

APPENDIX

EViews result

Data presentation

YEAR	BOP	ERP	EXCH	MS	FDI	HC	RGDP	INFL	EG
1970	NA	0	0.714286	641.5	NA	-0.3669	12545849083	13.76	25.00724193
1971	NA	0	0.712855833	670	NA	0.6331	9181769911.5	16	14.23753156
1972	NA	0	0.657894999	747.4	2.484843267	0.65999	12274416017.8	3.46	3.364262035
1973	NA	0	0.657894999	925.8	2.459956251	-2.27797	15162871287.1	5.4	5.392760484
1974	NA	0	0.630282046	1357.2	1.034345032	-1.27797	24846641318.1	12.67	11.16067455
1975	NA	0	0.615501553	2605.4	1.692361519	-0.27797	27778934624.7	33.96	-5.227747555
1976	NA	0	0.626601004	3864.1	0.933655816	0.72203	36308883248.7	24.3	9.042351726
1977	-296261339.1	0	0.644701062	5557.8	1.222448337	0.75333	36035407725.3	15.09	6.02411785
1978	-3256872676	0	0.635271994	5260.7	0.577458572	0.74564	36527862208.7	21.71	-5.764158394
1979	2506591914	0	0.604007374	6351.5	0.655098278	0.74349	47259911894.3	11.71	6.759430935
1980	7057671651	0	0.546780892	9650.7	-1.150855803	0.75174	64201788122.6	9.97	4.204831044
1981	-5238719724	0	0.617708175	9915.3	0.329731934	0.74734	164475209515	20.81	-13.12788049
1982	-5663280456	0	0.673461262	10291.8	0.301613208	0.7013	142769363313	7.7	-6.803388815
1983	-3061802647	0	0.724409851	11517.8	0.375338495	0.67649	97094911790.7	23.21	-10.92408503
1984	1634644658	1	0.766527449	12497.1	0.257421832	1.67649	73484359521.1	17.82	-1.115623217
1985	4326596701	1	0.893774083	13878	0.65845266	0.79799	73745821156.3	7.44	5.913027459
1986	1090894788	1	1.754523004	13560.4	0.352544297	0.81294	54805852581.2	5.72	0.060945274
1987	2830650969	1	4.016037344	15195.7	1.159069795	1.81294	52676041930.6	11.29	3.200125467
1988	2079803687	1	4.536966667	22232.1	0.762696402	0.83242	49648470439.8	54.51	7.334025488
1989	3355314210	1	7.364735	26268.8	4.282087862	0.78217	44003061108.3	50.47	1.919381296
1990	7641622023	1	8.038285	39156.2	1.08795099	-7.17665	54035795388.1	7.36	11.77688593
1991	2878710925	1	9.909491667	50071.7	1.450317769	-6.17665	49118433047.5	13.01	0.358352603
1992	3853246869	1	17.298425	75970.3	1.87601773	-5.17665	47794925814.8	44.59	4.631192947
1993	1685012648	1	22.0654	118753.4	4.847790004	-4.17665	27752204320.1	57.17	-2.035118776
1994	311829423.5	1	21.996	169391.5	5.790847305	-3.17665	33833042987.8	57.03	-1.814924483
1995	-155213290.1	0	21.89525833	201414.5	0.762195576	-2.17665	44062465800.2	72.84	-0.072664767
1996	1749727568	0	21.884425	227464.4	0.977520982	-1.17665	51075815092.5	29.27	4.195924045
1997	543132296.1	0	21.88605	268622.9	0.862276325	-0.17665	54457835193.5	8.53	2.93709942
1998	-1003652735	0	21.886	318576	0.548616188	0.82335	54604050168.2	10	2.581254103
1999	1792044671	0	92.3381	393078.8	1.692557514	0.81514	59372613485.7	6.62	0.584126895
2000	8947932361	0	101.6973333	637731.1	1.641739329	0.82727	69448756932.6	6.93	5.015934757
2001	3908840366	0	111.23125	816707.6	1.608284185	0.81157	74030364472.1	18.87	5.917684652
2002	2339989712	0	120.5781583	946253.4	1.964726797	-0.17196	95385819320.6	12.88	15.32915574
2003	5582237051	0	129.22235	1225559.3	1.911463474	0.82804	104911947834	14.03	7.34719497
2004	17120483279	0	132.888025	1330657.8	1.374086175	0.83964	136385979322	15	9.250558228
2005	24367471605	0	131.2743333	1725395.8	2.828830019	0.84907	176134087150	17.86	6.438516525
2006	23321457683	0	128.6516667	2280648.9	2.056023761	0.85558	236103982432	8.23	6.059428031
2007	20849760439	0	125.8081083	3116272.2	2.189934296	0.87303	275625684969	5.39	6.591130361
2008	23811692805	0	118.5666667	3591267.7	2.413739613	0.88796	339476215684	11.58	6.764472778
2009	8909094157	0	148.88	4182477.3	2.900249401	0.89722	295008767295	12.55	8.036925102
2010	11846225807	0	150.2975	4773686.9	1.667213359	0.90817	361456622216	13.72	8.005655915
2011	11643919498	0	153.8625	5364896.6	2.183012813	0.9544	404993594134	10.84	5.307924204
2012	17649614311	0	157.5	5956106.2	1.552115206	0.95258	455501524576	12.22	4.230061175
2013	22765118897	0	157.3116667	6547315.8	1.093559063	0.95682	508692961937	8.48	6.671335393
2014	-1860415124	0	158.5526417	7138525.4	0.858611941	-0.06968	546676374568	8.06	6.309718656
2015	-22899676713	0	192.4403333	7729735	0.629447034	0.93032	486803295098	9.01	2.652693295
2016	-8550719264	1	253.492	8320944.6	0.853393884	1.93032	404650006429	15.68	-1.61686895
2017	-86132009.91	1	305.7901092	8912154.3	0.64218166	2.93032	375746469539	16.52	0.80588662
2018	-3729352216	1	306.0836882	9503363.9	0.195182773	3.93032	397190484464	12.09	1.922757342
2019	7677420135	1	306.9209515	10094573.5	0.514392932	4.93032	448120428859	11.4	2.208429277
2020	14274976210	1	358.8107973	10685783.1	0.551772382	4.885255	432293776262	9.61	-1.794253082

Descriptive Statistics

	BOP	ERP	EXCH	MS	FDI	RGDP	HC	INFL	EG
Mean	4.88E+09	0.363636	91.65537	2429653.	1.393390	1.83E+11	0.336276	18.51864	3.006300
Median	2.67E+09	0.000000	57.20175	355827.4	1.090755	8.47E+10	0.819245	12.38500	4.200378
Maximum	2.44E+10	1.000000	358.8108	10685783	5.790847	5.47E+11	4.930320	72.84000	15.32916
Minimum	- 2.29E+10	0.000000	0.546781	5260.700	- 1.150856	2.78E+10	- 7.176650	5.390000	- 13.12788
Std. Dev.	9.47E+09	0.486607	100.2527	3375496.	1.263488	1.67E+11	2.391325	16.21082	5.415974
Skewness	0.188398	0.566947	0.999184	1.188055	1.516957	0.826778	- 1.298363	1.941626	- 0.818224
Kurtosis	3.817721	1.321429	3.172932	2.958047	6.089756	2.093617	5.547592	5.707449	4.347031
Jarque-Bera	1.486180	7.522747	7.376191	10.35404	34.37725	6.518919	24.26088	41.08485	8.236163
Probability	0.475642	0.023252	0.025020	0.005645	0.000000	0.038409	0.000005	0.000000	0.016276
Sum	2.15E+11	16.00000	4032.836	1.07E+08	61.30916	8.04E+12	14.79614	814.8200	132.2772
Sum Sq. Dev.	3.85E+21	10.18182	432176.3	4.90E+14	68.64531	1.20E+24	245.8928	11299.99	1261.309
Observations	44	44	44	44	44	44	44	44	44

Unit Root Tests for all variables

BOP @ LEVEL

Null Hypothesis: BOP has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.717571	0.0793
Test critical values:		
1% level	-3.592462	
5% level	-2.931404	
10% level	-2.603944	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(BOP)

Method: Least Squares

Date: 08/18/22 Time: 12:10

Sample (adjusted): 1978 2020

Included observations: 43 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BOP(-1)	-0.313419	0.115330	-2.717571	0.0096
C	1.80E+09	1.21E+09	1.492152	0.1433
R-squared	0.152633	Mean dependent var		3.39E+08
Adjusted R-squared	0.131966	S.D. dependent var		7.59E+09
S.E. of regression	7.08E+09	Akaike info criterion		48.24326
Sum squared resid	2.05E+21	Schwarz criterion		48.32517
Log likelihood	-1035.230	Hannan-Quinn criter.		48.27346
F-statistic	7.385195	Durbin-Watson stat		1.596689
Prob(F-statistic)	0.009591			

BOP @ 1st DIFF

Null Hypothesis: D(BOP) has a unit root
 Exogenous: Constant
 Lag Length: 1 (Automatic - based on SIC, maxlag=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.253251	0.0000
Test critical values:		
1% level	-3.600987	
5% level	-2.935001	
10% level	-2.605836	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(BOP,2)
 Method: Least Squares
 Date: 08/18/22 Time: 12:11
 Sample (adjusted): 1980 2020
 Included observations: 41 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BOP(-1))	-1.299099	0.207748	-6.253251	0.0000
D(BOP(-1),2)	0.406586	0.152738	2.661981	0.0113
C	2.24E+08	1.13E+09	0.198214	0.8439
R-squared	0.540976	Mean dependent var		20343695
Adjusted R-squared	0.516817	S.D. dependent var		1.04E+10
S.E. of regression	7.24E+09	Akaike info criterion		48.31441
Sum squared resid	1.99E+21	Schwarz criterion		48.43980
Log likelihood	-987.4455	Hannan-Quinn criter.		48.36007
F-statistic	22.39221	Durbin-Watson stat		1.978915
Prob(F-statistic)	0.000000			

ERP @ LEVEL

Null Hypothesis: ERP has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.655458	0.4473
Test critical values:		
1% level	-3.568308	
5% level	-2.921175	
10% level	-2.598551	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(ERP)
 Method: Least Squares
 Date: 08/18/22 Time: 12:11

Sample (adjusted): 1971 2020
 Included observations: 50 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ERP(-1)	-0.123810	0.074789	-1.655458	0.1044
C	0.057143	0.040963	1.394972	0.1694
R-squared	0.054011	Mean dependent var		0.020000
Adjusted R-squared	0.034303	S.D. dependent var		0.246610
S.E. of regression	0.242343	Akaike info criterion		0.042253
Sum squared resid	2.819048	Schwarz criterion		0.118734
Log likelihood	0.943671	Hannan-Quinn criter.		0.071378
F-statistic	2.740541	Durbin-Watson stat		1.881178
Prob(F-statistic)	0.104356			

ERP @ 1st DIFF

Null Hypothesis: D(ERP) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-6.902773	0.0000
Test critical values:		
1% level	-3.571310	
5% level	-2.922449	
10% level	-2.599224	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(ERP,2)
 Method: Least Squares
 Date: 08/18/22 Time: 12:12
 Sample (adjusted): 1972 2020
 Included observations: 49 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ERP(-1))	-1.006849	0.145862	-6.902773	0.0000
C	0.020548	0.036091	0.569331	0.5718
R-squared	0.503425	Mean dependent var		0.000000
Adjusted R-squared	0.492859	S.D. dependent var		0.353553
S.E. of regression	0.251779	Akaike info criterion		0.119429
Sum squared resid	2.979452	Schwarz criterion		0.196646
Log likelihood	-0.926006	Hannan-Quinn criter.		0.148725
F-statistic	47.64828	Durbin-Watson stat		2.000094
Prob(F-statistic)	0.000000			

EXCH @ LEVEL

Null Hypothesis: EXCH has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	2.958769	1.0000
Test critical values:		
1% level	-3.568308	
5% level	-2.921175	
10% level	-2.598551	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(EXCH)
 Method: Least Squares
 Date: 08/18/22 Time: 12:12
 Sample (adjusted): 1971 2020
 Included observations: 50 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXCH(-1)	0.073701	0.024909	2.958769	0.0048
C	1.739566	2.890039	0.601918	0.5501
R-squared	0.154249	Mean dependent var		7.161930
Adjusted R-squared	0.136630	S.D. dependent var		17.00591
S.E. of regression	15.80151	Akaike info criterion		8.397266
Sum squared resid	11985.01	Schwarz criterion		8.473747
Log likelihood	-207.9316	Hannan-Quinn criter.		8.426390
F-statistic	8.754315	Durbin-Watson stat		1.629717
Prob(F-statistic)	0.004784			

EXCH @ 1st DIFF

Null Hypothesis: D(EXCH) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.473465	0.0007
Test critical values:		
1% level	-3.571310	
5% level	-2.922449	
10% level	-2.599224	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(EXCH,2)
 Method: Least Squares
 Date: 08/18/22 Time: 12:13
 Sample (adjusted): 1972 2020

Included observations: 49 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EXCH(-1))	-0.670320	0.149844	-4.473465	0.0000
C	5.247916	2.536703	2.068794	0.0441
R-squared	0.298632	Mean dependent var		1.059006
Adjusted R-squared	0.283709	S.D. dependent var		19.49908
S.E. of regression	16.50284	Akaike info criterion		8.484902
Sum squared resid	12800.16	Schwarz criterion		8.562119
Log likelihood	-205.8801	Hannan-Quinn criter.		8.514198
F-statistic	20.01189	Durbin-Watson stat		1.792816
Prob(F-statistic)	0.000049			

FDI @ LEVEL

Null Hypothesis: FDI has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.133399	0.0021
Test critical values:		
1% level	-3.574446	
5% level	-2.923780	
10% level	-2.599925	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(FDI)

Method: Least Squares

Date: 08/18/22 Time: 12:14

Sample (adjusted): 1973 2020

Included observations: 48 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI(-1)	-0.539079	0.130420	-4.133399	0.0001
C	0.738726	0.246019	3.002719	0.0043
R-squared	0.270825	Mean dependent var		-0.040272
Adjusted R-squared	0.254973	S.D. dependent var		1.269292
S.E. of regression	1.095588	Akaike info criterion		3.061233
Sum squared resid	55.21442	Schwarz criterion		3.139200
Log likelihood	-71.46960	Hannan-Quinn criter.		3.090697
F-statistic	17.08499	Durbin-Watson stat		2.071490
Prob(F-statistic)	0.000150			

MS @ LEVEL

Null Hypothesis: MS has a unit root
 Exogenous: Constant
 Lag Length: 2 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.038172	0.9500
Test critical values:		
1% level	-3.574446	
5% level	-2.923780	
10% level	-2.599925	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(MS)
 Method: Least Squares
 Date: 08/18/22 Time: 12:14
 Sample (adjusted): 1973 2020
 Included observations: 48 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MS(-1)	-0.000376	0.009851	-0.038172	0.9697
D(MS(-1))	0.641445	0.145674	4.403283	0.0001
D(MS(-2))	0.340819	0.161704	2.107674	0.0408
C	20996.49	16830.98	1.247490	0.2188
R-squared	0.894050	Mean dependent var		222604.9
Adjusted R-squared	0.886827	S.D. dependent var		269689.7
S.E. of regression	90727.00	Akaike info criterion		25.74875
Sum squared resid	3.62E+11	Schwarz criterion		25.90469
Log likelihood	-613.9701	Hannan-Quinn criter.		25.80768
F-statistic	123.7640	Durbin-Watson stat		1.988626
Prob(F-statistic)	0.000000			

MS @ 1st DIFF

Null Hypothesis: D(MS) has a unit root
 Exogenous: Constant
 Lag Length: 1 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.430685	0.8953
Test critical values:		
1% level	-3.574446	
5% level	-2.923780	
10% level	-2.599925	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(MS,2)
 Method: Least Squares
 Date: 08/18/22 Time: 12:15

Sample (adjusted): 1973 2020
 Included observations: 48 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MS(-1))	-0.021736	0.050469	-0.430685	0.6688
D(MS(-1),2)	-0.338045	0.142846	-2.366507	0.0223
C	21049.64	16586.14	1.269111	0.2109
R-squared	0.127322	Mean dependent var		12315.25
Adjusted R-squared	0.088536	S.D. dependent var		93971.07
S.E. of regression	89714.74	Akaike info criterion		25.70712
Sum squared resid	3.62E+11	Schwarz criterion		25.82407
Log likelihood	-613.9709	Hannan-Quinn criter.		25.75131
F-statistic	3.282707	Durbin-Watson stat		1.986977
Prob(F-statistic)	0.046689			

MS @ 2nd DIFF

Null Hypothesis: D(MS,2) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-9.793843	0.0000
Test critical values:		
1% level	-3.574446	
5% level	-2.923780	
10% level	-2.599925	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(MS,3)
 Method: Least Squares
 Date: 08/18/22 Time: 12:15
 Sample (adjusted): 1973 2020
 Included observations: 48 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(MS(-1),2)	-1.351746	0.138020	-9.793843	0.0000
C	16647.45	12946.14	1.285901	0.2049
R-squared	0.675872	Mean dependent var		-1.018750
Adjusted R-squared	0.668826	S.D. dependent var		154509.9
S.E. of regression	88916.92	Akaike info criterion		25.66957
Sum squared resid	3.64E+11	Schwarz criterion		25.74753
Log likelihood	-614.0696	Hannan-Quinn criter.		25.69903
F-statistic	95.91936	Durbin-Watson stat		1.994468
Prob(F-statistic)	0.000000			

HC @ LEVEL

Null Hypothesis: HC has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-1.762777	0.3943
Test critical values:		
1% level	-3.568308	
5% level	-2.921175	
10% level	-2.598551	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(HC)
 Method: Least Squares
 Date: 08/18/22 Time: 12:16
 Sample (adjusted): 1971 2020
 Included observations: 50 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
HC(-1)	-0.157201	0.089178	-1.762777	0.0843
C	0.129331	0.193496	0.668392	0.5071
R-squared	0.060801	Mean dependent var		0.105043
Adjusted R-squared	0.041234	S.D. dependent var		1.393790
S.E. of regression	1.364752	Akaike info criterion		3.499000
Sum squared resid	89.40228	Schwarz criterion		3.575481
Log likelihood	-85.47501	Hannan-Quinn criter.		3.528125
F-statistic	3.107381	Durbin-Watson stat		1.846572
Prob(F-statistic)	0.084304			

HC @ 1st DIFF

Null Hypothesis: D(HC) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-7.019519	0.0000
Test critical values:		
1% level	-3.571310	
5% level	-2.922449	
10% level	-2.599224	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(HC,2)
 Method: Least Squares
 Date: 08/18/22 Time: 12:17
 Sample (adjusted): 1972 2020
 Included observations: 49 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(HC(-1))	-1.019426	0.145227	-7.019519	0.0000
C	0.088879	0.203000	0.437826	0.6635
R-squared	0.511808	Mean dependent var		-0.021328
Adjusted R-squared	0.501421	S.D. dependent var		2.006432
S.E. of regression	1.416744	Akaike info criterion		3.574560
Sum squared resid	94.33672	Schwarz criterion		3.651777
Log likelihood	-85.57672	Hannan-Quinn criter.		3.603856
F-statistic	49.27365	Durbin-Watson stat		1.998394
Prob(F-statistic)	0.000000			

GDP @ LEVEL

Null Hypothesis: GDP has a unit root

Exogenous: Constant

Lag Length: 1 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-0.565179	0.8687
Test critical values:		
1% level	-3.571310	
5% level	-2.922449	
10% level	-2.599224	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(GDP)

Method: Least Squares

Date: 08/18/22 Time: 12:19

Sample (adjusted): 1972 2020

Included observations: 49 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP(-1)	-0.016689	0.029529	-0.565179	0.5747
D(GDP(-1))	0.322047	0.144619	2.226871	0.0309
C	8.41E+09	6.48E+09	1.297904	0.2008
R-squared	0.097358	Mean dependent var		8.63E+09
Adjusted R-squared	0.058113	S.D. dependent var		3.33E+10
S.E. of regression	3.23E+10	Akaike info criterion		51.29685
Sum squared resid	4.81E+22	Schwarz criterion		51.41267
Log likelihood	-1253.773	Hannan-Quinn criter.		51.34079
F-statistic	2.480766	Durbin-Watson stat		1.953181
Prob(F-statistic)	0.094810			

GDP @ 1st DIFF

Null Hypothesis: D(GDP) has a unit root
 Exogenous: Constant
 Lag Length: 0 (Automatic - based on SIC, maxlag=10)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-4.989747	0.0001
Test critical values: 1% level	-3.571310	
5% level	-2.922449	
10% level	-2.599224	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
 Dependent Variable: D(GDP,2)
 Method: Least Squares
 Date: 08/18/22 Time: 12:19
 Sample (adjusted): 1972 2020
 Included observations: 49 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP(-1))	-0.696885	0.139663	-4.989747	0.0000
C	5.94E+09	4.75E+09	1.249908	0.2175
R-squared	0.346292	Mean dependent var		-2.54E+08
Adjusted R-squared	0.332384	S.D. dependent var		3.93E+10
S.E. of regression	3.21E+10	Akaike info criterion		51.26295
Sum squared resid	4.85E+22	Schwarz criterion		51.34017
Log likelihood	-1253.942	Hannan-Quinn criter.		51.29225
F-statistic	24.89758	Durbin-Watson stat		1.938487
Prob(F-statistic)	0.000009			

BOUND TEST

ARDL Bounds Test
 Date: 08/18/22 Time: 12:22
 Sample: 1978 2020
 Included observations: 43
 Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	3.731299	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Test Equation:
 Dependent Variable: D(BOP)
 Method: Least Squares
 Date: 08/18/22 Time: 12:22
 Sample: 1978 2020
 Included observations: 43

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EXCH)	-19876667	68980944	-0.288147	0.7749
C	-9.29E+08	1.99E+09	-0.467831	0.6427
ERP(-1)	6.31E+08	2.28E+09	0.277003	0.7834
EXCH(-1)	98215853	31703298	3.097970	0.0038
FDI(-1)	3.56E+08	8.84E+08	0.402959	0.6894
MS(-1)	-2501.484	949.7402	-2.633861	0.0124
BOP(-1)	-0.447433	0.130095	-3.439279	0.0015
R-squared	0.348942	Mean dependent var		3.39E+08
Adjusted R-squared	0.240432	S.D. dependent var		7.59E+09
S.E. of regression	6.62E+09	Akaike info criterion		48.21228
Sum squared resid	1.58E+21	Schwarz criterion		48.49899
Log likelihood	-1029.564	Hannan-Quinn criter.		48.31801
F-statistic	3.215770	Durbin-Watson stat		1.777387
Prob(F-statistic)	0.012413			

OLS ESTIMATION RESULT (SHORT AND LONG RUN OBJECTIVE 1)

Dependent Variable: BOP
 Method: ARDL
 Date: 08/18/22 Time: 12:25
 Sample (adjusted): 1978 2020
 Included observations: 43 after adjustments
 Maximum dependent lags: 1 (Automatic selection)
 Model selection method: Akaike info criterion (AIC)
 Dynamic regressors (1 lag, automatic): ERP EXCH FDI MS
 Fixed regressors: C
 Number of models evaluated: 16
 Selected Model: ARDL(1, 0, 1, 0, 0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
BOP(-1)	0.636569	0.142523	4.466422	0.0001
ERP	2.30E+09	2.44E+09	0.944106	0.3514
EXCH	-14092641	70066480	-0.201132	0.8417
EXCH(-1)	1.19E+08	74688145	1.593365	0.1198
FDI	-1.72E+08	9.29E+08	-0.184878	0.8544
MS	-2580.033	932.0162	-2.768228	0.0088
C	-1.02E+09	1.97E+09	-0.516779	0.6085
R-squared	0.591471	Mean dependent var		5.00E+09
Adjusted R-squared	0.523382	S.D. dependent var		9.55E+09
S.E. of regression	6.59E+09	Akaike info criterion		48.20356
Sum squared resid	1.56E+21	Schwarz criterion		48.49026
Log likelihood	-1029.376	Hannan-Quinn criter.		48.30929
F-statistic	8.686828	Durbin-Watson stat		1.833533
Prob(F-statistic)	0.000007			

*Note: p-values and any subsequent tests do not account for model

selection.

SHORT RUN AND LONG RUN ARDL

ARDL Cointegrating And Long Run Form

Dependent Variable: BOP

Selected Model: ARDL(1, 0, 1, 0, 0)

Date: 08/18/22 Time: 12:26

Sample: 1970 2020

Included observations: 43

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ERP)	2300583671. 101339	2436786208.5 79550	0.000000	0.0000
D(EXCH)	14092641.27 7210	70066480.064 685	0.000000	0.0000
D(FDI)	171797237.7 23053	929246278.65 5098	0.000000	0.0000
D(MS)	2580.033328	932.016205	-2.768228	0.0088
CointEq(-1)	-0.363431	0.142523	-2.549973	0.0152

$$\text{Cointeq} = \text{BOP} - (6330185352.8748 \cdot \text{ERP} + 288673527.0742 \cdot \text{EXCH} - 472709761.2486 \cdot \text{FDI} - 7099.1068 \cdot \text{MS} - 2798277388.9601)$$

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ERP	6330185352. 874828	8121801478.7 81763	0.779407	0.4408
EXCH	288673527.0 74248	140989055.41 1558	2.047489	0.0480
FDI	472709761.2 48635	2640884893.8 55611	-0.178997	0.8589
MS	7099.106800	3971.824485	-1.787367	0.0823
C	2798277388. 960079	5742141220.5 57613	-0.487323	0.6290

OLS ESTIMATION RESULT (SHORT AND LONG RUN OBJECTIVE 2)

Dependent Variable: EG
 Method: ARDL
 Date: 08/18/22 Time: 12:27
 Sample (adjusted): 1973 2020
 Included observations: 48 after adjustments
 Maximum dependent lags: 1 (Automatic selection)
 Model selection method: Akaike info criterion (AIC)
 Dynamic regressors (1 lag, automatic): ERP EXCH FDI HC
 Fixed regressors: C
 Number of models evaluated: 16
 Selected Model: ARDL(1, 0, 0, 1, 1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
EG(-1)	0.255702	0.152270	1.679260	0.1009
ERP	-0.771573	1.770917	-0.435692	0.6654
EXCH	0.004030	0.010547	0.382104	0.7044
FDI	-0.202494	0.745748	-0.271531	0.7874
FDI(-1)	1.590225	0.822158	1.934210	0.0602
HC	-0.751160	0.672999	-1.116138	0.2710
HC(-1)	1.031682	0.581521	1.774109	0.0837
C	0.266874	1.605228	0.166253	0.8688
R-squared	0.291255	Mean dependent var		3.180110
Adjusted R-squared	0.167225	S.D. dependent var		5.528036
S.E. of regression	5.044693	Akaike info criterion		6.225563
Sum squared resid	1017.957	Schwarz criterion		6.537429
Log likelihood	-141.4135	Hannan-Quinn criter.		6.343417
F-statistic	2.348256	Durbin-Watson stat		2.147833
Prob(F-statistic)	0.041612			

*Note: p-values and any subsequent tests do not account for model selection.

BOUNDS TEST

ARDL Bounds Test
 Date: 08/18/22 Time: 12:28
 Sample: 1973 2020
 Included observations: 48
 Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	5.786921	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Test Equation:

Dependent Variable: D(EG)
 Method: Least Squares
 Date: 08/18/22 Time: 12:28
 Sample: 1973 2020
 Included observations: 48

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FDI)	-0.204574	0.725867	-0.281834	0.7795
D(HC)	-0.839476	0.658415	-1.274995	0.2097
C	0.325438	1.509344	0.215616	0.8304
ERP(-1)	-1.457733	1.684300	-0.865483	0.3919
EXCH(-1)	0.007157	0.011256	0.635859	0.5285
FDI(-1)	1.393842	0.860650	1.619522	0.1132
HC(-1)	0.167911	0.525197	0.319711	0.7509
EG(-1)	-0.760526	0.147469	-5.157200	0.0000
R-squared	0.496089	Mean dependent var		-0.107469
Adjusted R-squared	0.407905	S.D. dependent var		6.501981
S.E. of regression	5.003125	Akaike info criterion		6.209014
Sum squared resid	1001.250	Schwarz criterion		6.520881
Log likelihood	-141.0163	Hannan-Quinn criter.		6.326869
F-statistic	5.625595	Durbin-Watson stat		2.116955
Prob(F-statistic)	0.000145			

SHORT RUN AND LONG RUN ARDL

ARDL Cointegrating And Long Run Form
 Dependent Variable: EG
 Selected Model: ARDL(1, 0, 0, 1, 1)
 Date: 08/18/22 Time: 12:29
 Sample: 1970 2020
 Included observations: 48

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ERP)	-0.771573	1.770917	-0.435692	0.6654
D(EXCH)	0.004030	0.010547	0.382104	0.7044
D(FDI)	-0.202494	0.745748	-0.271531	0.7874
D(HC)	-0.751160	0.672999	-1.116138	0.2710
CointEq(-1)	-0.744298	0.152270	-4.888001	0.0000

$$\text{Cointeq} = \text{EG} - (-1.0366 \cdot \text{ERP} + 0.0054 \cdot \text{EXCH} + 1.8645 \cdot \text{FDI} + 0.3769 \cdot \text{HC} + 0.3586)$$

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ERP	-1.036646	2.315384	-0.447721	0.6568
EXCH	0.005415	0.013843	0.391155	0.6978
FDI	1.864483	1.202751	1.550182	0.1290
HC	0.376895	0.730287	0.516092	0.6086
C	0.358558	2.141175	0.167459	0.8679

OLS ESTIMATION RESULT (SHORT AND LONG RUN OBJECTIVE 3)

Dependent Variable: INFL
 Method: ARDL
 Date: 08/18/22 Time: 12:30
 Sample (adjusted): 1971 2020
 Included observations: 50 after adjustments
 Maximum dependent lags: 1 (Automatic selection)
 Model selection method: Akaike info criterion (AIC)
 Dynamic regressors (1 lag, automatic): ERP EXCH MS GDP
 Fixed regressors: C
 Number of models evaluated: 16
 Selected Model: ARDL(1, 1, 0, 0, 0)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
INFL(-1)	0.436085	0.123925	3.518932	0.0010
ERP	-6.721830	7.553991	-0.889838	0.3785
ERP(-1)	17.37213	7.733781	2.246266	0.0299
EXCH	-0.008436	0.056244	-0.149984	0.8815
MS	-8.45E-07	2.79E-06	-0.303341	0.7631
GDP	5.42E-12	3.48E-11	0.155789	0.8769
C	8.777175	4.878771	1.799054	0.0790
R-squared	0.475751	Mean dependent var		18.21220
Adjusted R-squared	0.402600	S.D. dependent var		15.65350
S.E. of regression	12.09885	Akaike info criterion		7.953275
Sum squared resid	6294.435	Schwarz criterion		8.220958
Log likelihood	-191.8319	Hannan-Quinn criter.		8.055210
F-statistic	6.503676	Durbin-Watson stat		1.695001
Prob(F-statistic)	0.000062			

*Note: p-values and any subsequent tests do not account for model selection.

BOUNDS TEST

ARDL Bounds Test
 Date: 08/18/22 Time: 12:30
 Sample: 1971 2020
 Included observations: 50
 Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	4.602588	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01

2.5%	3.25	4.49
1%	3.74	5.06

Test Equation:
 Dependent Variable: D(INFL)
 Method: Least Squares
 Date: 08/18/22 Time: 12:30
 Sample: 1971 2020
 Included observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ERP)	-7.310808	7.489618	-0.976126	0.3345
C	7.846848	4.623645	1.697113	0.0969
ERP(-1)	11.27445	4.533980	2.486656	0.0169
EXCH(-1)	-0.012519	0.056122	-0.223077	0.8245
MS(-1)	-1.48E-06	2.78E-06	-0.529969	0.5989
GDP(-1)	1.86E-11	3.47E-11	0.534649	0.5956
INFL(-1)	-0.561825	0.122987	-4.568152	0.0000
R-squared	0.353343	Mean dependent var		-0.083000
Adjusted R-squared	0.263112	S.D. dependent var		14.02911
S.E. of regression	12.04289	Akaike info criterion		7.944004
Sum squared resid	6236.346	Schwarz criterion		8.211687
Log likelihood	-191.6001	Hannan-Quinn criter.		8.045939
F-statistic	3.915977	Durbin-Watson stat		1.718550
Prob(F-statistic)	0.003298			

SHORT RUN AND LONG RUN ARDL

ARDL Cointegrating And Long Run Form
 Dependent Variable: INFL
 Selected Model: ARDL(1, 1, 0, 0, 0)
 Date: 08/18/22 Time: 12:31
 Sample: 1970 2020
 Included observations: 50

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(ERP)	-6.721830	7.553991	-0.889838	0.3785
D(EXCH)	-0.008436	0.056244	-0.149984	0.8815
D(MS)	-0.000001	0.000003	-0.303341	0.7631
D(GDP)	0.000000	0.000000	0.155789	0.8769
CointEq(-1)	-0.563915	0.123925	-4.550438	0.0000

$$\text{Cointeq} = \text{INFL} - (18.8864 * \text{ERP} - 0.0150 * \text{EXCH} - 0.0000 * \text{MS} + 0.0000 * \text{GDP} + 15.5647)$$

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ERP	18.886354	8.411807	2.245220	0.0299
EXCH	-0.014959	0.099476	-0.150380	0.8812

MS	-0.000001	0.000005	-0.301589	0.7644
GDP	0.000000	0.000000	0.155195	0.8774
C	15.564716	7.391771	2.105682	0.0411
