

## قائمة الملاحق

### ملاحق بيانات الدراسة

#### ملحق (1): بيانات الدراسة

الناتج المحلي الاجمالي GDP	احتياطي النقد الاجنبي FR	سعر الصرف EX	معدل التضخم INF	الانفتاح الخارجي DOP	OBS
33662.7	137.81	2.5735	3	0.3	2000
40658.6	49.74	2.6143	4.9	0.2	2001
47756.1	248.94	2.6168	8.3	0.2	2002
55733.8	529.45	2.6016	7.7	0.3	2003
68721.4	1338	2.5063	8.5	0.3	2004
85707.1	1868.59	2.3054	8.5	0.3	2005
98291.9	1659.93	2.0133	7.2	0.3	2006
119837.3	1377.9	2.0526	8.1	0.3	2007
135511.7	1399	2.184	14.3	0.3	2008
139387.5	1094.2	2.2431	11.2	0.2	2009
160646.5	1036.24	2.5043	13	0.3	2010
174539.2	1651	2.6769	18.1	0.3	2011
217184.1	262	3.5737	35.1	0.2	2012
342803.2	256.5	4.754	37.1	0.2	2013
475827.6	255.2	5.7258	36.9	0.2	2014
582936.7	234.4	6.0107	16.9	0.1	2015
693514	219.9	6.2233	17.6	0.1	2016

## ملحق استقرار متغيرات الدراسة باستخدام اختبار فيليبس بيرون

ملحق رقم (2): استقرار المتغير التابع سعر الصرف عند المستوى

Null Hypothesis: EX has a unit root

Exogenous: Constant

Lag length: 1 (Spectral OLS AR based on AIC, maxlag=3)

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-22.91371	0.0000
Test critical values:		
1% level	-3.886751	
5% level	-3.052169	
10% level	-2.666593	

\*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 17

Residual variance (no correction)	0.136717
HAC corrected variance (Spectral OLS autoregression)	181.8210

Phillips-Perron Test Equation

Dependent Variable: D(EX)

Method: Least Squares

Date: 09/17/18 Time: 18:12

Sample: 2000 2016

Included observations: 17

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EX(-1)	0.129736	0.078909	1.644124	0.1209
C	-0.178789	0.257550	-0.694192	0.4982
R-squared	0.152693	Mean dependent var		0.214488
Adjusted R-squared	0.096206	S.D. dependent var		0.414052
S.E. of regression	0.393632	Akaike info criterion		1.083329
Sum squared resid	2.324189	Schwarz criterion		1.181354
Log likelihood	-7.208298	Hannan-Quinn criter.		1.093073
F-statistic	2.703145	Durbin-Watson stat		0.667813
Prob(F-statistic)	0.120940			

ملحق رقم (3): استقرار متغير الانفتاح على العالم الخارجي عند الفرق الأول

Null Hypothesis: D(DOP) has a unit root  
 Exogenous: Constant  
 Lag length: 1 (Spectral OLS AR based on AIC, maxlag=3)

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-5.297410	0.0006
Test critical values:		
1% level	-3.886751	
5% level	-3.052169	
10% level	-2.666593	

\*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 17

Residual variance (no correction)	0.003724
HAC corrected variance (Spectral OLS autoregression)	0.010995

Phillips-Perron Test Equation  
 Dependent Variable: D(DOP,2)  
 Method: Least Squares  
 Date: 09/17/18 Time: 18:15  
 Sample: 2000 2016  
 Included observations: 17

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(DOP(-1))	-1.296610	0.246580	-5.258384	0.0001
C	-0.007627	0.015823	-0.482035	0.6367
R-squared	0.648305	Mean dependent var		-3.27E-18
Adjusted R-squared	0.624859	S.D. dependent var		0.106066
S.E. of regression	0.064964	Akaike info criterion		-2.519832
Sum squared resid	0.063305	Schwarz criterion		-2.421807
Log likelihood	23.41857	Hannan-Quinn criter.		-2.510088
F-statistic	27.65060	Durbin-Watson stat		2.078291
Prob(F-statistic)	0.000096			

ملحق رقم (4): استقرار متغير احتياطي النقد الاجنبي عند الفرق الأول

Null Hypothesis: D(FR) has a unit root  
 Exogenous: Constant  
 Lag length: 0 (Spectral OLS AR based on AIC, maxlag=3)

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-4.139128	0.0061
Test critical values:		
1% level	-3.886751	
5% level	-3.052169	
10% level	-2.666593	

\*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 17

Residual variance (no correction)	210373.0
HAC corrected variance (Spectral OLS autoregression)	210373.0

Phillips-Perron Test Equation  
 Dependent Variable: D(FR,2)  
 Method: Least Squares  
 Date: 09/17/18 Time: 18:20  
 Sample: 2000 2016  
 Included observations: 17

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FR(-1))	-1.065214	0.257352	-4.139128	0.0009
C	2.384499	118.4466	0.020131	0.9842
R-squared	0.533181	Mean dependent var		-6.624706
Adjusted R-squared	0.502060	S.D. dependent var		691.9669
S.E. of regression	488.2856	Akaike info criterion		15.32981
Sum squared resid	3576342.	Schwarz criterion		15.42783
Log likelihood	-128.3034	Hannan-Quinn criter.		15.33955
F-statistic	17.13238	Durbin-Watson stat		2.000267
Prob(F-statistic)	0.000874			

ملحق رقم (5): استقرار متغير الناتج المحلي الاجمالي عند المستوي

Null Hypothesis: GDP has a unit root  
 Exogenous: Constant  
 Lag length: 2 (Spectral OLS AR based on AIC, maxlag=3)

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	7.488004	1.0000
Test critical values:		
1% level	-3.886751	
5% level	-3.052169	
10% level	-2.666593	

\*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 17

Residual variance (no correction)	6.87E+08
HAC corrected variance (Spectral OLS autoregression)	3.72E+08

Phillips-Perron Test Equation  
 Dependent Variable: D(GDP)  
 Method: Least Squares  
 Date: 09/17/18 Time: 18:21  
 Sample: 2000 2016  
 Included observations: 17

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP(-1)	0.232059	0.043357	5.352267	0.0001
C	2759.264	9804.044	0.281441	0.7822
R-squared	0.656332	Mean dependent var		40715.32
Adjusted R-squared	0.633421	S.D. dependent var		46100.89
S.E. of regression	27912.15	Akaike info criterion		23.42164
Sum squared resid	1.17E+10	Schwarz criterion		23.51967
Log likelihood	-197.0840	Hannan-Quinn criter.		23.43139
F-statistic	28.64676	Durbin-Watson stat		1.037351
Prob(F-statistic)	0.000081			

ملحق رقم (6): استقرار متغير معدل التضخم عند الفرق الأول

Null Hypothesis: D(INF) has a unit root  
 Exogenous: Constant  
 Lag length: 0 (Spectral OLSAR based on AIC, maxlag=3)

	Adj. t-Stat	Prob.*
Phillips-Perron test statistic	-3.537311	0.0199
Test critical values:		
1% level	-3.886751	
5% level	-3.052169	
10% level	-2.666593	

\*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 17

Residual variance (no correction)	56.21980
HAC corrected variance (Spectral OLS autoregression)	56.21980

Phillips-Perron Test Equation  
 Dependent Variable: D(INF,2)  
 Method: Least Squares  
 Date: 09/17/18 Time: 18:31  
 Sample: 2000 2016  
 Included observations: 17

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(INF(-1))	-0.909530	0.257125	-3.537311	0.0030
C	0.082353	1.935972	0.042538	0.9666
R-squared	0.454795	Mean dependent var		0.082353
Adjusted R-squared	0.418448	S.D. dependent var		10.46717
S.E. of regression	7.982216	Akaike info criterion		7.102440
Sum squared resid	955.7366	Schwarz criterion		7.200465
Log likelihood	-58.37074	Hannan-Quinn criter.		7.112184
F-statistic	12.51257	Durbin-Watson stat		1.818498
Prob(F-statistic)	0.002986			

## ملحق نتائج تقدير النموذج المعدل للدراسة

ملحق رقم (7): اختبار التكامل المشترك بين متغيرات الدراسة باستخدام اختبار الحدود للنموذج المعدل

ARDL Bounds Test  
Date: 10/21/18 Time: 21:07  
Sample: 2000 2016  
Included observations: 17  
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	k
F-statistic	19.18460	4

### Critical Value Bounds

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

Test Equation:  
Dependent Variable: DLOG(EX)  
Method: Least Squares  
Date: 10/21/18 Time: 21:07  
Sample: 2000 2016  
Included observations: 17

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.292768	0.130084	2.250601	0.0458
INF	0.010997	0.001200	9.161103	0.0000
FR(-1)	-8.79E-05	3.77E-05	-2.332755	0.0397
GDP(-1)	3.97E-07	2.33E-07	1.699672	0.1173
DOP(-1)	-0.119023	0.306241	-0.388657	0.7049
LOG(EX(-1))	-0.355167	0.127309	-2.789803	0.0176
R-squared	0.897122	Mean dependent var		0.051863
Adjusted R-squ...	0.850360	S.D. dependent var		0.113438
S.E. of regression	0.043882	Akaike info criterion		-3.144075
Sum squared re...	0.021182	Schwarz criterion		-2.850000
Log likelihood	32.72464	Hannan-Quinn criter.		-3.114844
F-statistic	19.18460	Durbin-Watson stat		2.416960
Prob(F-statistic)	0.000042			

ملحق رقم (8): نتائج تقدير النموذج النصف لوغاريتمي

Dependent Variable: LOG(EX)  
Method: Least Squares  
Date: 10/21/18 Time: 21:08  
Sample: 2000 2016  
Included observations: 17

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.800209	0.177592	4.505893	0.0007
INF	0.005815	0.002706	2.149121	0.0527
FR	-0.000206	5.31E-05	-3.876331	0.0022
GDP	1.43E-06	2.25E-07	6.324680	0.0000
DOP	0.353031	0.700672	0.503846	0.6235
R-squared	0.955264	Mean dependent var		1.099317
Adjusted R-squared	0.940352	S.D. dependent var		0.386721
S.E. of regression	0.094449	Akaike info criterion		-1.641594
Sum squared resid	0.107046	Schwarz criterion		-1.396531
Log likelihood	18.95355	Hannan-Quinn criter.		-1.617234
F-statistic	64.06024	Durbin-Watson stat		1.087762
Prob(F-statistic)	0.000000			

ملحق رقم (9): اختبار مشكلة اختلاف التباين في النموذج المعدل باستخدام اختبار ARCH-LM



Heteroskedasticity Test: ARCH

F-statistic	2.161073	Prob. F(1,14)	0.1637
Obs*R-squared	2.139534	Prob. Chi-Square(1)	0.1435

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 10/21/18 Time: 21:10

Sample (adjusted): 2001 2016

Included observations: 16 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.004356	0.002281	1.909925	0.0768
RESID^2(-1)	0.358237	0.243689	1.470059	0.1637
R-squared	0.133721	Mean dependent var		0.006690
Adjusted R-squared	0.071844	S.D. dependent var		0.006799
S.E. of regression	0.006550	Akaike info criterion		-7.102256
Sum squared resid	0.000601	Schwarz criterion		-7.005682
Log likelihood	58.81805	Hannan-Quinn criter.		-7.097311
F-statistic	2.161073	Durbin-Watson stat		1.958017
Prob(F-statistic)	0.163660			

ملحق رقم (10): القيم الجدولية لاختبار درين واتسون (DU=1.900, DL=0.779)

## *Models with an intercept (from Savin and White)*

**Durbin-Watson Statistic: 5 Per Cent Significance Points of dL and dU**

n	k'=1		k'=2		k'=3		k'=4		k'=5		k'=6		k'=7	
	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU	dL	dU
6	0.610	1.400	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
7	0.700	1.356	0.467	1.896	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
8	0.763	1.332	0.559	1.777	0.367	2.287	-----	-----	-----	-----	-----	-----	-----	-----
9	0.824	1.320	0.629	1.699	0.455	2.128	0.296	2.588	-----	-----	-----	-----	-----	-----
10	0.879	1.320	0.697	1.641	0.525	2.016	0.376	2.414	0.243	2.822	-----	-----	-----	-----
11	0.927	1.324	0.758	1.604	0.595	1.928	0.444	2.283	0.315	2.645	0.203	3.004	-----	-----
12	0.971	1.331	0.812	1.579	0.658	1.864	0.512	2.177	0.380	2.506	0.268	2.832	0.171	3.149
13	1.010	1.340	0.861	1.562	0.715	1.816	0.574	2.094	0.444	2.390	0.328	2.692	0.230	2.985
14	1.045	1.350	0.905	1.551	0.767	1.779	0.632	2.030	0.505	2.296	0.389	2.572	0.286	2.848
15	1.077	1.361	0.946	1.543	0.814	1.750	0.685	1.977	0.562	2.220	0.447	2.471	0.343	2.727
16	1.106	1.371	0.982	1.539	0.857	1.728	0.734	1.935	0.615	2.157	0.502	2.388	0.398	2.624
17	1.133	1.381	1.015	1.536	0.897	1.710	<b>0.779</b>	<b>1.900</b>	0.664	2.104	0.554	2.318	0.451	2.537
18	1.158	1.391	1.046	1.535	0.933	1.696	0.820	1.872	0.710	2.060	0.603	2.258	0.502	2.461
19	1.180	1.401	1.074	1.536	0.967	1.685	0.859	1.848	0.752	2.023	0.649	2.206	0.549	2.396
20	1.201	1.411	1.100	1.537	0.998	1.676	0.894	1.828	0.792	1.991	0.691	2.162	0.595	2.339
21	1.221	1.420	1.125	1.538	1.026	1.669	0.927	1.812	0.829	1.964	0.731	2.124	0.637	2.290
22	1.239	1.429	1.147	1.541	1.053	1.664	0.958	1.797	0.863	1.940	0.769	2.090	0.677	2.246
23	1.257	1.437	1.168	1.543	1.078	1.660	0.986	1.785	0.895	1.920	0.804	2.061	0.715	2.208

ملحق رقم (11): اختبار مشكلة الارتباط الذاتي باستخدام اختبار LM

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.963560	Prob. F(1,11)	0.1131
Obs*R-squared	3.608000	Prob. Chi-Square(1)	0.0575

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 10/21/18 Time: 21:18

Sample: 2000 2016

Included observations: 17

Presample missing value lagged residuals set to zero.









Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.018141	0.164969	-0.109968	0.9144
INF	0.000632	0.002535	0.249371	0.8077
FR	-2.76E-06	4.93E-05	-0.056117	0.9563
GDP	-3.28E-08	2.10E-07	-0.156223	0.8787
DOP	0.066450	0.650688	0.102123	0.9205
RESID(-1)	0.479084	0.278295	1.721499	0.1131
R-squared	0.212235	Mean dependent var	-1.65E-16	
Adjusted R-squared	-0.145840	S.D. dependent var	0.081795	
S.E. of regression	0.087556	Akaike info criterion	-1.762502	
Sum squared resid	0.084327	Schwarz criterion	-1.468427	
Log likelihood	20.98127	Hannan-Quinn criter.	-1.733271	
F-statistic	0.592712	Durbin-Watson stat	1.890403	
Prob(F-statistic)	0.706449			

ملحق رقم (12): اختبار مشكلة الارتباط الذاتي باستخدام اختبار Q-STAT

Date: 10/21/18 Time: 21:20

Sample: 2000 2016

Included observations: 17

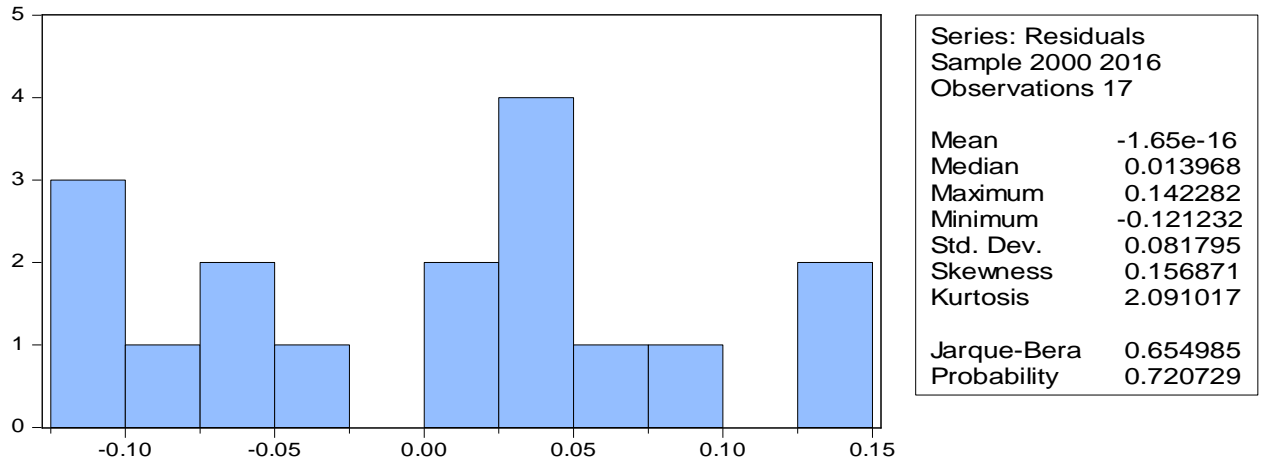
Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob	
		1	0.443	0.443	3.9618	0.047
		2	0.106	-0.112	4.2040	0.122
		3	-0.217	-0.277	5.2940	0.151
		4	-0.277	-0.077	7.1957	0.126

ملحق رقم (13): اختبار مشكلة الارتباط الخطي المتعدد في النموذج المعدل باستخدام اختبار VIF

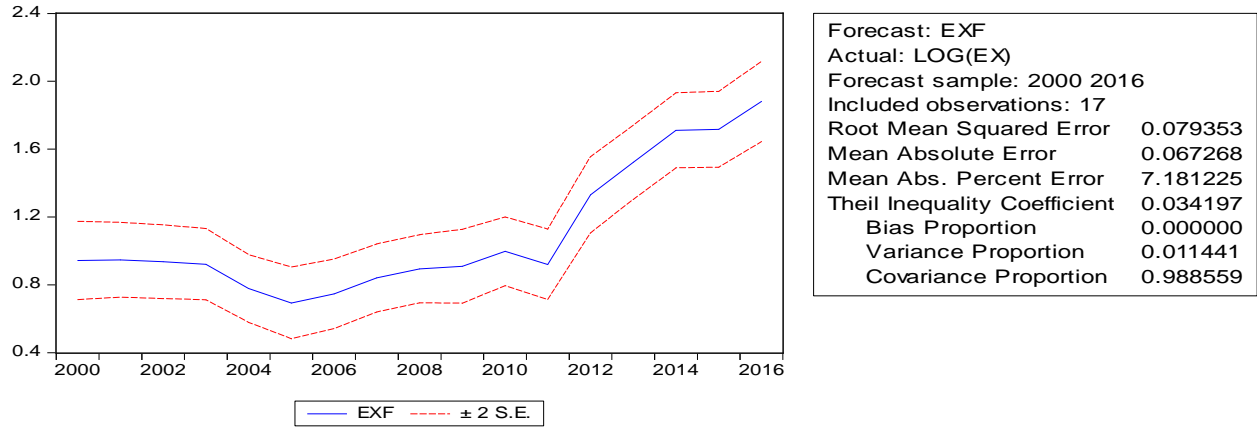
Variance Inflation Factors  
Date: 10/21/18 Time: 21:10  
Sample: 2000 2016  
Included observations: 17

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.031539	60.10403	NA
INF	7.32E-06	4.771694	1.598446
FR	2.82E-09	5.553237	2.102307
GDP	5.08E-14	7.690108	3.649701
DOP	0.490942	58.88745	4.467547

ملحق رقم (14): اختبار التوزيع الطبيعي للبواقي في النموذج المعدل باستخدام اختبار JB



ملحق رقم (15): اختبار مقدرة النموذج المعدل على التنبؤ باستخدام اختبار Theil



تم بحمد الله وتوفيقه