(-1)	-1.329002	0.835654	-1.590373	0.1377
RESID(-2)	-0.879261	0.442923	-1.985132	0.0705

R-squared	0.286329	Mean dependent var	1.75E-09
Adjusted R-squared	0.048439	S.D. dependent var	12604719
S.E. of regression	12295649	Akaike info criterion	35.72732
Sum squared resid	1.81E+15	Schwarz criterion	35.97238
Log likelihood	-298.6822	Hannan-Quinn criter.	35.75168
F-statistic	1.203620	Durbin-Watson stat	2.120880
Prob(F-statistic)	0.359114		

Cointegration Test

Null Hypothesis: ECT has a unit root
Exogenous: Constant
Bandwidth: 1 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-3.503096	0.0204
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*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 18

Residual variance (no correction)	2.07E+1...
HAC corrected variance (Bartlett kernel)	1.94E+1...

Phillips-Perron Test Equation
Dependent Variable: D(ECT)
Method: Least Squares
Date: 05/12/21 Time: 15:00
Sample (adjusted): 2003 2020
Included observations: 18 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECT(-1)	-1.022040	0.288241	-3.545787	0.0027
C	-877044.8	3641513.	-0.240846	0.8127

R-squared	0.440023	Mean dependent var	-2803435.
Adjusted R-squared	0.405025	S.D. dependent var	19805259
S.E. of regression	15276718	Akaike info criterion	36.02600
Sum squared resid	3.73E+15	Schwarz criterion	36.12493
Log likelihood	-322.2340	Hannan-Quinn criter.	36.03964
F-statistic	12.57261	Durbin-Watson stat	1.797022
Prob(F-statistic)	0.002690		