ملحق رقم (1)

obs	UNP	MS	POP	GDP	INF
1992	11.1	14159.5	24495	421818	117.6
1993	18.5	26858.3	25200	948448	101.3
1994	17	40535.3	25925	1881289	115.4
1995	16.6	70586.6	26671.6	4049739	68.4
1996	18.1	116598.1	27439.7	1047814	132.7
1997	15.1	159714	28229.9	1613737	47.7
1998	15.7	206951	29042.9	2193591	17.1
1999	15.2	257918	29879.3	2705881	16
2000	15.5	346670.6	30739.8	3366271	8
2001	15.9	432213.3	31625	4065856	4.9
2002	15.8	563266.7	32535.8	4775611	8.3
2003	16.3	742356	33446.8	5573368	7.7
2004	17.1	969779.4	34383.3	6872138	8.5
2005	17.3	1403138.1	35346	8570713	8.5
2006	19.4	1787177.9	36335.6	9871881	7.2
2007	19.7	1971461.9	37352.9	11401755	8.1
2008	20.6	2155745.9	38398.7	12774690	14.3
2009	21	2340029.8	39473.8	13111870	11.2

ملحق رقم (2)

ADF Test Statistic	-4.265603	1%	Critical Value*	-3.9635
		5%	Critical Value	-3.0818
		10%	Critical Value	-2.6829

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(GDP,2)
Method: Least Squares
Date: 07/07/11 Time: 08:23
Sample(adjusted): 1995 2009
Included observations: 15 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP(-1))	-2.008011	0.470745	-4.265603	0.0011
D(GDP(-1),2)	0.337859	0.271704	1.243479	0.2374
C	1524375.	6655372.	0.229044	0.8227

R-squared	0.778940	Mean dependent var	-39710.73
Adjusted R-squared	0.742097	S.D. dependent var	50682812
S.E. of regression	25738837	Akaike info criterion	37.14176
Sum squared resid	7.95E+15	Schwarz criterion	37.28337
Log likelihood	-275.5632	F-statistic	21.14198
Durbin-Watson stat	2.167133	Prob(F-statistic)	0.000117

ملحق (3)

PP Test Statistic	47.56800	1%	Critical Value*	-3.8877
		5%	Critical Value	-3.0521
		10%	Critical Value	-2.6672

*MacKinnon critical values for rejection of hypothesis of a unit root.

Lag truncation for Bartlett kernel:	(Newey-West suggests: 2)	
2		
Residual variance with no correction		44.00201
Residual variance with correction		80.87654

Phillips-Perron Test Equation
Dependent Variable: D(POP)
Method: Least Squares
Date: 07/14/11 Time: 13:15
Sample(adjusted): 1993 2009
Included observations: 17 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
POP(-1)	0.025926	0.000402	64.49233	0.0000
C	77.33122	12.58024	6.147038	0.0000

R-squared	0.996407	Mean dependent var	881.1059
Adjusted R-squared	0.996167	S.D. dependent var	114.0630
S.E. of regression	7.061795	Akaike info criterion	6.857406
Sum squared resid	748.0341	Schwarz criterion	6.955432
Log likelihood	-56.28795	F-statistic	4159.260
Durbin-Watson stat	0.831751	Prob(F-statistic)	0.000000

ملحق رقم (4)

ADF Test Statistic	-3.213839	1%	Critical Value*	-4.0113
		5%	Critical Value	-3.1003
		10%	Critical Value	-2.6927

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(MS,3)
Method: Least Squares
Date: 07/14/11 Time: 13:17
Sample(adjusted): 1996 2009
Included observations: 14 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MS(-1),2)	-1.185656	0.368922	-3.213839	0.0082
D(MS(-1),3)	0.370360	0.280219	1.321680	0.2131
C	13304.94	22883.01	0.581433	0.5727

R-squared	0.509850	Mean dependent var	-1169.600
Adjusted R-squared	0.420732	S.D. dependent var	110290.9
S.E. of regression	83941.99	Akaike info criterion	25.70105
Sum squared resid	7.75E+10	Schwarz criterion	25.83799
Log likelihood	-176.9073	F-statistic	5.721063
Durbin-Watson stat	1.853853	Prob(F-statistic)	0.019806

ملحق رقم (5)

ADF Test Statistic	-5.454849	1%	Critical Value*	-4.0113
		5%	Critical Value	-3.1003
		10%	Critical Value	-2.6927

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(INF,3)
Method: Least Squares
Date: 07/19/11 Time: 15:00
Sample(adjusted): 1996 2009
Included observations: 14 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(INF(-1),2)	-2.538097	0.465292	-5.454849	0.0002
D(INF(-1),3)	0.470788	0.247631	1.901169	0.0838
C	3.111843	9.153468	0.339963	0.7403

R-squared	0.908802	Mean dependent var	3.700000
Adjusted R-squared	0.892221	S.D. dependent var	104.2934
S.E. of regression	34.23927	Akaike info criterion	10.09203
Sum squared resid	12895.60	Schwarz criterion	10.22897
Log likelihood	-67.64423	F-statistic	54.80843
Durbin-Watson stat	1.707278	Prob(F-statistic)	0.000002

ملحق رقم (6)

ADF Test Statistic	-3.615973	1%	Critical Value*	-3.9635
		5%	Critical Value	-3.0818
		10%	Critical Value	-2.6829

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(UNP,2)
Method: Least Squares
Date: 08/17/11 Time: 10:23
Sample(adjusted): 1995 2009
Included observations: 15 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(UNP(-1))	-1.385447	0.383146	-3.615973	0.0035
D(UNP(-1),2)	0.075822	0.155349	0.488072	0.6343
C	0.353485	0.319340	1.106923	0.2900

R-squared	0.666716	Mean dependent var	0.126667
Adjusted R-squared	0.611168	S.D. dependent var	1.854903
S.E. of regression	1.156651	Akaike info criterion	3.305790
Sum squared resid	16.05409	Schwarz criterion	3.447400
Log likelihood	-21.79343	F-statistic	12.00265
Durbin-Watson stat	1.804372	Prob(F-statistic)	0.001371

ملحق رقم (7)

Date: 08/17/11 Time: 10:34
Sample: 1992 2009
Included observations: 16
Test assumption: Linear deterministic trend in the data
Series: UNP POP MS GDP INF
Lags interval: 1 to 1

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value	Hypothesized No. of CE(s)
0.886193	69.00549	47.21	54.46	None **
0.640786	34.23345	29.68	35.65	At most 1 *
0.531185	17.85206	15.41	20.04	At most 2 *
0.301071	5.731288	3.76	6.65	At most 3 *
0.232175	4.227105	3.76	6.65	At most 3 *

*(**) denotes rejection of the hypothesis at 5%(1%) significance level
L.R. test indicates 5 cointegrating equation(s) at 5% significance level

Unnormalized Cointegrating Coefficients:

UNP	POP	MS	GDP
-0.983644	-0.000235	1.05E-06	8.03E-07
-0.015605	0.001198	-8.94E-07	-4.43E-08
0.765268	-0.000187	-3.79E-06	-1.27E-08
-0.035424	0.000680	-7.49E-09	1.51E-07

Normalized Cointegrating Coefficients: 1 Cointegrating Equation(s)

UNP	POP	MS	GDP	C
1.000000	0.000239	-1.07E-06	-8.16E-07	-19.69787
	(0.00013)	(2.8E-07)	(5.7E-08)	
Log likelihood	-482.8575			

ملحق رقم (8)

Dependent Variable: D(UNP,2)
Method: Least Squares
Date: 07/17/11 Time: 08:57
Sample(adjusted): 1995 2009
Included observations: 15 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.196312	2.913389	0.753868	0.4683
D(POP)	-0.002316	0.003207	-0.722014	0.4868
D(MS,3)	-8.41E-07	3.07E-06	-0.273475	0.7901
D(GDP,3)	-3.51E-07	3.02E-07	-1.162291	0.2721
D(INF,3)	0.004525	0.008993	0.503176	0.6257

R-squared	0.689902	Mean dependent var	0.126667
Adjusted R-squared	0.565863	S.D. dependent var	1.854903
S.E. of regression	1.222178	Akaike info criterion	3.500348
Sum squared resid	14.93719	Schwarz criterion	3.736365
Log likelihood	-21.25261	F-statistic	5.561979
Durbin-Watson stat	3.126833	Prob(F-statistic)	0.012759

ملحق رقم (9)

Dependent Variable: LOG(UNP)
Method: Least Squares
Date: 07/05/11 Time: 11:10
Sample: 1992 2009
Included observations: 18

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.127084	8.134997	0.384399	0.7069
LOG(POP)	-0.352894	0.908097	-0.388609	0.7039
LOG(MS)	0.093628	0.093416	1.002269	0.3345
LOG(GDP)	0.119910	0.064248	1.866348	0.0847
LOG(INF)	0.115892	0.037227	3.113097	0.0082

R-squared	0.702614	Mean dependent var	2.823151
Adjusted R-squared	0.611110	S.D. dependent var	0.146653
S.E. of regression	0.091454	Akaike info criterion	-1.715825
Sum squared resid	0.108730	Schwarz criterion	-1.468499
Log likelihood	20.44242	F-statistic	7.678546
Durbin-Watson stat	2.591373	Prob(F-statistic)	0.002100

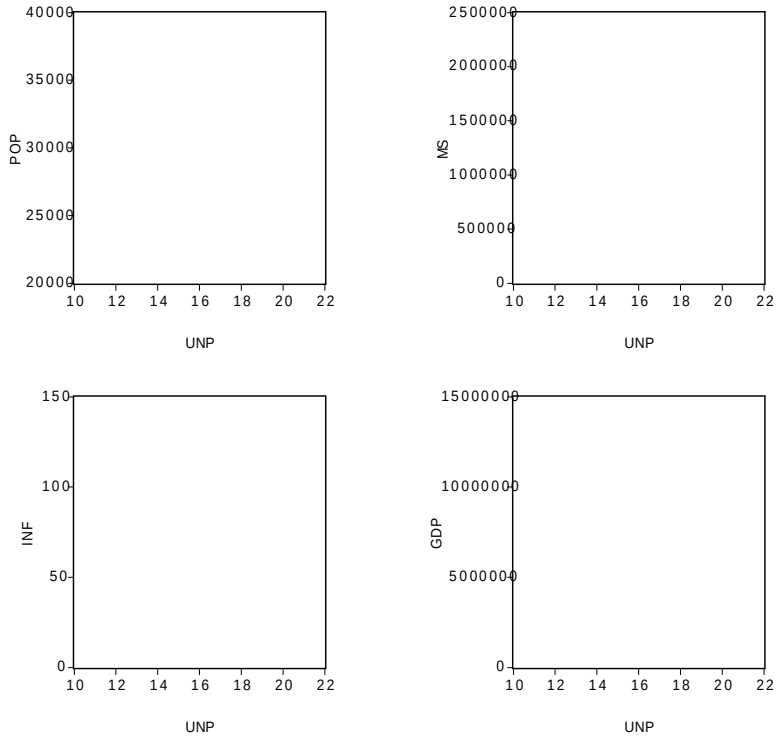
ملحق (10)

Dependent Variable: LOG(UNP)
Method: Least Squares
Date: 07/05/11 Time: 12:53
Sample(adjusted): 1995 2009
Included observations: 15 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.383796	0.114553	12.07997	0.0000
D(MS,3)	-1.94E-07	7.41E-08	-2.621128	0.0255
D(GDP,3)	-7.79E-09	2.55E-09	-3.056493	0.0121
D(POP)	0.001356	0.000102	13.25119	0.0000
LOG(INF)	0.088144	0.011163	7.895842	0.0000

R-squared	0.951932	Mean dependent var	2.843919
Adjusted R-squared	0.932705	S.D. dependent var	0.112399
S.E. of regression	0.029158	Akaike info criterion	-3.971006
Sum squared resid	0.008502	Schwarz criterion	-3.734989
Log likelihood	34.78254	F-statistic	49.51015
Durbin-Watson stat	1.903279	Prob(F-statistic)	0.000001

ملحق رقم (11)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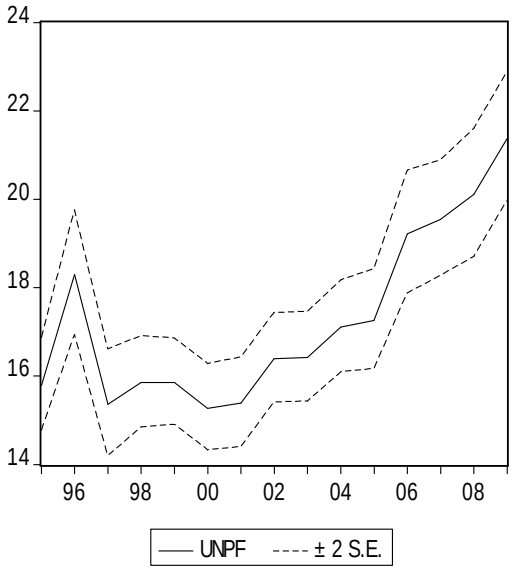
ملحق رقم (12)



Forecast: UNPF
Actual: UNP
Forecast sample: 1992 2009
Adjusted sample: 1995 2009
Included observations: 15

Root Mean Squared Error	0.393632
Mean Absolute Error	0.317579
Mean Abs. Percent Error	1.882582
Theil Inequality Coefficient	0.011318
Bias Proportion	0.000149
Variance Proportion	0.011301
Covariance Proportion	0.988550