Statistics/Data Analysis

```
      name:  <unnamed>
       log:  C:\Users\LENOVO\OneDrive\Desktop\Crime_GDP_relationship\Analysis\Crime_GD
> P_relation_analysis.smcl
  log type:  smcl
 opened on:  20 Oct 2023, 20:07:25

1 .
2 . use CrimeGDPData.dta, clear

3 . tsset Year
        time variable:  Year, 1960 to 2019
                delta:  1 unit

4 .
5 . ***Summary Statistics (Mean, Median, Standerd Deviation, Kurtosis, Skewness)***
6 .
7 . su Violent Murder Robbery Theft us_gdp_percapita, detail

                          Violent
-------------------------------------------------------------
      Percentiles      Smallest
 1%         158.1          158.1
 5%        165.25          160.9
10%         210.1          162.3       Obs                  60
25%           384          168.2       Sum of Wgt.          60

50%         468.4                      Mean           465.4383
                        Largest       Std. Dev.      155.9643
75%        568.75          731.8
90%         673.8          746.8       Variance       24324.87
95%         739.3          757.5       Skewness       -.160164
99%         758.1          758.1       Kurtosis       2.606841

                          Murder
-------------------------------------------------------------
      Percentiles      Smallest
 1%           4.4            4.4
 5%           4.6            4.5
10%          4.75            4.6       Obs                  60
25%           5.2            4.6       Sum of Wgt.          60

50%          6.55                      Mean           6.971667
                        Largest       Std. Dev.      1.899874
75%          8.75            9.8
90%          9.55            9.8       Variance       3.609523
95%           9.8            9.8       Skewness       .1906014
99%          10.2           10.2       Kurtosis       1.436867

                          Robbery
-------------------------------------------------------------
      Percentiles      Smallest
 1%          58.3           58.3
 5%         60.95           59.7
10%         76.25           60.1       Obs                  60
25%        111.05           61.8       Sum of Wgt.          60

50%        149.75                      Mean           162.4667
                        Largest       Std. Dev.      61.19138
75%         214.6            257
90%           245          258.7       Variance       3744.385
95%        257.85          263.6       Skewness      -.0354521
99%         272.7          272.7       Kurtosis       1.902397

                           Theft
-------------------------------------------------------------
      Percentiles      Smallest
 1%           183            183
 5%         206.4          183.6
10%         220.6          197.4       Obs                  60
25%         252.1          215.4       Sum of Wgt.          60
```

50%	**431.85**		Mean	**402.135**
		Largest	Std. Dev.	**134.0906**
75%	**474.2**	**630.4**		
90%	**587.1**	**631.5**	Variance	**17980.28**
95%	**630.95**	**657.8**	Skewness	**-.0513002**
99%	**658.9**	**658.9**	Kurtosis	**2.046222**

US_GDP_PerCapita

	Percentiles	Smallest		
1%	**3029.726**	**3029.726**		
5%	**3322.67**	**3078.277**		
10%	**4005.036**	**3257.236**	Obs	**60**
25%	**7607.796**	**3388.104**	Sum of Wgt.	**60**
50%	**23351.36**		Mean	**26168.76**
		Largest	Std. Dev.	**19103.46**
75%	**42789.83**	**57806.95**		
90%	**54125.62**	**59903.15**	Variance	**3.65e+08**
95%	**58855.05**	**62852.29**	Skewness	**.4068839**
99%	**65138.34**	**65138.34**	Kurtosis	**1.859885**

```
8 .
9 . ***checking Stationarity (Dicky-Fuller DFGLS)****
10.
11.  foreach var of varlist Total_Crime Violent Property Murder Robbery Aggravated_assau
  > lt Burglary Larceny_Theft Theft us_gdp_total us_gdp_percapita {
    2. *For x`var't*
12. dis "_____"
    3. dis "VARSOC FOR VARIABLE `var'"
    4. dis "_____"
    5. varsoc `var', maxlag(8) sep(1)
    6. }

_____
VARSOC FOR VARIABLE Total_Crime
_____
```

Selection-order criteria
Sample: **1968 - 2019** Number of obs = **52**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-433.917**				**1.1e+06**	**16.7276**	**16.7419**	**16.7651**
1	**-354.329**	**159.17**	**1**	**0.000**	**52424.7**	**13.705**	**13.7337**	**13.78**
2	**-340.675**	**27.309**	**1**	**0.000**	**32225.2**	**13.2183**	**13.2614**	**13.3308**
3	**-334.648**	**12.054**	**1**	**0.001**	**26564.8**	**13.0249**	**13.0825**	**13.175**
4	**-330.175**	**8.9448**	**1**	**0.003**	**23250.4**	**12.8914**	**12.9633**	**13.079**
5	**-328.14**	**4.0716***	**1**	**0.044**	**22352.1**	**12.8515**	**12.9378**	**13.0767***
6	**-326.706**	**2.8678**	**1**	**0.090**	**21995.6***	**12.8348***	**12.9355***	**13.0975**
7	**-326.24**	**.93226**	**1**	**0.334**	**22470.3**	**12.8554**	**12.9705**	**13.1556**
8	**-326.198**	**.08302**	**1**	**0.773**	**23338.8**	**12.8922**	**13.0217**	**13.2299**

Endogenous: Total_Crime
Exogenous: _cons

```
_____
VARSOC FOR VARIABLE Violent
_____
```

Selection-order criteria
Sample: **1968 - 2019** Number of obs = **52**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-321.809**				**14441.6**	**12.4157**	**12.4301**	**12.4533**
1	**-244.137**	**155.34**	**1**	**0.000**	**756.706**	**9.46681**	**9.49559**	**9.54186**
2	**-230.865**	**26.543**	**1**	**0.000**	**472.045**	**8.99482**	**9.03798***	**9.1074***
3	**-230.865**	**.00013**	**1**	**0.991**	**490.64**	**9.03328**	**9.09083**	**9.18338**
4	**-230.732**	**.26722**	**1**	**0.605**	**507.413**	**9.06661**	**9.13853**	**9.25423**
5	**-227.157**	**7.1495***	**1**	**0.007**	**459.773***	**8.96758***	**9.05389**	**9.19272**
6	**-227.156**	**.00223**	**1**	**0.962**	**478.073**	**9.006**	**9.1067**	**9.26866**
7	**-227.133**	**.04639**	**1**	**0.829**	**496.782**	**9.04357**	**9.15865**	**9.34376**
8	**-227.121**	**.02305**	**1**	**0.879**	**516.578**	**9.08158**	**9.21106**	**9.4193**

Endogenous: Violent
Exogenous: _cons

VARSOC FOR VARIABLE Property

Selection-order criteria
Sample: **1968 - 2019** Number of obs = **52**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-428.772**				**883654**	**16.5297**	**16.5441**	**16.5672**
1	**-349.197**	**159.15**	**1**	**0.000**	**43033.1**	**13.5076**	**13.5363**	**13.5826**
2	**-336.504**	**25.385**	**1**	**0.000**	**27449.5**	**13.0579**	**13.101**	**13.1704**
3	**-330.14**	**12.728**	**1**	**0.000**	**22336.6**	**12.8516**	**12.9091**	**13.0016**
4	**-326.114**	**8.0534**	**1**	**0.005**	**19887.8**	**12.7351**	**12.8071**	**12.9228***
5	**-324.174**	**3.8788**	**1**	**0.049**	**19190.4**	**12.699**	**12.7853**	**12.9242**
6	**-322.241**	**3.8668***	**1**	**0.049**	**18525***	**12.6631***	**12.7638***	**12.9258**
7	**-321.743**	**.99539**	**1**	**0.318**	**18901.8**	**12.6824**	**12.7975**	**12.9826**
8	**-321.743**	**.0002**	**1**	**0.989**	**19663.7**	**12.7209**	**12.8504**	**13.0586**

Endogenous: Property
Exogenous: _cons

VARSOC FOR VARIABLE Murder

Selection-order criteria
Sample: **1968 - 2019** Number of obs = **52**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-105.92**				**3.57664**	**4.1123**	**4.12668**	**4.14982**
1	**-31.1235**	**149.59**	**1**	**0.000**	**.209327**	**1.27398**	**1.30275**	**1.34903**
2	**-19.6482**	**22.95***	**1**	**0.000**	**.139923***	**.871086***	**.914243***	**.983658***
3	**-19.3391**	**.61832**	**1**	**0.432**	**.143716**	**.897657**	**.9552**	**1.04775**
4	**-19.3391**	**1.1e-05**	**1**	**0.997**	**.149395**	**.936118**	**1.00805**	**1.12374**

5	-18.9932	.69179	1	0.406	.153268	.961276	1.04759	1.18642
6	-18.7656	.45524	1	0.500	.157986	.990983	1.09168	1.25365
7	-18.5771	.37699	1	0.539	.163128	1.02219	1.13728	1.32239
8	-18.0246	1.1049	1	0.293	.166136	1.03941	1.16888	1.37712

Endogenous: Murder
Exogenous: _cons

VARSOC FOR VARIABLE Robbery

Selection-order criteria
Sample: **1968 - 2019** Number of obs = **52**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-279.343				2820.14	10.7824	10.7968	10.8199
1	-211.37	135.94	1	0.000	214.588	8.20656	8.23533	8.28161
2	-199.55	23.641	1	0.000	141.548	7.79039	7.83355	7.90296
3	-197.375	4.3495*	1	0.037	135.319*	7.7452*	7.80275*	7.8953*
4	-197.022	.70683	1	0.400	138.766	7.77007	7.842	7.95769
5	-196.275	1.4942	1	0.222	140.184	7.7798	7.86612	8.00494
6	-195.808	.93404	1	0.334	143.175	7.8003	7.901	8.06297
7	-195.78	.05537	1	0.814	148.752	7.8377	7.95278	8.13789
8	-195.541	.47917	1	0.489	153.329	7.86694	7.99642	8.20466

Endogenous: Robbery
Exogenous: _cons

VARSOC FOR VARIABLE Aggravated_assault

Selection-order criteria
Sample: **1968 - 2019** Number of obs = **52**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-298.472				5885.8	11.5182	11.5326	11.5557
1	-209.459	178.03	1	0.000	199.378	8.13304	8.16181	8.20809
2	-198.692	21.534	1	0.000	136.954	7.75739	7.80055	7.86997
3	-195.053	7.2784*	1	0.007	123.756	7.65589	7.71343*	7.80598*
4	-194.761	.58433	1	0.445	127.209	7.68311	7.75504	7.87073
5	-192.931	3.659	1	0.056	123.268*	7.65121*	7.73752	7.87635
6	-192.914	.03524	1	0.851	128.093	7.68899	7.78969	7.95166
7	-192.53	.76696	1	0.381	131.275	7.71271	7.82779	8.0129
8	-191.549	1.9622	1	0.161	131.509	7.71343	7.8429	8.05115

Endogenous: Aggravated_assault
Exogenous: _cons

VARSOC FOR VARIABLE Burglary

Selection-order criteria
Sample: **1968 - 2019** Number of obs = **52**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-378.943**				**130003**	**14.6132**	**14.6276**	**14.6507**
1	**-293.925**	**170.04**	**1**	**0.000**	**5135.28**	**11.3817**	**11.4105**	**11.4568**
2	**-283.62**	**20.61**	**1**	**0.000**	**3590.7**	**11.0239**	**11.067**	**11.1364**
3	**-279.723**	**7.7953**	**1**	**0.005**	**3212.59**	**10.9124**	**10.9699**	**11.0625**
4	**-277.338**	**4.7686**	**1**	**0.029**	**3046.9**	**10.8592**	**10.9311**	**11.0468**
5	**-277.247**	**.18318**	**1**	**0.669**	**3156.62**	**10.8941**	**10.9804**	**11.1192**
6	**-270.388**	**13.718***	**1**	**0.000**	**2521.28***	**10.6688***	**10.7695***	**10.9314***
7	**-269.751**	**1.2724**	**1**	**0.259**	**2558.9**	**10.6827**	**10.7978**	**10.9829**
8	**-269.713**	**.07769**	**1**	**0.780**	**2658.08**	**10.7197**	**10.8492**	**11.0574**

Endogenous: Burglary
Exogenous: _cons

VARSOC FOR VARIABLE Larceny_Theft

Selection-order criteria
Sample: **1968 - 2019** Number of obs = **52**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-398.142**				**272049**	**15.3516**	**15.366**	**15.3891**
1	**-323.618**	**149.05**	**1**	**0.000**	**16089.8**	**12.5238**	**12.5526**	**12.5988**
2	**-313.008**	**21.22**	**1**	**0.000**	**11119**	**12.1542**	**12.1973**	**12.2667**
3	**-307.65**	**10.717**	**1**	**0.001**	**9404.55**	**11.9865**	**12.0441**	**12.1366**
4	**-305.255**	**4.7896**	**1**	**0.029**	**8915.93**	**11.9329**	**12.0048**	**12.1205**
5	**-302.855**	**4.799**	**1**	**0.028**	**8452.4**	**11.879**	**11.9654**	**12.1042**
6	**-300.231**	**5.2489***	**1**	**0.022**	**7945.31***	**11.8166***	**11.9173***	**12.0792***
7	**-299.65**	**1.1626**	**1**	**0.281**	**8080.91**	**11.8327**	**11.9478**	**12.1329**
8	**-299.35**	**.59927**	**1**	**0.439**	**8310.33**	**11.8596**	**11.9891**	**12.1973**

Endogenous: Larceny_Theft
Exogenous: _cons

VARSOC FOR VARIABLE Theft

Selection-order criteria
Sample: **1968 - 2019** Number of obs = **52**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-324.215**				**15841.6**	**12.5083**	**12.5227**	**12.5458**
1	**-244.867**	**158.7**	**1**	**0.000**	**778.26**	**9.4949**	**9.52367**	**9.56995**
2	**-226.956**	**35.822***	**1**	**0.000**	**406.151***	**8.84447***	**8.88763***	**8.95705***
3	**-226.687**	**.53798**	**1**	**0.463**	**417.806**	**8.87259**	**8.93013**	**9.02269**

4	-226.396	.58227	1	0.445	429.479	8.89985	8.97178	9.08747
5	-225.063	2.6659	1	0.103	424.2	8.88705	8.97336	9.11219
6	-224.88	.3663	1	0.545	438.006	8.91847	9.01917	9.18113
7	-224.721	.31814	1	0.573	452.775	8.95081	9.0659	9.251
8	-224.622	.19839	1	0.656	469.233	8.98546	9.11493	9.32317

Endogenous: Theft
Exogenous: _cons

VARSOC FOR VARIABLE us_gdp_total

Selection-order criteria
Sample: 1968 - 2019 Number of obs = 52

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-1604.48				3.8e+25	61.7491	61.7634	61.7866
1	-1418.86	371.24	1	0.000	3.2e+22	54.6483	54.6771	54.7234
2	-1415.15	7.4133*	1	0.006	2.9e+22	54.5442	54.5874*	54.6568*
3	-1414.03	2.2392	1	0.135	2.8e+22*	54.5396*	54.5971	54.6897
4	-1413.63	.79117	1	0.374	2.9e+22	54.5629	54.6348	54.7505
5	-1413.56	.15175	1	0.697	3.0e+22	54.5984	54.6847	54.8235
6	-1413.49	.13677	1	0.712	3.1e+22	54.6342	54.7349	54.8969
7	-1412.93	1.1261	1	0.289	3.2e+22	54.651	54.7661	54.9512
8	-1411.61	2.6301	1	0.105	3.2e+22	54.6389	54.7684	54.9766

Endogenous: us_gdp_total
Exogenous: _cons

VARSOC FOR VARIABLE us_gdp_percapita

Selection-order criteria
Sample: 1968 - 2019 Number of obs = 52

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-583.25				3.4e+08	22.4712	22.4855	22.5087
1	-405.146	356.21	1	0.000	370134	15.6595	15.6882	15.7345
2	-401.523	7.2466*	1	0.007	334641	15.5586	15.6017*	15.6711*
3	-400.51	2.0249	1	0.155	334540*	15.5581*	15.6156	15.7082
4	-399.914	1.192	1	0.275	339878	15.5736	15.6456	15.7612
5	-399.669	.4912	1	0.483	350037	15.6026	15.689	15.8278
6	-399.641	.05492	1	0.815	363601	15.64	15.7407	15.9027
7	-399.486	.31081	1	0.577	375913	15.6725	15.7876	15.9727
8	-398.089	2.7934	1	0.095	370613	15.6573	15.7867	15.995

Endogenous: us_gdp_percapita
Exogenous: _cons

```
13.
14. foreach var of varlist  Total_Crime Violent Property Murder Robbery Aggravated_assau
  > lt Burglary Larceny_Theft Theft us_gdp_total us_gdp_percapita {
    2.
15. dis "_____________________________"
    3. dis "VARSOC FOR VARIABLE `var'"
    4. dis "_____________________________"
    5. varsoc D.`var', maxlag(8) sep(1)
    6.
16. }
```

_____
VARSOC FOR VARIABLE Total_Crime
_____

Selection-order criteria
Sample: **1969 - 2019** Number of obs = **51**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-346.427**				**48374.6**	**13.6246**	**13.6391**	**13.6625**
1	**-334.518**	**23.82**	**1**	**0.000**	**31537.4**	**13.1968**	**13.2257**	**13.2725**
2	**-327.97**	**13.095**	**1**	**0.000**	**25373.8**	**12.9792**	**13.0226**	**13.0929**
3	**-323.74**	**8.4591***	**1**	**0.004**	**22359.6**	**12.8526**	**12.9105***	**13.0041***
4	**-322.372**	**2.7368**	**1**	**0.098**	**22045.7**	**12.8381**	**12.9105**	**13.0275**
5	**-321.069**	**2.6057**	**1**	**0.106**	**21795.5***	**12.8262***	**12.9131**	**13.0535**
6	**-320.842**	**.45358**	**1**	**0.501**	**22481.1**	**12.8566**	**12.9579**	**13.1217**
7	**-320.705**	**.27384**	**1**	**0.601**	**23275.2**	**12.8904**	**13.0062**	**13.1934**
8	**-320.705**	**.00156**	**1**	**0.968**	**24232.6**	**12.9296**	**13.0599**	**13.2705**

Endogenous: D.Total_Crime
Exogenous: _cons

_____
VARSOC FOR VARIABLE Violent
_____

Selection-order criteria
Sample: **1969 - 2019** Number of obs = **51**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-240.345**				**754.938**	**9.46451**	**9.47898**	**9.50239**
1	**-228.083**	**24.524**	**1**	**0.000**	**485.428***	**9.02287***	**9.05182***	**9.09863***
2	**-228.07**	**.02599**	**1**	**0.872**	**504.634**	**9.06157**	**9.105**	**9.17521**
3	**-227.846**	**.44885**	**1**	**0.503**	**520.315**	**9.09199**	**9.14989**	**9.2435**
4	**-225.119**	**5.4538***	**1**	**0.020**	**486.396**	**9.02427**	**9.09664**	**9.21366**
5	**-225.088**	**.06207**	**1**	**0.803**	**505.468**	**9.06227**	**9.14911**	**9.28954**
6	**-224.948**	**.27966**	**1**	**0.597**	**523.148**	**9.096**	**9.19732**	**9.36115**
7	**-224.936**	**.02346**	**1**	**0.878**	**544.294**	**9.13475**	**9.25055**	**9.43779**
8	**-223.484**	**2.9052**	**1**	**0.088**	**535.318**	**9.117**	**9.24728**	**9.45792**

Endogenous: D.Violent
Exogenous: _cons

_____
VARSOC FOR VARIABLE Property
_____

Selection-order criteria
Sample: **1969 - 2019** Number of obs = **51**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-341.418**				**39747**	**13.4282**	**13.4426**	**13.466**
1	**-330.347**	**22.142**	**1**	**0.000**	**26779.1**	**13.0332**	**13.0622**	**13.109**
2	**-323.45**	**13.794**	**1**	**0.000**	**21252.2**	**12.802**	**12.8454**	**12.9156**
3	**-319.62**	**7.6603***	**1**	**0.006**	**19023.3**	**12.691**	**12.7489**	**12.8425***
4	**-318.308**	**2.6227**	**1**	**0.105**	**18798.2**	**12.6788**	**12.7511**	**12.8682**
5	**-316.502**	**3.613**	**1**	**0.057**	**18221.4***	**12.6471***	**12.734***	**12.8744**
6	**-316.224**	**.556**	**1**	**0.456**	**18756.8**	**12.6754**	**12.7768**	**12.9406**
7	**-316.206**	**.03568**	**1**	**0.850**	**19510.3**	**12.714**	**12.8298**	**13.017**
8	**-316.201**	**.01109**	**1**	**0.916**	**20309**	**12.753**	**12.8832**	**13.0939**

Endogenous: D.Property
Exogenous: _cons

VARSOC FOR VARIABLE Murder

Selection-order criteria
Sample: **1969 - 2019** Number of obs = **51**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-29.7772**				**.195749**	**1.20695**	**1.22142**	**1.24483**
1	**-20.2127**	**19.129***	**1**	**0.000**	**.139911***	**.871087***	**.900037***	**.946845***
2	**-19.585**	**1.2554**	**1**	**0.263**	**.141982**	**.885687**	**.929111**	**.999324**
3	**-19.5606**	**.04881**	**1**	**0.825**	**.147547**	**.923946**	**.981845**	**1.07546**
4	**-19.473**	**.17519**	**1**	**0.676**	**.152969**	**.959726**	**1.0321**	**1.14912**
5	**-19.4112**	**.12365**	**1**	**0.725**	**.158775**	**.996518**	**1.08337**	**1.22379**
6	**-19.019**	**.78443**	**1**	**0.376**	**.162711**	**1.02035**	**1.12167**	**1.2855**
7	**-18.7537**	**.53064**	**1**	**0.466**	**.167612**	**1.04916**	**1.16496**	**1.35219**
8	**-17.4722**	**2.563**	**1**	**0.109**	**.165958**	**1.03812**	**1.1684**	**1.37904**

Endogenous: D.Murder
Exogenous: _cons

VARSOC FOR VARIABLE Robbery

Selection-order criteria
Sample: **1969 - 2019** Number of obs = **51**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-205.754**				**194.439**	**8.10799**	**8.12247**	**8.14587**
1	**-196.149**	**19.21**	**1**	**0.000**	**138.754**	**7.77054**	**7.79949**	**7.8463**
2	**-193.569**	**5.16***	**1**	**0.023**	**130.43***	**7.70858***	**7.752***	**7.82221***
3	**-193.389**	**.3586**	**1**	**0.549**	**134.721**	**7.74076**	**7.79866**	**7.89228**
4	**-192.961**	**.85598**	**1**	**0.355**	**137.82**	**7.76319**	**7.83557**	**7.95259**

5	-192.676	.57105	1	0.450	141.802	7.79121	7.87806	8.01849
6	-192.541	.26952	1	0.604	146.791	7.82514	7.92647	8.0903
7	-192.104	.87374	1	0.350	150.199	7.84723	7.96302	8.15026
8	-191.851	.50627	1	0.477	154.837	7.87651	8.00679	8.21743

Endogenous: D.Robbery
Exogenous: _cons

VARSOC FOR VARIABLE Aggravated_assault

Selection-order criteria
Sample: **1969 - 2019** Number of obs = **51**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-207.971				212.099	8.19492	8.2094	8.2328
1	-197.136	21.67	1	0.000	144.23	7.80924	7.83819	7.885
2	-194.082	6.1071*	1	0.013	133.083*	7.72871*	7.77214*	7.84235*
3	-193.559	1.0469	1	0.306	135.619	7.7474	7.8053	7.89892
4	-192.324	2.4692	1	0.116	134.418	7.7382	7.81058	7.9276
5	-192.173	.30158	1	0.583	139.035	7.7715	7.85835	7.99878
6	-191.505	1.3359	1	0.248	140.948	7.78453	7.88585	8.04968
7	-190.894	1.2238	1	0.269	143.234	7.79975	7.91554	8.10278
8	-189.304	3.1787	1	0.075	140.119	7.77664	7.90691	8.11755

Endogenous: D.Aggravated_assault
Exogenous: _cons

VARSOC FOR VARIABLE Burglary

Selection-order criteria
Sample: **1969 - 2019** Number of obs = **51**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-287.458				4789.68	11.3121	11.3266	11.35
1	-278.374	18.169	1	0.000	3488.46	10.9951	11.024	11.0708
2	-274.325	8.0986	1	0.004	3095.58	10.8755	10.9189	10.9891
3	-272.155	4.3382	1	0.037	2957.41	10.8296	10.8875	10.9811
4	-272.123	.06464	1	0.799	3072.75	10.8676	10.9399	11.057
5	-265.769	12.709*	1	0.000	2491.93*	10.6576*	10.7444*	10.8849*
6	-265.376	.78541	1	0.375	2553.64	10.6814	10.7827	10.9466
7	-265.231	.29067	1	0.590	2642.98	10.7149	10.8307	11.018
8	-264.98	.50111	1	0.479	2724.86	10.7443	10.8746	11.0852

Endogenous: D.Burglary
Exogenous: _cons

VARSOC FOR VARIABLE Larceny_Theft

Selection-order criteria
Sample: **1969 - 2019** Number of obs = **51**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-317.225**				**15390.8**	**12.4794**	**12.4939**	**12.5173**
1	**-307.914**	**18.621**	**1**	**0.000**	**11110.6**	**12.1535**	**12.1824**	**12.2292**
2	**-301.968**	**11.893**	**1**	**0.001**	**9152.44**	**11.9595**	**12.0029**	**12.0732**
3	**-299.653**	**4.6302**	**1**	**0.031**	**8694.01**	**11.9079**	**11.9658**	**12.0595**
4	**-297.885**	**3.5355**	**1**	**0.060**	**8438.76**	**11.8778**	**11.9502**	**12.0672**
5	**-295.58**	**4.6104***	**1**	**0.032**	**8021.41***	**11.8267***	**11.9135***	**12.0539***
6	**-295.259**	**.64064**	**1**	**0.423**	**8243.44**	**11.8533**	**11.9546**	**12.1185**
7	**-295.132**	**.25432**	**1**	**0.614**	**8537.89**	**11.8875**	**12.0033**	**12.1906**
8	**-295.098**	**.06847**	**1**	**0.794**	**8877.41**	**11.9254**	**12.0557**	**12.2663**

Endogenous: D.Larceny_Theft
Exogenous: _cons

VARSOC FOR VARIABLE Theft

Selection-order criteria
Sample: **1969 - 2019** Number of obs = **51**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-237.925**				**686.576**	**9.36959**	**9.38406**	**9.40747**
1	**-222.726**	**30.397***	**1**	**0.000**	**393.447***	**8.81278***	**8.84173***	**8.88854***
2	**-222.228**	**.99528**	**1**	**0.318**	**401.313**	**8.83248**	**8.87591**	**8.94612**
3	**-221.792**	**.87243**	**1**	**0.350**	**410.361**	**8.85459**	**8.91249**	**9.00611**
4	**-221.202**	**1.1797**	**1**	**0.277**	**417.144**	**8.87068**	**8.94305**	**9.06007**
5	**-220.846**	**.71157**	**1**	**0.399**	**428.014**	**8.89594**	**8.98279**	**9.12321**
6	**-220.538**	**.61641**	**1**	**0.432**	**440.071**	**8.92307**	**9.02439**	**9.18822**
7	**-220.327**	**.42181**	**1**	**0.516**	**454.296**	**8.95401**	**9.06981**	**9.25705**
8	**-220.327**	**.00031**	**1**	**0.986**	**472.993**	**8.99322**	**9.1235**	**9.33413**

Endogenous: D.Theft
Exogenous: _cons

VARSOC FOR VARIABLE us_gdp_total

Selection-order criteria
Sample: **1969 - 2019** Number of obs = **51**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-1410.69**				**6.5e+22**	**55.3606**	**55.375**	**55.3984**
1	**-1393.73**	**33.936**	**1**	**0.000**	**3.5e+22**	**54.7344**	**54.7633***	**54.8101***
2	**-1393.71**	**.02232**	**1**	**0.881**	**3.6e+22**	**54.7731**	**54.8166**	**54.8868**
3	**-1393.31**	**.81179**	**1**	**0.368**	**3.7e+22**	**54.7964**	**54.8543**	**54.948**

4	**-1392.43**	**1.756**	**1**	**0.185**	**3.7e+22**	**54.8012**	**54.8736**	**54.9906**
5	**-1391.82**	**1.2163**	**1**	**0.270**	**3.8e+22**	**54.8166**	**54.9034**	**55.0439**
6	**-1389.49**	**4.661**	**1**	**0.031**	**3.6e+22**	**54.7644**	**54.8657**	**55.0296**
7	**-1386.9**	**5.1856***	**1**	**0.023**	**3.4e+22***	**54.7019***	**54.8177**	**55.005**
8	**-1386.86**	**.07235**	**1**	**0.788**	**3.5e+22**	**54.7397**	**54.87**	**55.0807**

Endogenous: D.us_gdp_total
Exogenous: _cons

VARSOC FOR VARIABLE us_gdp_percapita

Selection-order criteria
Sample: **1969 - 2019** Number of obs = **51**

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	**-405.503**				**490610**	**15.9413**	**15.9558**	**15.9792**
1	**-397.099**	**16.807**	**1**	**0.000**	**366994***	**15.6509***	**15.6799***	**15.7267***
2	**-396.968**	**.26087**	**1**	**0.610**	**379761**	**15.685**	**15.7285**	**15.7987**
3	**-396.968**	**.00034**	**1**	**0.985**	**395021**	**15.7242**	**15.7821**	**15.8758**
4	**-396.812**	**.31172**	**1**	**0.577**	**408443**	**15.7574**	**15.8297**	**15.9467**
5	**-396.388**	**.84937**	**1**	**0.357**	**417956**	**15.7799**	**15.8668**	**16.0072**
6	**-395.267**	**2.2419**	**1**	**0.134**	**416248**	**15.7752**	**15.8765**	**16.0403**
7	**-392.685**	**5.1641***	**1**	**0.023**	**391548**	**15.7131**	**15.8289**	**16.0162**
8	**-392.674**	**.02234**	**1**	**0.881**	**407486**	**15.7519**	**15.8822**	**16.0928**

Endogenous: D.us_gdp_percapita
Exogenous: _cons

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17. dis "__________END of VARSOC__________"
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18.
19. dis "Tests of Stationarity"
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Tests of Stationarity

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20. dis "Dickey Fuller test"
```
Dickey Fuller test

```
21. dfuller Total_Crime , regress trend lags(6)
```

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.816**	**-4.143**	**-3.497**	**-3.178**

MacKinnon approximate p-value for Z(t) = **0.1911**

D.Total_Cr~e	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Total_Crime						
L1.	-.0569884	.0202375	-2.82	0.007	-.0977745	-.0162024
LD.	.7441039	.1438736	5.17	0.000	.4541457	1.034062
L2D.	-.6052987	.1783736	-3.39	0.001	-.9647872	-.2458103
L3D.	.073332	.1988278	0.37	0.714	-.327379	.474043
L4D.	.0250474	.1954666	0.13	0.899	-.3688897	.4189845
L5D.	.0555293	.1764638	0.31	0.754	-.3001101	.4111686
L6D.	.0437858	.1354043	0.32	0.748	-.2291036	.3166753
_trend	-6.581011	2.329594	-2.82	0.007	-11.276	-1.886023
_cons	464.0518	142.6145	3.25	0.002	176.6311	751.4725

22. dfuller Total_Crime , regress lags(6)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.679**	**-3.576**	**-2.928**	**-2.599**

MacKinnon approximate p-value for Z(t) = **0.4420**

D. Total_Crime	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Total_Crime						
L1.	-.0332101	.01978	-1.68	0.100	-.0730491	.0066288
LD.	.9116928	.1408732	6.47	0.000	.6279596	1.195426
L2D.	-.6175001	.1916536	-3.22	0.002	-1.00351	-.23149
L3D.	.2151044	.206774	1.04	0.304	-.2013598	.6315685
L4D.	.1207603	.2069007	0.58	0.562	-.2959591	.5374797
L5D.	.1094204	.1885456	0.58	0.565	-.2703299	.4891707
L6D.	.1267766	.1420613	0.89	0.377	-.1593496	.4129028
_cons	135.2249	88.56109	1.53	0.134	-43.14626	313.5961

23. dfuller Violent , regress trend lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **54**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.111**	**-4.141**	**-3.496**	**-3.178**

MacKinnon approximate p-value for Z(t) = **0.5401**

D.Violent	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Violent						
L1.	-.0455222	.0215681	-2.11	0.040	-.0889366	-.0021078
LD.	.589048	.1407428	4.19	0.000	.3057475	.8723485
L2D.	-.0109998	.1595317	-0.07	0.945	-.3321204	.3101209
L3D.	-.2915426	.1522651	-1.91	0.062	-.5980362	.0149511
L4D.	.3029498	.1588611	1.91	0.063	-.0168209	.6227206
L5D.	-.0536435	.1438878	-0.37	0.711	-.3432747	.2359876
_trend	-.3569372	.2384519	-1.50	0.141	-.8369159	.1230415
_cons	35.5848	12.48518	2.85	0.007	10.45344	60.71615

24. dfuller Violent , regress lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **54**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.400**	**-3.574**	**-2.927**	**-2.598**

MacKinnon approximate p-value for Z(t) = **0.1418**

D.Violent	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Violent						
L1.	**-.0515245**	**.02147**	**-2.40**	**0.020**	**-.0947166**	**-.0083324**
LD.	**.6328572**	**.1394714**	**4.54**	**0.000**	**.352277**	**.9134375**
L2D.	**.0273908**	**.1595214**	**0.17**	**0.864**	**-.2935248**	**.3483064**
L3D.	**-.2770373**	**.153949**	**-1.80**	**0.078**	**-.5867427**	**.0326681**
L4D.	**.3360405**	**.1593783**	**2.11**	**0.040**	**.0154127**	**.6566683**
L5D.	**.0072513**	**.1398271**	**0.05**	**0.959**	**-.2740446**	**.2885472**
_cons	**26.19528**	**10.93661**	**2.40**	**0.021**	**4.193654**	**48.19692**

25. dfuller Property , regress trend lags(6)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.921**	**-4.143**	**-3.497**	**-3.178**

MacKinnon approximate p-value for Z(t) = **0.1554**

D.Property	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Property						
L1.	**-.0619744**	**.0212151**	**-2.92**	**0.005**	**-.1047306**	**-.0192182**
LD.	**.7023561**	**.1432928**	**4.90**	**0.000**	**.4135686**	**.9911437**
L2D.	**-.6041916**	**.174034**	**-3.47**	**0.001**	**-.9549341**	**-.2534491**
L3D.	**.0706444**	**.1955808**	**0.36**	**0.720**	**-.3235227**	**.4648115**
L4D.	**-.0196409**	**.1922398**	**-0.10**	**0.919**	**-.4070747**	**.3677928**
L5D.	**.0756333**	**.1728308**	**0.44**	**0.664**	**-.2726842**	**.4239508**
L6D.	**.0427125**	**.1344473**	**0.32**	**0.752**	**-.2282482**	**.3136731**
_trend	**-6.684463**	**2.212065**	**-3.02**	**0.004**	**-11.14259**	**-2.226339**
_cons	**456.8012**	**136.0902**	**3.36**	**0.002**	**182.5295**	**731.0729**

26. dfuller Property , regress lags(6)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.558**	**-3.576**	**-2.928**	**-2.599**

MacKinnon approximate p-value for Z(t) = **0.5049**

D.Property	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Property						
L1.	-.0316263	.0203057	-1.56	0.126	-.0725241	.0092715
LD.	.8866338	.1408979	6.29	0.000	.6028509	1.170417
L2D.	-.6111068	.1890889	-3.23	0.002	-.9919513	-.2302623
L3D.	.2281241	.2048346	1.11	0.271	-.1844339	.6406822
L4D.	.0880091	.2052696	0.43	0.670	-.3254251	.5014433
L5D.	.1438553	.1861886	0.77	0.444	-.2311478	.5188584
L6D.	.1312946	.1425755	0.92	0.362	-.1558672	.4184564
_cons	112.2225	80.71358	1.39	0.171	-50.34305	274.788

27. dfuller Murder , regress trend lags(2)

Augmented Dickey-Fuller test for unit root Number of obs = **57**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.707**	**-4.135**	**-3.493**	**-3.176**

MacKinnon approximate p-value for Z(t) = **0.2332**

D.Murder	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Murder						
L1.	-.0737054	.0272269	-2.71	0.009	-.1283401	-.0190707
LD.	.5876926	.1297908	4.53	0.000	.3272483	.848137
L2D.	-.0980068	.1295302	-0.76	0.453	-.3579282	.1619146
_trend	-.0082072	.0031654	-2.59	0.012	-.014559	-.0018555
_cons	.7813512	.255439	3.06	0.004	.2687754	1.293927

28. dfuller Murder , regress lags(2)

Augmented Dickey-Fuller test for unit root Number of obs = **57**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.663**	**-3.570**	**-2.924**	**-2.597**

MacKinnon approximate p-value for Z(t) = **0.4501**

D.Murder	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Murder						
L1.	-.0428904	.0257846	-1.66	0.102	-.0946078	.0088271
LD.	.6660419	.1328642	5.01	0.000	.39955	.9325337
L2D.	-.0971646	.1363437	-0.71	0.479	-.3706355	.1763062
_cons	.308565	.1882952	1.64	0.107	-.0691073	.6862373

29. dfuller Robbery , regress trend lags(3)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.180**	**-4.137**	**-3.494**	**-3.176**

MacKinnon approximate p-value for Z(t) = **0.5009**

D.Robbery	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Robbery						
L1.	**-.0549972**	**.0252227**	**-2.18**	**0.034**	**-.1056585**	**-.0043359**
LD.	**.6659329**	**.135854**	**4.90**	**0.000**	**.3930622**	**.9388037**
L2D.	**-.3499941**	**.1575274**	**-2.22**	**0.031**	**-.6663972**	**-.033591**
L3D.	**.0188558**	**.1352849**	**0.14**	**0.890**	**-.2528718**	**.2905835**
_trend	**-.2853337**	**.1019518**	**-2.80**	**0.007**	**-.4901098**	**-.0805576**
_cons	**18.58349**	**5.888236**	**3.16**	**0.003**	**6.75662**	**30.41036**

30. dfuller Robbery , regress lags(3)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.684**	**-3.572**	**-2.925**	**-2.598**

MacKinnon approximate p-value for Z(t) = **0.4396**

D.Robbery	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Robbery						
L1.	**-.04474**	**.0265742**	**-1.68**	**0.098**	**-.0980899**	**.0086099**
LD.	**.7971024**	**.1357871**	**5.87**	**0.000**	**.5244984**	**1.069706**
L2D.	**-.3667387**	**.1676272**	**-2.19**	**0.033**	**-.7032644**	**-.030213**
L3D.	**.128055**	**.1379409**	**0.93**	**0.358**	**-.1488729**	**.4049829**
_cons	**7.724315**	**4.716417**	**1.64**	**0.108**	**-1.744288**	**17.19292**

31. dfuller Aggravated_assault , regress trend lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **54**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.750**	**-4.141**	**-3.496**	**-3.178**

MacKinnon approximate p-value for Z(t) = **0.7284**

D.Aggravat~t	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Aggravated~t						
L1.	**-.0356009**	**.0203433**	**-1.75**	**0.087**	**-.0765499**	**.0053482**
LD.	**.4250769**	**.1424928**	**2.98**	**0.005**	**.1382537**	**.7119001**
L2D.	**.2626941**	**.1519266**	**1.73**	**0.091**	**-.0431182**	**.5685063**
L3D.	**-.2039614**	**.1527494**	**-1.34**	**0.188**	**-.5114301**	**.1035073**
L4D.	**.2525716**	**.1529249**	**1.65**	**0.105**	**-.0552503**	**.5603935**
L5D.	**-.0496358**	**.1510661**	**-0.33**	**0.744**	**-.3537161**	**.2544445**
_trend	**-.0580367**	**.1353978**	**-0.43**	**0.670**	**-.3305784**	**.214505**
_cons	**12.64882**	**5.625061**	**2.25**	**0.029**	**1.326161**	**23.97148**

32. dfuller Aggravated_assault , regress lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **54**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.243**	**-3.574**	**-2.927**	**-2.598**

MacKinnon approximate p-value for Z(t) = **0.1910**

D. Aggravated_assault	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Aggravated_assault						
L1.	**-.0397591**	**.0177254**	**-2.24**	**0.030**	**-.075418**	**-.0041002**
LD.	**.4312815**	**.1405193**	**3.07**	**0.004**	**.1485931**	**.71397**
L2D.	**.2726671**	**.148825**	**1.83**	**0.073**	**-.0267301**	**.5720643**
L3D.	**-.2017607**	**.1513317**	**-1.33**	**0.189**	**-.5062008**	**.1026793**
L4D.	**.2643155**	**.1491384**	**1.77**	**0.083**	**-.0357122**	**.5643432**
L5D.	**-.027095**	**.1403825**	**-0.19**	**0.848**	**-.3095082**	**.2553182**
_cons	**11.79171**	**5.21179**	**2.26**	**0.028**	**1.306941**	**22.27648**

33. dfuller Burglary , regress trend lags(6)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-3.623**	**-4.143**	**-3.497**	**-3.178**

MacKinnon approximate p-value for Z(t) = **0.0279**

D.Burglary	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Burglary						
L1.	**-.0965246**	**.0266413**	**-3.62**	**0.001**	**-.1502166**	**-.0428325**
LD.	**.6423888**	**.1378524**	**4.66**	**0.000**	**.3645656**	**.9202119**
L2D.	**-.5948462**	**.1628004**	**-3.65**	**0.001**	**-.9229489**	**-.2667435**
L3D.	**.3280078**	**.1821434**	**1.80**	**0.079**	**-.0390782**	**.6950938**
L4D.	**-.2715829**	**.1793697**	**-1.51**	**0.137**	**-.6330788**	**.0899131**
L5D.	**.2505771**	**.1626436**	**1.54**	**0.131**	**-.0772096**	**.5783637**
L6D.	**.1466047**	**.1326406**	**1.11**	**0.275**	**-.1207148**	**.4139242**
_trend	**-2.564685**	**.7506279**	**-3.42**	**0.001**	**-4.077477**	**-1.051894**
_cons	**175.9995**	**47.49577**	**3.71**	**0.001**	**80.27808**	**271.721**

34. dfuller Burglary , regress lags(6)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.580**	**-3.576**	**-2.928**	**-2.599**

MacKinnon approximate p-value for Z(t) = **0.4936**

D.Burglary	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Burglary						
L1.	-.0340533	.0215525	-1.58	0.121	-.0774623	.0093558
LD.	.8141785	.1427698	5.70	0.000	.5266255	1.101732
L2D.	-.6288777	.1807428	-3.48	0.001	-.9929125	-.264843
L3D.	.4748685	.1968752	2.41	0.020	.0783415	.8713955
L4D.	-.2484976	.1993704	-1.25	0.219	-.6500502	.153055
L5D.	.3589298	.1774354	2.02	0.049	.0015565	.7163031
L6D.	.148646	.1475339	1.01	0.319	-.1485025	.4457946
_cons	29.45413	22.69297	1.30	0.201	-16.25187	75.16013

35. dfuller Larceny_Theft , regress trend lags(6)

Augmented Dickey-Fuller test for unit root Number of obs = 53

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	-2.431	-4.143	-3.497	-3.178

MacKinnon approximate p-value for Z(t) = 0.3630

D.Larceny_~t	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Larceny_Th~t						
L1.	-.0525013	.0215924	-2.43	0.019	-.0960178	-.0089847
LD.	.5664766	.1450429	3.91	0.000	.2741619	.8587914
L2D.	-.5053046	.1644222	-3.07	0.004	-.8366756	-.1739335
L3D.	-.0080294	.1816636	-0.04	0.965	-.3741483	.3580894
L4D.	-.0146212	.1793863	-0.08	0.935	-.3761505	.346908
L5D.	.1093125	.1645702	0.66	0.510	-.2223569	.440982
L6D.	.04785	.138635	0.35	0.732	-.2315506	.3272505
_trend	-3.716731	1.405843	-2.64	0.011	-6.550021	-.8834403
_cons	253.4299	81.15464	3.12	0.003	89.87352	416.9864

36. dfuller Larceny_Theft , regress lags(6)

Augmented Dickey-Fuller test for unit root Number of obs = 53

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	-1.743	-3.576	-2.928	-2.599

MacKinnon approximate p-value for Z(t) = 0.4090

D. Larceny_Theft	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Larceny_Theft						
L1.	-.0389135	.0223239	-1.74	0.088	-.083876	.0060491
LD.	.7216937	.1411802	5.11	0.000	.4373422	1.006045
L2D.	-.4658978	.1743021	-2.67	0.010	-.8169603	-.1148353
L3D.	.1361423	.1844575	0.74	0.464	-.2353742	.5076589
L4D.	.1045032	.1848298	0.57	0.575	-.2677631	.4767695
L5D.	.1890843	.1722108	1.10	0.278	-.157766	.5359346
L6D.	.1454447	.1422453	1.02	0.312	-.1410521	.4319415
_cons	90.33033	56.12682	1.61	0.115	-22.71488	203.3755

37. dfuller Theft , regress trend lags(2)

Augmented Dickey-Fuller test for unit root Number of obs = **57**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.081**	**-4.135**	**-3.493**	**-3.176**

MacKinnon approximate p-value for Z(t) = **0.5565**

D.Theft	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Theft						
L1.	**-.0423642**	**.0203533**	**-2.08**	**0.042**	**-.0832062**	**-.0015223**
LD.	**.6906022**	**.132777**	**5.20**	**0.000**	**.4241656**	**.9570388**
L2D.	**-.1212053**	**.1329495**	**-0.91**	**0.366**	**-.387988**	**.1455775**
_trend	**-.3929779**	**.1761687**	**-2.23**	**0.030**	**-.7464862**	**-.0394696**
_cons	**29.62565**	**11.1152**	**2.67**	**0.010**	**7.321369**	**51.92993**

38. dfuller Theft , regress lags(2)

Augmented Dickey-Fuller test for unit root Number of obs = **57**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.648**	**-3.570**	**-2.924**	**-2.597**

MacKinnon approximate p-value for Z(t) = **0.4582**

D.Theft	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Theft						
L1.	**-.0342074**	**.0207596**	**-1.65**	**0.105**	**-.0758459**	**.0074311**
LD.	**.7638556**	**.1333904**	**5.73**	**0.000**	**.4963083**	**1.031403**
L2D.	**-.0735183**	**.1360525**	**-0.54**	**0.591**	**-.346405**	**.1993685**
_cons	**13.96882**	**8.936245**	**1.56**	**0.124**	**-3.955014**	**31.89266**

39. dfuller us_gdp_total , regress trend lags(3)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-0.342**	**-4.137**	**-3.494**	**-3.176**

MacKinnon approximate p-value for Z(t) = **0.9885**

D.us_gdp_t~l	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
us_gdp_total						
L1.	**-.0051238**	**.014963**	**-0.34**	**0.733**	**-.0351779**	**.0249303**
LD.	**.3791518**	**.1391273**	**2.73**	**0.009**	**.0997063**	**.6585972**
L2D.	**-.1843589**	**.1524257**	**-1.21**	**0.232**	**-.4905149**	**.1217972**
L3D.	**-.1955101**	**.1465854**	**-1.33**	**0.188**	**-.4899355**	**.0989153**
_trend	**1.39e+10**	**5.97e+09**	**2.33**	**0.024**	**1.93e+09**	**2.59e+10**
_cons	**-3.88e+10**	**7.22e+10**	**-0.54**	**0.594**	**-1.84e+11**	**1.06e+11**

40. dfuller us_gdp_total , regress lags(3)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**3.741**	**-3.572**	**-2.925**	**-2.598**

MacKinnon approximate p-value for Z(t) = **1.0000**

D. us_gdp_total	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
us_gdp_total						
L1.	**.0260939**	**.0069744**	**3.74**	**0.000**	**.0120924**	**.0400955**
LD.	**.4384393**	**.1426154**	**3.07**	**0.003**	**.1521269**	**.7247517**
L2D.	**-.1548215**	**.1583728**	**-0.98**	**0.333**	**-.4727682**	**.1631251**
L3D.	**-.1064037**	**.147551**	**-0.72**	**0.474**	**-.4026247**	**.1898173**
_cons	**1.03e+11**	**4.03e+10**	**2.56**	**0.013**	**2.24e+10**	**1.84e+11**

41. dfuller us_gdp_percapita, regress trend lags(3)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.745**	**-4.137**	**-3.494**	**-3.176**

MacKinnon approximate p-value for Z(t) = **0.7308**

D.us_gdp_p~a	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
us_gdp_per~a						
L1.	**-.0450866**	**.025841**	**-1.74**	**0.087**	**-.0969898**	**.0068166**
LD.	**.3804747**	**.1353429**	**2.81**	**0.007**	**.1086305**	**.6523189**
L2D.	**-.1484178**	**.1489453**	**-1.00**	**0.324**	**-.4475833**	**.1507477**
L3D.	**-.2077261**	**.1422817**	**-1.46**	**0.151**	**-.4935074**	**.0780552**
_trend	**75.39465**	**30.03269**	**2.51**	**0.015**	**15.07222**	**135.7171**
_cons	**-119.2021**	**259.7102**	**-0.46**	**0.648**	**-640.8453**	**402.4411**

42. dfuller us_gdp_percapita, regress lags(3)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**3.143**	**-3.572**	**-2.925**	**-2.598**

MacKinnon approximate p-value for Z(t) = **1.0000**

D. us_gdp_percapita	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
us_gdp_percapita						
L1.	.0182798	.0058153	3.14	0.003	.0066052	.0299544
LD.	.4276174	.1408289	3.04	0.004	.1448915	.7103432
L2D.	-.131633	.1563387	-0.84	0.404	-.445496	.1822301
L3D.	-.1267522	.1456029	-0.87	0.388	-.4190622	.1655579
_cons	416.9622	155.2575	2.69	0.010	105.2697	728.6547

43.
44.
45.
46. dfuller D.Total_Crime , regress trend lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.242**	**-4.143**	**-3.497**	**-3.178**

MacKinnon approximate p-value for Z(t) = **0.4663**

D2.Total_C~e	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
D.Total_Cr~e						
L1.	-.5300867	.2364366	-2.24	0.030	-1.006294	-.0538789
LD.	.3915367	.2253064	1.74	0.089	-.0622538	.8453271
L2D.	-.2764221	.2149873	-1.29	0.205	-.7094287	.1565845
L3D.	-.1327676	.1876535	-0.71	0.483	-.5107211	.245186
L4D.	-.0985238	.148191	-0.66	0.510	-.3969959	.1999483
L5D.	-.0097599	.1448765	-0.07	0.947	-.3015562	.2820365
_trend	-3.852536	2.275817	-1.69	0.097	-8.436267	.7311944
_cons	117.8329	77.87312	1.51	0.137	-39.01159	274.6775

47. dfuller D.Total_Crime , regress lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.480**	**-3.576**	**-2.928**	**-2.599**

MacKinnon approximate p-value for Z(t) = **0.5435**

D2. Total_Crime	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Total_Crime						
LD.	-.1945017	.131439	-1.48	0.146	-.4590747	.0700713
LD2.	.1399219	.1727218	0.81	0.422	-.2077491	.4875929
L2D2.	-.518167	.1639306	-3.16	0.003	-.8481423	-.1881917
L3D2.	-.2949282	.1646009	-1.79	0.080	-.6262526	.0363962
L4D2.	-.1956498	.1393764	-1.40	0.167	-.4762	.0849003
L5D2.	-.0785548	.1418518	-0.55	0.582	-.3640876	.2069781
_cons	-9.957849	19.50096	-0.51	0.612	-49.21124	29.29554

48. dfuller D.Violent , regress trend lags(1)

Augmented Dickey-Fuller test for unit root Number of obs = **57**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-3.909**	**-4.135**	**-3.493**	**-3.176**

MacKinnon approximate p-value for Z(t) = **0.0118**

D2.Violent	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
D.Violent						
L1.	**-.5154016**	**.1318431**	**-3.91**	**0.000**	**-.7798454**	**-.2509577**
LD.	**.0813669**	**.1355334**	**0.60**	**0.551**	**-.1904787**	**.3532125**
_trend	**-.4008836**	**.1924741**	**-2.08**	**0.042**	**-.7869377**	**-.0148295**
_cons	**13.93226**	**6.646708**	**2.10**	**0.041**	**.6006518**	**27.26387**

49. dfuller D.Violent , regress lags(1)

Augmented Dickey-Fuller test for unit root Number of obs = **57**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-3.213**	**-3.570**	**-2.924**	**-2.597**

MacKinnon approximate p-value for Z(t) = **0.0193**

D2.Violent	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Violent						
LD.	**-.3767548**	**.1172687**	**-3.21**	**0.002**	**-.6118644**	**-.1416453**
LD2.	**.0201329**	**.1363343**	**0.15**	**0.883**	**-.2532008**	**.2934666**
_cons	**1.348386**	**2.854731**	**0.47**	**0.639**	**-4.375004**	**7.071777**

50. dfuller D.Property , regress trend lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.255**	**-4.143**	**-3.497**	**-3.178**

MacKinnon approximate p-value for Z(t) = **0.4590**

D2.Property	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
D.Property						
L1.	**-.5576058**	**.2472734**	**-2.26**	**0.029**	**-1.05564**	**-.0595715**
LD.	**.3840141**	**.2337842**	**1.64**	**0.107**	**-.0868515**	**.8548798**
L2D.	**-.2811484**	**.2192854**	**-1.28**	**0.206**	**-.722812**	**.1605151**
L3D.	**-.1311083**	**.1913068**	**-0.69**	**0.497**	**-.5164199**	**.2542034**
L4D.	**-.134281**	**.1484539**	**-0.90**	**0.371**	**-.4332824**	**.1647205**
L5D.	**-.016629**	**.1449455**	**-0.11**	**0.909**	**-.3085642**	**.2753062**
_trend	**-3.625436**	**2.105301**	**-1.72**	**0.092**	**-7.86573**	**.6148573**
_cons	**108.9082**	**71.49175**	**1.52**	**0.135**	**-35.08355**	**252.9**

51. dfuller D.Property , regress lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.463**	**-3.576**	**-2.928**	**-2.599**

MacKinnon approximate p-value for Z(t) = **0.5519**

D2.Property	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Property						
LD.	**-.1985502**	**.1357387**	**-1.46**	**0.150**	**-.4717781**	**.0746777**
LD2.	**.1113084**	**.175615**	**0.63**	**0.529**	**-.2421862**	**.4648031**
L2D2.	**-.5378177**	**.1642438**	**-3.27**	**0.002**	**-.8684233**	**-.207212**
L3D2.	**-.3048739**	**.1659666**	**-1.84**	**0.073**	**-.6389475**	**.0291996**
L4D2.	**-.2384347**	**.1384406**	**-1.72**	**0.092**	**-.5171011**	**.0402316**
L5D2.	**-.0874775**	**.1419221**	**-0.62**	**0.541**	**-.3731518**	**.1981968**
_cons	**-10.48957**	**17.79774**	**-0.59**	**0.558**	**-46.31455**	**25.33542**

52. dfuller D.Murder , regress trend lags(1)

Augmented Dickey-Fuller test for unit root Number of obs = **57**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-4.195**	**-4.135**	**-3.493**	**-3.176**

MacKinnon approximate p-value for Z(t) = **0.0046**

D2.Murder	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
D.Murder						
L1.	**-.5311157**	**.1266059**	**-4.20**	**0.000**	**-.785055**	**-.2771764**
LD.	**.1701435**	**.1341139**	**1.27**	**0.210**	**-.0988549**	**.439142**
_trend	**-.0044669**	**.0030131**	**-1.48**	**0.144**	**-.0105104**	**.0015767**
_cons	**.1393784**	**.1020066**	**1.37**	**0.178**	**-.0652208**	**.3439777**

53. dfuller D.Murder , regress lags(1)

Augmented Dickey-Fuller test for unit root Number of obs = **57**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-3.885**	**-3.570**	**-2.924**	**-2.597**

MacKinnon approximate p-value for Z(t) = **0.0021**

D2.Murder	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Murder						
LD.	**-.4720222**	**.1214925**	**-3.89**	**0.000**	**-.7156001**	**-.2284444**
LD2.	**.1492991**	**.1348459**	**1.11**	**0.273**	**-.1210506**	**.4196488**
_cons	**.005165**	**.0475193**	**0.11**	**0.914**	**-.0901055**	**.1004355**

54. dfuller D.Robbery , regress trend lags(2)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-4.338**	**-4.137**	**-3.494**	**-3.176**

MacKinnon approximate p-value for Z(t) = **0.0027**

D2.Robbery	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
D.Robbery						
L1.	**-.694016**	**.1599715**	**-4.34**	**0.000**	**-1.015172**	**-.3728599**
LD.	**.378152**	**.1357666**	**2.79**	**0.007**	**.1055891**	**.6507148**
L2D.	**.0043226**	**.1397426**	**0.03**	**0.975**	**-.2762224**	**.2848676**
_trend	**-.2530322**	**.1045166**	**-2.42**	**0.019**	**-.4628581**	**-.0432063**
_cons	**8.02086**	**3.540381**	**2.27**	**0.028**	**.9132483**	**15.12847**

55. dfuller D.Robbery , regress lags(2)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-3.444**	**-3.572**	**-2.925**	**-2.598**

MacKinnon approximate p-value for Z(t) = **0.0095**

D2.Robbery	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Robbery						
LD.	**-.4865625**	**.1412586**	**-3.44**	**0.001**	**-.7700186**	**-.2031065**
LD2.	**.2864521**	**.1363338**	**2.10**	**0.040**	**.0128783**	**.5600258**
L2D2.	**-.0985194**	**.1392133**	**-0.71**	**0.482**	**-.3778713**	**.1808324**
_cons	**.1782257**	**1.493646**	**0.12**	**0.905**	**-2.818995**	**3.175446**

56. dfuller D.Aggravated_assault , regress trend lags(2)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-3.087**	**-4.137**	**-3.494**	**-3.176**

MacKinnon approximate p-value for Z(t) = **0.1093**

D2.Aggrava~t	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
D.Aggravat~t						
L1.	**-.4442937**	**.1439135**	**-3.09**	**0.003**	**-.733212**	**-.1553754**
LD.	**-.167288**	**.1589983**	**-1.05**	**0.298**	**-.4864904**	**.1519143**
L2D.	**.1830157**	**.1367972**	**1.34**	**0.187**	**-.0916161**	**.4576476**
_trend	**-.1792406**	**.1048202**	**-1.71**	**0.093**	**-.389676**	**.0311949**
_cons	**6.685032**	**3.722637**	**1.80**	**0.078**	**-.7884737**	**14.15854**

57. dfuller D.Aggravated_assault , regress lags(2)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.524**	**-3.572**	**-2.925**	**-2.598**

MacKinnon approximate p-value for Z(t) = **0.1097**

D2. Aggravated_assault	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Aggravated_assault						
LD.	**-.3100784**	**.1228368**	**-2.52**	**0.015**	**-.5565685**	**-.0635883**
LD2.	**-.2513975**	**.1539705**	**-1.63**	**0.109**	**-.560362**	**.0575669**
L2D2.	**.1426746**	**.1372178**	**1.04**	**0.303**	**-.1326731**	**.4180223**
_cons	**.8307604**	**1.488668**	**0.56**	**0.579**	**-2.15647**	**3.81799**

58. dfuller D.Burglary , regress trend lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.747**	**-4.143**	**-3.497**	**-3.178**

MacKinnon approximate p-value for Z(t) = **0.7298**

D2.Burglary	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
D.Burglary						
L1.	**-.3696889**	**.2116241**	**-1.75**	**0.087**	**-.7959218**	**.0565439**
LD.	**.1627366**	**.2198717**	**0.74**	**0.463**	**-.2801078**	**.6055809**
L2D.	**-.5335878**	**.1890243**	**-2.82**	**0.007**	**-.9143023**	**-.1528732**
L3D.	**-.0853549**	**.1913462**	**-0.45**	**0.658**	**-.470746**	**.3000361**
L4D.	**-.4096733**	**.1382055**	**-2.96**	**0.005**	**-.6880335**	**-.1313132**
L5D.	**-.0643114**	**.1472408**	**-0.44**	**0.664**	**-.3608695**	**.2322468**
_trend	**-.6982084**	**.6151235**	**-1.14**	**0.262**	**-1.937131**	**.5407139**
_cons	**17.14866**	**20.50875**	**0.84**	**0.407**	**-24.1581**	**58.45541**

59. dfuller D.Burglary , regress lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-1.334**	**-3.576**	**-2.928**	**-2.599**

MacKinnon approximate p-value for Z(t) = **0.6134**

D2.Burglary	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Burglary						
LD.	-.1975395	.1480518	-1.33	0.189	-.4955522	.1004733
LD2.	.0288159	.1861157	0.15	0.878	-.3458155	.4034473
L2D2.	-.6512222	.1585761	-4.11	0.000	-.9704194	-.3320251
L3D2.	-.1674533	.1777038	-0.94	0.351	-.5251525	.1902459
L4D2.	-.462326	.1305957	-3.54	0.001	-.7252016	-.1994504
L5D2.	-.0927721	.1455442	-0.64	0.527	-.3857374	.2001932
_cons	-4.894106	6.6148	-0.74	0.463	-18.20901	8.420796

60. dfuller D.Larceny_Theft , regress trend lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	-2.459	-4.143	-3.497	-3.178

MacKinnon approximate p-value for Z(t) = **0.3489**

D2.Larceny~t	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
D.Larceny_~t						
L1.	-.720342	.2929754	-2.46	0.018	-1.310425	-.1302592
LD.	.3604904	.2679859	1.35	0.185	-.1792608	.9002416
L2D.	-.1793378	.2431192	-0.74	0.465	-.669005	.3103293
L3D.	-.1504722	.2024885	-0.74	0.461	-.558305	.2573605
L4D.	-.1544217	.1554832	-0.99	0.326	-.467581	.1587375
L5D.	-.0168405	.1453865	-0.12	0.908	-.3096639	.2759829
_trend	-2.903094	1.438031	-2.02	0.049	-5.799438	-.0067508
_cons	92.96423	50.05185	1.86	0.070	-7.845369	193.7738

61. dfuller D.Larceny_Theft , regress lags(5)

Augmented Dickey-Fuller test for unit root Number of obs = **53**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	-1.370	-3.576	-2.928	-2.599

MacKinnon approximate p-value for Z(t) = **0.5965**

D2. Larceny_Theft	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Larceny_Theft						
LD.	-.2123202	.1549645	-1.37	0.177	-.5242475	.0996071
LD2.	-.0347991	.188985	-0.18	0.855	-.4152061	.3456079
L2D2.	-.5346004	.1732636	-3.09	0.003	-.883362	-.1858388
L3D2.	-.394267	.1678819	-2.35	0.023	-.7321958	-.0563382
L4D2.	-.3018684	.1417756	-2.13	0.039	-.5872479	-.016489
L5D2.	-.104294	.1433471	-0.73	0.471	-.3928368	.1842488
_cons	-5.414425	11.797	-0.46	0.648	-29.16055	18.3317

62. dfuller D.Theft , regress trend lags(2)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-3.912**	**-4.137**	**-3.494**	**-3.176**

MacKinnon approximate p-value for Z(t) = **0.0117**

D2.Theft	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
D.Theft						
L1.	**-.5195478**	**.1328215**	**-3.91**	**0.000**	**-.7861981**	**-.2528975**
LD.	**.2217709**	**.1407929**	**1.58**	**0.121**	**-.0608826**	**.5044245**
L2D.	**.1796392**	**.1376517**	**1.31**	**0.198**	**-.0967081**	**.4559864**
_trend	**-.3891383**	**.1907133**	**-2.04**	**0.047**	**-.7720113**	**-.0062653**
_cons	**11.73123**	**6.419384**	**1.83**	**0.073**	**-1.156219**	**24.61868**

63. dfuller D.Theft , regress lags(2)

Augmented Dickey-Fuller test for unit root Number of obs = **56**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-3.242**	**-3.572**	**-2.925**	**-2.598**

MacKinnon approximate p-value for Z(t) = **0.0177**

D2.Theft	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Theft						
LD.	**-.372317**	**.1148541**	**-3.24**	**0.002**	**-.6027885**	**-.1418454**
LD2.	**.1432578**	**.1394915**	**1.03**	**0.309**	**-.1366523**	**.4231679**
L2D2.	**.1094802**	**.1372824**	**0.80**	**0.429**	**-.1659971**	**.3849576**
_cons	**-.2538345**	**2.667442**	**-0.10**	**0.925**	**-5.606448**	**5.098779**

64. dfuller D.us_gdp_total , regress trend lags(7)

Augmented Dickey-Fuller test for unit root Number of obs = **51**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-2.751**	**-4.148**	**-3.499**	**-3.179**

MacKinnon approximate p-value for Z(t) = **0.2154**

D2.us_gdp_~l	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
D.us_gdp_t~l						
L1.	**-1.336447**	**.4857493**	**-2.75**	**0.009**	**-2.317437**	**-.355456**
LD.	**.6980737**	**.4563539**	**1.53**	**0.134**	**-.2235516**	**1.619699**
L2D.	**.4865458**	**.4092998**	**1.19**	**0.241**	**-.3400519**	**1.313143**
L3D.	**.3029602**	**.352975**	**0.86**	**0.396**	**-.4098872**	**1.015808**
L4D.	**.2453973**	**.3037195**	**0.81**	**0.424**	**-.3679768**	**.8587714**
L5D.	**.0484804**	**.2483345**	**0.20**	**0.846**	**-.4530413**	**.5500021**
L6D.	**.0081083**	**.2036812**	**0.04**	**0.968**	**-.4032342**	**.4194508**
L7D.	**.2201425**	**.167279**	**1.32**	**0.195**	**-.1176843**	**.5579693**
_trend	**1.59e+10**	**5.70e+09**	**2.80**	**0.008**	**4.43e+09**	**2.74e+10**
_cons	**-2.48e+10**	**5.81e+10**	**-0.43**	**0.672**	**-1.42e+11**	**9.25e+10**

65. dfuller D.us_gdp_total , regress lags(7)

Augmented Dickey-Fuller test for unit root Number of obs = **51**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-0.195**	**-3.579**	**-2.929**	**-2.600**

MacKinnon approximate p-value for Z(t) = **0.9391**

D2.us_gdp_total	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
us_gdp_total						
LD.	**-.027361**	**.1403867**	**-0.19**	**0.846**	**-.3106728**	**.2559509**
LD2.	**-.459435**	**.2075038**	**-2.21**	**0.032**	**-.8781947**	**-.0406753**
L2D2.	**-.5249118**	**.2068012**	**-2.54**	**0.015**	**-.9422536**	**-.1075701**
L3D2.	**-.5297373**	**.2045214**	**-2.59**	**0.013**	**-.9424781**	**-.1169964**
L4D2.	**-.4197891**	**.2037211**	**-2.06**	**0.046**	**-.8309149**	**-.0086633**
L5D2.	**-.4441647**	**.188776**	**-2.35**	**0.023**	**-.8251302**	**-.0631993**
L6D2.	**-.3143397**	**.1810567**	**-1.74**	**0.090**	**-.679727**	**.0510475**
L7D2.	**.0406736**	**.1665669**	**0.24**	**0.808**	**-.295472**	**.3768193**
_cons	**6.02e+10**	**5.34e+10**	**1.13**	**0.266**	**-4.75e+10**	**1.68e+11**

66. dfuller D.us_gdp_percapita, regress trend lags(1)

Augmented Dickey-Fuller test for unit root Number of obs = **57**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-4.975**	**-4.135**	**-3.493**	**-3.176**

MacKinnon approximate p-value for Z(t) = **0.0002**

D2.us_gdp_~a	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
D.us_gdp_p~a						
L1.	**-.7851699**	**.1578273**	**-4.97**	**0.000**	**-1.101731**	**-.4686084**
LD.	**.2102691**	**.1402006**	**1.50**	**0.140**	**-.0709377**	**.4914758**
_trend	**21.10881**	**5.856689**	**3.60**	**0.001**	**9.361782**	**32.85585**
_cons	**216.3836**	**150.0655**	**1.44**	**0.155**	**-84.60974**	**517.377**

67. dfuller D.us_gdp_percapita, regress lags(1)

Augmented Dickey-Fuller test for unit root Number of obs = **57**

	Test Statistic	Interpolated Dickey-Fuller 1% Critical Value	5% Critical Value	10% Critical Value
Z(t)	**-3.109**	**-3.570**	**-2.924**	**-2.597**

MacKinnon approximate p-value for Z(t) = **0.0259**

D2. us_gdp_percapita	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
us_gdp_percapita						
LD.	**-.3920736**	**.1261107**	**-3.11**	**0.003**	**-.6449103**	**-.1392369**
LD2.	**.0150891**	**.1429582**	**0.11**	**0.916**	**-.2715248**	**.301703**
_cons	**447.3532**	**150.0052**	**2.98**	**0.004**	**146.6109**	**748.0954**

```
68.
69. ****checking for stationarity using DFGLS test******
70.
71. foreach var of varlist Total_Crime Violent Property Murder Robbery Aggravated_assaul
  > t Burglary Larceny_Theft Theft us_gdp_total us_gdp_percapita {
    2. *For x`var't*
72. dis "_____"
    3. dis "DFGLS FOR VARIABLE `var'"
    4. dis "_____"
    5. dfgls `var'
    6. }
_____
DFGLS FOR VARIABLE Total_Crime
_____

DF-GLS for Total_Crime                                  Number of obs =     49
Maxlag = 10 chosen by Schwert criterion

                DF-GLS tau      1% Critical       5% Critical      10% Critical
  [lags]     Test Statistic        Value             Value            Value
------------------------------------------------------------------------------
    10           -1.417           -3.732            -2.713           -2.430
     9           -1.308           -3.732            -2.766           -2.484
     8           -1.191           -3.732            -2.821           -2.539
     7           -1.177           -3.732            -2.877           -2.594
     6           -1.246           -3.732            -2.933           -2.648
     5           -1.120           -3.732            -2.988           -2.701
     4           -0.796           -3.732            -3.041           -2.750
     3           -0.507           -3.732            -3.090           -2.795
     2           -0.061           -3.732            -3.134           -2.836
     1           -0.691           -3.732            -3.171           -2.870

Opt Lag (Ng-Perron seq t) =  5 with RMSE  130.8539
Min SC   =  10.19345 at lag  3 with RMSE  139.4736
Min MAIC =  10.00906 at lag  4 with RMSE  135.1845
_____
DFGLS FOR VARIABLE Violent
_____

DF-GLS for Violent                                      Number of obs =     49
Maxlag = 10 chosen by Schwert criterion

                DF-GLS tau      1% Critical       5% Critical      10% Critical
  [lags]     Test Statistic        Value             Value            Value
------------------------------------------------------------------------------
    10           -1.371           -3.732            -2.713           -2.430
     9           -1.141           -3.732            -2.766           -2.484
     8           -0.749           -3.732            -2.821           -2.539
     7           -1.075           -3.732            -2.877           -2.594
     6           -1.074           -3.732            -2.933           -2.648
     5           -1.182           -3.732            -2.988           -2.701
     4           -1.217           -3.732            -3.041           -2.750
     3           -0.710           -3.732            -3.090           -2.795
     2           -0.825           -3.732            -3.134           -2.836
     1           -0.870           -3.732            -3.171           -2.870

Opt Lag (Ng-Perron seq t) =  9 with RMSE  18.53054
Min SC   =   6.28768 at lag  1 with RMSE  21.42193
Min MAIC =  6.202645 at lag  1 with RMSE  21.42193
_____
DFGLS FOR VARIABLE Property
```

DF-GLS for **Property** Number of obs = **49**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.457**	**-3.732**	**-2.713**	**-2.430**
9	**-1.380**	**-3.732**	**-2.766**	**-2.484**
8	**-1.267**	**-3.732**	**-2.821**	**-2.539**
7	**-1.217**	**-3.732**	**-2.877**	**-2.594**
6	**-1.219**	**-3.732**	**-2.933**	**-2.648**
5	**-1.085**	**-3.732**	**-2.988**	**-2.701**
4	**-0.724**	**-3.732**	**-3.041**	**-2.750**
3	**-0.451**	**-3.732**	**-3.090**	**-2.795**
2	**-0.035**	**-3.732**	**-3.134**	**-2.836**
1	**-0.684**	**-3.732**	**-3.171**	**-2.870**

Opt Lag (Ng-Perron seq t) = **5** with RMSE **119.8517**
Min SC = **10.03336** at lag **3** with RMSE **128.7442**
Min MAIC = **9.840343** at lag **5** with RMSE **119.8517**

DFGLS FOR VARIABLE Murder

DF-GLS for **Murder** Number of obs = **49**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.115**	**-3.732**	**-2.713**	**-2.430**
9	**-1.118**	**-3.732**	**-2.766**	**-2.484**
8	**-1.051**	**-3.732**	**-2.821**	**-2.539**
7	**-1.348**	**-3.732**	**-2.877**	**-2.594**
6	**-1.159**	**-3.732**	**-2.933**	**-2.648**
5	**-1.351**	**-3.732**	**-2.988**	**-2.701**
4	**-1.246**	**-3.732**	**-3.041**	**-2.750**
3	**-1.164**	**-3.732**	**-3.090**	**-2.795**
2	**-1.220**	**-3.732**	**-3.134**	**-2.836**
1	**-1.475**	**-3.732**	**-3.171**	**-2.870**

Opt Lag (Ng-Perron seq t) = **1** with RMSE **.3551834**
Min SC = **-1.911392** at lag **1** with RMSE **.3551834**
Min MAIC = **-1.943556** at lag **2** with RMSE **.3509679**

DFGLS FOR VARIABLE Robbery

DF-GLS for **Robbery** Number of obs = **49**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.145**	**-3.732**	**-2.713**	**-2.430**
9	**-0.964**	**-3.732**	**-2.766**	**-2.484**
8	**-0.642**	**-3.732**	**-2.821**	**-2.539**
7	**-0.763**	**-3.732**	**-2.877**	**-2.594**
6	**-0.903**	**-3.732**	**-2.933**	**-2.648**
5	**-1.009**	**-3.732**	**-2.988**	**-2.701**
4	**-0.858**	**-3.732**	**-3.041**	**-2.750**
3	**-0.684**	**-3.732**	**-3.090**	**-2.795**
2	**-0.594**	**-3.732**	**-3.134**	**-2.836**
1	**-1.070**	**-3.732**	**-3.171**	**-2.870**

Opt Lag (Ng-Perron seq t) = **9** with RMSE **9.814998**
Min SC = **4.957022** at lag **2** with RMSE **10.58432**
Min MAIC = **4.816844** at lag **2** with RMSE **10.58432**

DFGLS FOR VARIABLE Aggravated_assault

DF-GLS for **Aggravated_ass~t** Number of obs = **49**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.531**	**-3.732**	**-2.713**	**-2.430**
9	**-1.103**	**-3.732**	**-2.766**	**-2.484**
8	**-1.087**	**-3.732**	**-2.821**	**-2.539**
7	**-1.467**	**-3.732**	**-2.877**	**-2.594**
6	**-1.200**	**-3.732**	**-2.933**	**-2.648**
5	**-1.456**	**-3.732**	**-2.988**	**-2.701**
4	**-1.564**	**-3.732**	**-3.041**	**-2.750**
3	**-1.122**	**-3.732**	**-3.090**	**-2.795**
2	**-1.330**	**-3.732**	**-3.134**	**-2.836**
1	**-0.803**	**-3.732**	**-3.171**	**-2.870**

Opt Lag (Ng-Perron seq t) = **10** with RMSE **9.448665**
Min SC = **5.016917** at lag **2** with RMSE **10.90609**
Min MAIC = **4.941764** at lag **2** with RMSE **10.90609**

DFGLS FOR VARIABLE Burglary

DF-GLS for **Burglary** Number of obs = **49**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.525**	**-3.732**	**-2.713**	**-2.430**
9	**-1.542**	**-3.732**	**-2.766**	**-2.484**
8	**-1.412**	**-3.732**	**-2.821**	**-2.539**
7	**-1.540**	**-3.732**	**-2.877**	**-2.594**
6	**-1.628**	**-3.732**	**-2.933**	**-2.648**
5	**-1.456**	**-3.732**	**-2.988**	**-2.701**
4	**-0.734**	**-3.732**	**-3.041**	**-2.750**
3	**-0.702**	**-3.732**	**-3.090**	**-2.795**
2	**-0.401**	**-3.732**	**-3.134**	**-2.836**
1	**-0.919**	**-3.732**	**-3.171**	**-2.870**

Opt Lag (Ng-Perron seq t) = **5** with RMSE **42.89935**
Min SC = **7.994263** at lag **5** with RMSE **42.89935**
Min MAIC = **7.835244** at lag **5** with RMSE **42.89935**

DFGLS FOR VARIABLE Larceny_Theft

DF-GLS for **Larceny_Theft** Number of obs = **49**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.516**	**-3.732**	**-2.713**	**-2.430**
9	**-1.408**	**-3.732**	**-2.766**	**-2.484**
8	**-1.428**	**-3.732**	**-2.821**	**-2.539**
7	**-1.318**	**-3.732**	**-2.877**	**-2.594**
6	**-1.184**	**-3.732**	**-2.933**	**-2.648**
5	**-1.020**	**-3.732**	**-2.988**	**-2.701**
4	**-0.638**	**-3.732**	**-3.041**	**-2.750**
3	**-0.326**	**-3.732**	**-3.090**	**-2.795**
2	**-0.003**	**-3.732**	**-3.134**	**-2.836**
1	**-0.602**	**-3.732**	**-3.171**	**-2.870**

Opt Lag (Ng-Perron seq t) = **5** with RMSE **79.82137**
Min SC = **9.236132** at lag **5** with RMSE **79.82137**
Min MAIC = **9.019959** at lag **5** with RMSE **79.82137**

DFGLS FOR VARIABLE Theft

DF-GLS for **Theft** Number of obs = **49**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.145**	**-3.732**	**-2.713**	**-2.430**
9	**-1.186**	**-3.732**	**-2.766**	**-2.484**
8	**-0.651**	**-3.732**	**-2.821**	**-2.539**
7	**-0.645**	**-3.732**	**-2.877**	**-2.594**
6	**-0.760**	**-3.732**	**-2.933**	**-2.648**
5	**-0.897**	**-3.732**	**-2.988**	**-2.701**
4	**-1.090**	**-3.732**	**-3.041**	**-2.750**
3	**-0.812**	**-3.732**	**-3.090**	**-2.795**
2	**-0.987**	**-3.732**	**-3.134**	**-2.836**
1	**-1.171**	**-3.732**	**-3.171**	**-2.870**

Opt Lag (Ng-Perron seq t) = **9** with RMSE **17.19566**
Min SC = **6.080086** at lag **1** with RMSE **19.3099**
Min MAIC = **6.021944** at lag **1** with RMSE **19.3099**

DFGLS FOR VARIABLE us_gdp_total

DF-GLS for **us_gdp_total** Number of obs = **49**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-0.864**	**-3.732**	**-2.713**	**-2.430**
9	**-0.509**	**-3.732**	**-2.766**	**-2.484**
8	**-0.881**	**-3.732**	**-2.821**	**-2.539**
7	**-1.028**	**-3.732**	**-2.877**	**-2.594**
6	**-0.694**	**-3.732**	**-2.933**	**-2.648**
5	**-0.418**	**-3.732**	**-2.988**	**-2.701**
4	**-0.283**	**-3.732**	**-3.041**	**-2.750**
3	**-0.083**	**-3.732**	**-3.090**	**-2.795**
2	**0.033**	**-3.732**	**-3.134**	**-2.836**
1	**0.046**	**-3.732**	**-3.171**	**-2.870**

Opt Lag (Ng-Perron seq t) = 0 **[use maxlag(0)]**
Min SC = **52.04119** at lag **1** with RMSE **1.85e+11**
Min MAIC = **51.92325** at lag **1** with RMSE **1.85e+11**

DFGLS FOR VARIABLE us_gdp_percapita

DF-GLS for **us_gdp_percapita** Number of obs = **49**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-0.604**	**-3.732**	**-2.713**	**-2.430**
9	**-0.512**	**-3.732**	**-2.766**	**-2.484**
8	**-0.700**	**-3.732**	**-2.821**	**-2.539**
7	**-0.736**	**-3.732**	**-2.877**	**-2.594**
6	**-0.443**	**-3.732**	**-2.933**	**-2.648**
5	**-0.284**	**-3.732**	**-2.988**	**-2.701**
4	**-0.184**	**-3.732**	**-3.041**	**-2.750**
3	**-0.111**	**-3.732**	**-3.090**	**-2.795**
2	**-0.123**	**-3.732**	**-3.134**	**-2.836**
1	**-0.207**	**-3.732**	**-3.171**	**-2.870**

Opt Lag (Ng-Perron seq t) = **7** with RMSE **557.2997**
Min SC = **12.9478** at lag **1** with RMSE **598.5279**
Min MAIC = **12.83169** at lag **1** with RMSE **598.5279**

```
73.
74. foreach var of varlist Total_Crime Violent Property Murder Robbery Aggravated_assaul
  > t Burglary Larceny_Theft Theft us_gdp_total us_gdp_percapita {
    2. *For x`var't*
75. dis "_____________________"
    3. dis "DFGLS FOR DIFFERENCE OF VARIABLE `var'"
    4. dis "_____________________"
    5. dfgls D.`var'
    6. }
```

_____
DFGLS FOR DIFFERENCE OF VARIABLE Total_Crime
_____

DF-GLS for **D.Total_Crime** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.770**	**-3.736**	**-2.709**	**-2.425**
9	**-2.110**	**-3.736**	**-2.762**	**-2.479**
8	**-2.249**	**-3.736**	**-2.818**	**-2.536**
7	**-2.418**	**-3.736**	**-2.875**	**-2.592**
6	**-2.449**	**-3.736**	**-2.933**	**-2.648**
5	**-2.406**	**-3.736**	**-2.989**	**-2.701**
4	**-2.567**	**-3.736**	**-3.043**	**-2.752**
3	**-3.118**	**-3.736**	**-3.093**	**-2.799**
2	**-3.960**	**-3.736**	**-3.138**	**-2.840**
1	**-6.976**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = **1** with RMSE **135.6714**
Min SC = **9.981772** at lag **1** with RMSE **135.6714**
Min MAIC = **11.05076** at lag **5** with RMSE **129.1071**

_____
DFGLS FOR DIFFERENCE OF VARIABLE Violent
_____

DF-GLS for **D.Violent** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.466**	**-3.736**	**-2.709**	**-2.425**
9	**-1.833**	**-3.736**	**-2.762**	**-2.479**
8	**-2.173**	**-3.736**	**-2.818**	**-2.536**
7	**-3.043**	**-3.736**	**-2.875**	**-2.592**
6	**-2.546**	**-3.736**	**-2.933**	**-2.648**
5	**-2.618**	**-3.736**	**-2.989**	**-2.701**
4	**-2.535**	**-3.736**	**-3.043**	**-2.752**
3	**-2.560**	**-3.736**	**-3.093**	**-2.799**
2	**-3.701**	**-3.736**	**-3.138**	**-2.840**
1	**-3.621**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = **7** with RMSE **19.24207**
Min SC = **6.27841** at lag **1** with RMSE **21.29677**
Min MAIC = **6.697206** at lag **10** with RMSE **18.04833**

_____
DFGLS FOR DIFFERENCE OF VARIABLE Property
_____

DF-GLS for **D.Property** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.799**	**-3.736**	**-2.709**	**-2.425**
9	**-2.109**	**-3.736**	**-2.762**	**-2.479**
8	**-2.205**	**-3.736**	**-2.818**	**-2.536**
7	**-2.349**	**-3.736**	**-2.875**	**-2.592**
6	**-2.414**	**-3.736**	**-2.933**	**-2.648**

5	**-2.452**	**-3.736**	**-2.989**	**-2.701**
4	**-2.629**	**-3.736**	**-3.043**	**-2.752**
3	**-3.298**	**-3.736**	**-3.093**	**-2.799**
2	**-4.198**	**-3.736**	**-3.138**	**-2.840**
1	**-7.269**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = **1** with RMSE **123.0168**
Min SC = **9.785942** at lag **1** with RMSE **123.0168**
Min MAIC = **11.01014** at lag **10** with RMSE **116.1218**

DFGLS FOR DIFFERENCE OF VARIABLE Murder

DF-GLS for **D.Murder** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-2.149**	**-3.736**	**-2.709**	**-2.425**
9	**-2.674**	**-3.736**	**-2.762**	**-2.479**
8	**-2.844**	**-3.736**	**-2.818**	**-2.536**
7	**-3.166**	**-3.736**	**-2.875**	**-2.592**
6	**-2.910**	**-3.736**	**-2.933**	**-2.648**
5	**-3.353**	**-3.736**	**-2.989**	**-2.701**
4	**-3.232**	**-3.736**	**-3.043**	**-2.752**
3	**-3.598**	**-3.736**	**-3.093**	**-2.799**
2	**-4.113**	**-3.736**	**-3.138**	**-2.840**
1	**-4.399**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = 0 **[use maxlag(0)]**
Min SC = **-1.92072** at lag **1** with RMSE **.3530979**
Min MAIC = **-.9153103** at lag **1** with RMSE **.3530979**

DFGLS FOR DIFFERENCE OF VARIABLE Robbery

DF-GLS for **D.Robbery** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-2.031**	**-3.736**	**-2.709**	**-2.425**
9	**-2.414**	**-3.736**	**-2.762**	**-2.479**
8	**-2.778**	**-3.736**	**-2.818**	**-2.536**
7	**-3.668**	**-3.736**	**-2.875**	**-2.592**
6	**-3.500**	**-3.736**	**-2.933**	**-2.648**
5	**-3.312**	**-3.736**	**-2.989**	**-2.701**
4	**-3.233**	**-3.736**	**-3.043**	**-2.752**
3	**-3.667**	**-3.736**	**-3.093**	**-2.799**
2	**-4.416**	**-3.736**	**-3.138**	**-2.840**
1	**-5.542**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = **1** with RMSE **10.3106**
Min SC = **4.827645** at lag **1** with RMSE **10.3106**
Min MAIC = **6.400546** at lag **4** with RMSE **10.26317**

DFGLS FOR DIFFERENCE OF VARIABLE Aggravated_assault

DF-GLS for **D.Aggravated_a~t** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.267**	**-3.736**	**-2.709**	**-2.425**
9	**-1.620**	**-3.736**	**-2.762**	**-2.479**
8	**-2.266**	**-3.736**	**-2.818**	**-2.536**
7	**-2.397**	**-3.736**	**-2.875**	**-2.592**
6	**-1.952**	**-3.736**	**-2.933**	**-2.648**

5	**-2.381**	**-3.736**	**-2.989**	**-2.701**
4	**-2.108**	**-3.736**	**-3.043**	**-2.752**
3	**-2.019**	**-3.736**	**-3.093**	**-2.799**
2	**-2.672**	**-3.736**	**-3.138**	**-2.840**
1	**-2.426**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = **7** with RMSE **10.03862**
Min SC = **4.975287** at lag **1** with RMSE **11.10054**
Min MAIC = **5.184107** at lag **3** with RMSE **10.72746**

DFGLS FOR DIFFERENCE OF VARIABLE Burglary

DF-GLS for **D.Burglary** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-2.070**	**-3.736**	**-2.709**	**-2.425**
9	**-2.039**	**-3.736**	**-2.762**	**-2.479**
8	**-2.062**	**-3.736**	**-2.818**	**-2.536**
7	**-2.223**	**-3.736**	**-2.875**	**-2.592**
6	**-2.149**	**-3.736**	**-2.933**	**-2.648**
5	**-2.117**	**-3.736**	**-2.989**	**-2.701**
4	**-2.283**	**-3.736**	**-3.043**	**-2.752**
3	**-3.606**	**-3.736**	**-3.093**	**-2.799**
2	**-3.900**	**-3.736**	**-3.138**	**-2.840**
1	**-6.175**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = **4** with RMSE **43.42776**
Min SC = **7.945134** at lag **1** with RMSE **49.00473**
Min MAIC = **8.578127** at lag **5** with RMSE **43.30941**

DFGLS FOR DIFFERENCE OF VARIABLE Larceny_Theft

DF-GLS for **D.Larceny_Theft** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.677**	**-3.736**	**-2.709**	**-2.425**
9	**-1.899**	**-3.736**	**-2.762**	**-2.479**
8	**-2.009**	**-3.736**	**-2.818**	**-2.536**
7	**-2.011**	**-3.736**	**-2.875**	**-2.592**
6	**-2.117**	**-3.736**	**-2.933**	**-2.648**
5	**-2.294**	**-3.736**	**-2.989**	**-2.701**
4	**-2.515**	**-3.736**	**-3.043**	**-2.752**
3	**-3.297**	**-3.736**	**-3.093**	**-2.799**
2	**-4.509**	**-3.736**	**-3.138**	**-2.840**
1	**-7.065**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = **1** with RMSE **81.75176**
Min SC = **8.968675** at lag **1** with RMSE **81.75176**
Min MAIC = **10.13192** at lag **10** with RMSE **77.6127**

DFGLS FOR DIFFERENCE OF VARIABLE Theft

DF-GLS for **D.Theft** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.830**	**-3.736**	**-2.709**	**-2.425**
9	**-2.360**	**-3.736**	**-2.762**	**-2.479**
8	**-2.323**	**-3.736**	**-2.818**	**-2.536**
7	**-3.419**	**-3.736**	**-2.875**	**-2.592**
6	**-3.501**	**-3.736**	**-2.933**	**-2.648**

5	**-3.344**	**-3.736**	**-2.989**	**-2.701**
4	**-3.149**	**-3.736**	**-3.043**	**-2.752**
3	**-2.891**	**-3.736**	**-3.093**	**-2.799**
2	**-3.636**	**-3.736**	**-3.138**	**-2.840**
1	**-3.492**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = **8** with RMSE **17.16765**
Min SC = **6.072572** at lag **1** with RMSE **19.21394**
Min MAIC = **6.616094** at lag **1** with RMSE **19.21394**

DFGLS FOR DIFFERENCE OF VARIABLE us_gdp_total

DF-GLS for **D.us_gdp_total** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-2.094**	**-3.736**	**-2.709**	**-2.425**
9	**-2.749**	**-3.736**	**-2.762**	**-2.479**
8	**-3.648**	**-3.736**	**-2.818**	**-2.536**
7	**-2.544**	**-3.736**	**-2.875**	**-2.592**
6	**-2.310**	**-3.736**	**-2.933**	**-2.648**
5	**-3.075**	**-3.736**	**-2.989**	**-2.701**
4	**-3.931**	**-3.736**	**-3.043**	**-2.752**
3	**-4.167**	**-3.736**	**-3.093**	**-2.799**
2	**-4.593**	**-3.736**	**-3.138**	**-2.840**
1	**-4.859**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = 0 **[use maxlag(0)]**
Min SC = **51.73611** at lag **1** with RMSE **1.58e+11**
Min MAIC = **53.22731** at lag **1** with RMSE **1.58e+11**

DFGLS FOR DIFFERENCE OF VARIABLE us_gdp_percapita

DF-GLS for **D.us_gdp_perca~a** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-0.905**	**-3.736**	**-2.709**	**-2.425**
9	**-2.080**	**-3.736**	**-2.762**	**-2.479**
8	**-2.322**	**-3.736**	**-2.818**	**-2.536**
7	**-1.985**	**-3.736**	**-2.875**	**-2.592**
6	**-2.004**	**-3.736**	**-2.933**	**-2.648**
5	**-2.765**	**-3.736**	**-2.989**	**-2.701**
4	**-3.420**	**-3.736**	**-3.043**	**-2.752**
3	**-3.902**	**-3.736**	**-3.093**	**-2.799**
2	**-4.271**	**-3.736**	**-3.138**	**-2.840**
1	**-4.539**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = 0 **[use maxlag(0)]**
Min SC = **12.79851** at lag **1** with RMSE **554.7989**
Min MAIC = **13.46363** at lag **10** with RMSE **506.2023**

```
76.
77. /*Stationary Variables according to Tests.
  > Dickey Fuller and DFGLS:
  >
  > 1)D.Violent             : at lag 1 with and without trend at 5%
  > 2)D.Murder              : at lag 1 with and without trend at 1%
  > 3)D.Robbery         : at lag 2 with            trend at 1%
  > 4)D.Theft           : at lag 2 with and without trend at 5%
  > 5)D.us_gdp_percapita: at lag 1 with            trend at 1%
  >
  > */
```

```
78.
79. ****Detrending the above variables and testing for ARCH (Auto-Regressive Conditional
  >  Heteroskadesticity)*****
80.
81. foreach var of varlist  Violent Murder Robbery Theft us_gdp_percapita {
    2. *For x`var't*
82. dis "_____________________________"
    3. dis "DETRENDING OF CHOSEN VARIABLE `var'"
    4. dis "_____________________________"
    5. quietly regress D.`var' Year
    6. predict DETRENDED_D`var', resid
    7. dfgls DETRENDED_D`var'
    8. quietly regress DETRENDED_D`var'
    9. estat archlm,lags(1,2)
   10.
83. }
_____________________________
DETRENDING OF CHOSEN VARIABLE Violent
_____________________________
(1 missing value generated)

DF-GLS for DETRENDED_DVio~t                              Number of obs =     48
Maxlag = 10 chosen by Schwert criterion

                     DF-GLS tau      1% Critical       5% Critical      10% Critical
  [lags]          Test Statistic        Value             Value            Value
------------------------------------------------------------------------------------
      10              -1.466           -3.736            -2.709           -2.425
       9              -1.833           -3.736            -2.762           -2.479
       8              -2.173           -3.736            -2.818           -2.536
       7              -3.043           -3.736            -2.875           -2.592
       6              -2.546           -3.736            -2.933           -2.648
       5              -2.618           -3.736            -2.989           -2.701
       4              -2.535           -3.736            -3.043           -2.752
       3              -2.560           -3.736            -3.093           -2.799
       2              -3.701           -3.736            -3.138           -2.840
       1              -3.621           -3.736            -3.177           -2.875

Opt Lag (Ng-Perron seq t) =  7 with RMSE  19.24207
Min SC   =  6.27841 at lag  1 with RMSE  21.29676
Min MAIC =  6.697206 at lag 10 with RMSE  18.04833
LM test for autoregressive conditional heteroskedasticity (ARCH)
-------------------------------------------------------------------------------
    lags(p) |          chi2                df                 Prob > chi2
------------+------------------------------------------------------------------
          1 |          0.478                1                      0.4893
          2 |          0.495                2                      0.7807
-------------------------------------------------------------------------------
         H0: no ARCH effects      vs.  H1: ARCH(p) disturbance
_____________________________
DETRENDING OF CHOSEN VARIABLE Murder
_____________________________
(1 missing value generated)

DF-GLS for DETRENDED_DMur~r                              Number of obs =     48
Maxlag = 10 chosen by Schwert criterion

                     DF-GLS tau      1% Critical       5% Critical      10% Critical
  [lags]          Test Statistic        Value             Value            Value
------------------------------------------------------------------------------------
      10              -2.149           -3.736            -2.709           -2.425
       9              -2.674           -3.736            -2.762           -2.479
       8              -2.844           -3.736            -2.818           -2.536
       7              -3.166           -3.736            -2.875           -2.592
       6              -2.910           -3.736            -2.933           -2.648
       5              -3.353           -3.736            -2.989           -2.701
       4              -3.232           -3.736            -3.043           -2.752
       3              -3.598           -3.736            -3.093           -2.799
       2              -4.113           -3.736            -3.138           -2.840
       1              -4.399           -3.736            -3.177           -2.875

Opt Lag (Ng-Perron seq t) = 0 [use maxlag(0)]
```

Min SC = **-1.92072** at lag **1** with RMSE **.3530979**
Min MAIC = **-.9153103** at lag **1** with RMSE **.3530979**
LM test for autoregressive conditional heteroskedasticity (ARCH)

lags(*p*)	chi2	df	Prob > chi2
1	**2.656**	**1**	**0.1032**
2	**3.420**	**2**	**0.1808**

H0: no ARCH effects *vs.* H1: ARCH(*p*) disturbance

DETRENDING OF CHOSEN VARIABLE Robbery

(1 missing value generated)

DF-GLS for **DETRENDED_DRob~y** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-2.031**	**-3.736**	**-2.709**	**-2.425**
9	**-2.414**	**-3.736**	**-2.762**	**-2.479**
8	**-2.778**	**-3.736**	**-2.818**	**-2.536**
7	**-3.668**	**-3.736**	**-2.875**	**-2.592**
6	**-3.500**	**-3.736**	**-2.933**	**-2.648**
5	**-3.312**	**-3.736**	**-2.989**	**-2.701**
4	**-3.233**	**-3.736**	**-3.043**	**-2.752**
3	**-3.667**	**-3.736**	**-3.093**	**-2.799**
2	**-4.416**	**-3.736**	**-3.138**	**-2.840**
1	**-5.542**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = **1** with RMSE **10.3106**
Min SC = **4.827645** at lag **1** with RMSE **10.3106**
Min MAIC = **6.400546** at lag **4** with RMSE **10.26317**
LM test for autoregressive conditional heteroskedasticity (ARCH)

lags(*p*)	chi2	df	Prob > chi2
1	**1.603**	**1**	**0.2054**
2	**2.178**	**2**	**0.3366**

H0: no ARCH effects *vs.* H1: ARCH(*p*) disturbance

DETRENDING OF CHOSEN VARIABLE Theft

(1 missing value generated)

DF-GLS for **DETRENDED_DTheft** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-1.830**	**-3.736**	**-2.709**	**-2.425**
9	**-2.360**	**-3.736**	**-2.762**	**-2.479**
8	**-2.323**	**-3.736**	**-2.818**	**-2.536**
7	**-3.419**	**-3.736**	**-2.875**	**-2.592**
6	**-3.501**	**-3.736**	**-2.933**	**-2.648**
5	**-3.344**	**-3.736**	**-2.989**	**-2.701**
4	**-3.149**	**-3.736**	**-3.043**	**-2.752**
3	**-2.891**	**-3.736**	**-3.093**	**-2.799**
2	**-3.636**	**-3.736**	**-3.138**	**-2.840**
1	**-3.492**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = **8** with RMSE **17.16765**
Min SC = **6.072572** at lag **1** with RMSE **19.21394**
Min MAIC = **6.616094** at lag **1** with RMSE **19.21394**
LM test for autoregressive conditional heteroskedasticity (ARCH)

lags(*p*)	chi2	df	Prob > chi2

lags(*p*)	chi2	df	Prob > chi2
1	**0.804**	**1**	**0.3700**
2	**0.916**	**2**	**0.6325**

H0: no ARCH effects *vs.* H1: ARCH(*p*) disturbance

DETRENDING OF CHOSEN VARIABLE us_gdp_percapita

(1 missing value generated)

DF-GLS for **DETRENDED_Dus_~a** Number of obs = **48**
Maxlag = **10** chosen by Schwert criterion

[lags]	DF-GLS tau Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
10	**-0.905**	**-3.736**	**-2.709**	**-2.425**
9	**-2.080**	**-3.736**	**-2.762**	**-2.479**
8	**-2.322**	**-3.736**	**-2.818**	**-2.536**
7	**-1.985**	**-3.736**	**-2.875**	**-2.592**
6	**-2.004**	**-3.736**	**-2.933**	**-2.648**
5	**-2.765**	**-3.736**	**-2.989**	**-2.701**
4	**-3.420**	**-3.736**	**-3.043**	**-2.752**
3	**-3.902**	**-3.736**	**-3.093**	**-2.799**
2	**-4.271**	**-3.736**	**-3.138**	**-2.840**
1	**-4.539**	**-3.736**	**-3.177**	**-2.875**

Opt Lag (Ng-Perron seq t) = 0 **[use maxlag(0)]**
Min SC = **12.79851** at lag **1** with RMSE **554.7989**
Min MAIC = **13.46363** at lag **10** with RMSE **506.2023**
LM test for autoregressive conditional heteroskedasticity (ARCH)

lags(*p*)	chi2	df	Prob > chi2
1	**0.319**	**1**	**0.5724**
2	**0.347**	**2**	**0.8406**

H0: no ARCH effects *vs.* H1: ARCH(*p*) disturbance

```
84.
85.
86.
87. ***Plotting the grapgh Trended and DTRENDED data***
88.
89.
90. foreach var of varlist  Violent Murder Robbery Theft us_gdp_percapita {
    2.
91.
92. dis "_____________________________"
    3. dis "TS-Graph FOR VARIABLE `var'"
    4. dis "_____________________________"
    5. tsline `var'
    6. graph export `var'.png, as(png) replace
    7.
93. dis "_____________________________"
    8. dis "TS-Graph FOR VARIABLE D.`var'"
    9. dis "_____________________________"
   10. tsline D.`var'
   11. graph export D`var'.png, as(png) replace
   12.
94. dis "_____________________________"
   13. dis "TS-Graph FOR VARIABLE Detrended`var'"
   14. dis "_____________________________"
   15. tsline DETRENDED_D`var'
   16. graph export DETRENDED_D`var'.png, as(png) replace
   17. }

_____________________________
TS-Graph FOR VARIABLE Violent
_____________________________
(file Violent.png written in PNG format)

_____________________________
TS-Graph FOR VARIABLE D.Violent
_____________________________
```

```
(file DViolent.png written in PNG format)

TS-Graph FOR VARIABLE DetrendedViolent

(file DETRENDED_DViolent.png written in PNG format)

TS-Graph FOR VARIABLE Murder

(file Murder.png written in PNG format)

TS-Graph FOR VARIABLE D.Murder

(file DMurder.png written in PNG format)

TS-Graph FOR VARIABLE DetrendedMurder

(file DETRENDED_DMurder.png written in PNG format)

TS-Graph FOR VARIABLE Robbery

(file Robbery.png written in PNG format)

TS-Graph FOR VARIABLE D.Robbery

(file DRobbery.png written in PNG format)

TS-Graph FOR VARIABLE DetrendedRobbery

(file DETRENDED_DRobbery.png written in PNG format)

TS-Graph FOR VARIABLE Theft

(file Theft.png written in PNG format)

TS-Graph FOR VARIABLE D.Theft

(file DTheft.png written in PNG format)

TS-Graph FOR VARIABLE DetrendedTheft

(file DETRENDED_DTheft.png written in PNG format)

TS-Graph FOR VARIABLE us_gdp_percapita

(file us_gdp_percapita.png written in PNG format)

TS-Graph FOR VARIABLE D.us_gdp_percapita

(file Dus_gdp_percapita.png written in PNG format)

TS-Graph FOR VARIABLE Detrendedus_gdp_percapita

(file DETRENDED_Dus_gdp_percapita.png written in PNG format)

95.
96.
97. /*There is no ARCH effect so we will use AR Specification in VAR model
  > */
98. var  DETRENDED_Dus_gdp_percapita DETRENDED_DViolent , lags(1) noconstant

  Vector autoregression

  Sample:  1962 - 2019                            Number of obs     =         58
  Log likelihood =   -697.736                     AIC               =   24.19779
  FPE            =   1.11e+08                     HQIC              =   24.25314
  Det(Sigma_ml)  =   9.64e+07                     SBIC              =   24.33989
```

Equation	Parms	RMSE	R-sq	chi2	P>chi2
DETRENDED_Dus_~a	2	517.685	0.1399	9.430304	0.0090
DETRENDED_DVio~t	2	19.6496	0.3203	27.33617	0.0000

	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
DETRENDED_Dus_gdp_percapita					
DETRENDED_Dus_gdp_percapita L1.	.3602926	.1223399	2.95	0.003	.1205108 .6000744
DETRENDED_DViolent L1.	-2.712091	2.829043	-0.96	0.338	-8.256914 2.832732
DETRENDED_DViolent					
DETRENDED_Dus_gdp_percapita L1.	.0082112	.0046436	1.77	0.077	-.0008902 .0173125
DETRENDED_DViolent L1.	.5223763	.1073811	4.86	0.000	.3119133 .7328393

99. irf create Practice, set(Irf_Practice) replace
(file Irf_Practice.irf now active)
(file Irf_Practice.irf updated)

100 irf graph irf, impulse(DETRENDED_Dus_gdp_percapita) response(DETRENDED_DViolent)

101 graph export DETRENDED_DViolent.png, as(png) replace
(file DETRENDED_DViolent.png written in PNG format)

102
103
104 var DETRENDED_Dus_gdp_percapita DETRENDED_DMurder, lags(1)

Vector autoregression

Sample: 1962 - 2019 Number of obs = 58
Log likelihood = -463.7464 AIC = 16.19815
FPE = 37144.9 HQIC = 16.28118
Det(Sigma_ml) = 30197.08 SBIC = 16.4113

Equation	Parms	RMSE	R-sq	chi2	P>chi2
DETRENDED_Dus_~a	3	523.687	0.1355	9.088897	0.0106
DETRENDED_DMur~r	3	.350464	0.3248	27.89957	0.0000

	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
DETRENDED_Dus_gdp_percapita					
DETRENDED_Dus_gdp_percapita L1.	.3507667	.1228533	2.86	0.004	.1099787 .5915547
DETRENDED_DMurder L1.	-125.3731	159.8964	-0.78	0.433	-438.7644 1

```
> 88.0181
                                 |
                       _cons |   5.599234   66.97036     0.08   0.933    -125.6603    1
> 36.8587
-------------------------------+----------------------------------------------------------------
  _______
DETRENDED_DMurder              |
DETRENDED_Dus_gdp_percapita    |
                         L1. |   .0000938   .0000822     1.14   0.254    -.0000673
> .000255
                                 |
              DETRENDED_DMurder |
                         L1. |   .5585181   .1070064     5.22   0.000     .3487893    .
> 7682469
                                 |
                       _cons |   .0111038   .0448181     0.25   0.804    -.0767382    .
> 0989457
-------------------------------+----------------------------------------------------------------
  _______
```

```
105 irf create Practice, set(Irf_Practice2) replace
  (file Irf_Practice2.irf now active)
  (file Irf_Practice2.irf updated)

106 irf graph irf, impulse(DETRENDED_Dus_gdp_percapita) response(DETRENDED_DMurder)

107 graph export DETRENDEDDMurder.png, as(png) replace
  (file DETRENDEDDMurder.png written in PNG format)

108
109
110 var  DETRENDED_Dus_gdp_percapita DETRENDED_DRobbery, lags(2)

  Vector autoregression

  Sample:  1963 - 2019                        Number of obs     =         57
  Log likelihood =  -665.0709                 AIC               =   23.54635
  FPE            =   5.77e+07                 HQIC              =   23.62993
  Det(Sigma_ml)  =   4.67e+07                 SBIC              =    23.7614

  Equation           Parms      RMSE     R-sq      chi2     P>chi2
  ------------------------------------------------------------------
  DETRENDED_Dus_~a       3     561.974   0.0220   1.280655   0.5271
  DETRENDED_DRob~y       3     12.8468   0.0184   1.069334   0.5859
  ------------------------------------------------------------------

-------------------------------+----------------------------------------------------------------
  _______
                               |      Coef.   Std. Err.      z    P>|z|     [95% Conf. In
> terval]
-------------------------------+----------------------------------------------------------------
  _______
DETRENDED_Dus_gdp_percapita    |
DETRENDED_Dus_gdp_percapita    |
                         L2. |  -.0603119   .1367362    -0.44   0.659    -.3283099
> .207686
                                 |
              DETRENDED_DRobbery |
                         L2. |  -5.980695   5.689649    -1.05   0.293     -17.1322    5
> .170813
                                 |
                       _cons |   3.489518   72.54516     0.05   0.962    -138.6964    1
> 45.6754
-------------------------------+----------------------------------------------------------------
  _______
DETRENDED_DRobbery             |
DETRENDED_Dus_gdp_percapita    |
                         L2. |   .0031923   .0031258     1.02   0.307    -.0029341    .
> 0093188
                                 |
              DETRENDED_DRobbery |
                         L2. |  -.0183151   .1300658    -0.14   0.888    -.2732394    .
```

```
> 2366093
                    _cons |   .4275697   1.658388     0.26   0.797    -2.822812    3
> .677951
------------------------------------------------------------------------------
```

```
111 irf create Practice, set(Irf_Practice3) replace
  (file Irf_Practice3.irf now active)
  (file Irf_Practice3.irf updated)

112 irf graph irf, impulse(DETRENDED_Dus_gdp_percapita) response(DETRENDED_DRobbery)

113 graph export DETRENDEDDRobbery.png, as(png) replace
  (file DETRENDEDDRobbery.png written in PNG format)

114
115
116 var  DETRENDED_Dus_gdp_percapita DETRENDED_DTheft, lags(2)

  Vector autoregression

  Sample:  1963 - 2019                            Number of obs     =         57
  Log likelihood =  -699.2685                     AIC               =   24.74626
  FPE            =   1.92e+08                     HQIC              =   24.82984
  Det(Sigma_ml)  =   1.55e+08                     SBIC              =   24.96132

  Equation           Parms      RMSE     R-sq      chi2     P>chi2
  ------------------------------------------------------------------
  DETRENDED_Dus_~a       3     559.476   0.0306    1.80227   0.4061
  DETRENDED_DTheft       3     23.6231   0.1001    6.33843   0.0420
  ------------------------------------------------------------------

  ------------------------------------------------------------------------------
                               |      Coef.   Std. Err.      z    P>|z|     [95% Conf. In
  > terval]
  -----------------------------+------------------------------------------------
  DETRENDED_Dus_gdp_percapita  |
  DETRENDED_Dus_gdp_percapita  |
                           L2. |  -.0816098   .1374274    -0.59   0.553    -.3509625    .
  > 1877428
                               |
                    DETRENDED_DTheft |
                           L2. |   3.816758   2.994143     1.27   0.202    -2.051655
  > 9.68517
                               |
                         _cons |   4.382857   72.22496     0.06   0.952    -137.1755    1
  > 45.9412
  -----------------------------+------------------------------------------------
  DETRENDED_DTheft             |
  DETRENDED_Dus_gdp_percapita  |
                           L2. |  -.0064467   .0058027    -1.11   0.267    -.0178198    .
  > 0049263
                               |
                    DETRENDED_DTheft |
                           L2. |   .3023426   .1264235     2.39   0.017     .0545572
  > .550128
                               |
                         _cons |   .4097377   3.049597     0.13   0.893    -5.567362    6
  > .386838
  -----------------------------+------------------------------------------------
  ------------------------------------------------------------------------------
```

```
117 irf create Practice, set(Irf_Practice4) replace
  (file Irf_Practice4.irf now active)
  (file Irf_Practice4.irf updated)

118 irf graph irf, impulse(DETRENDED_Dus_gdp_percapita) response(DETRENDED_DTheft)

119 graph export DETRENDEDDTheft.png, as(png) replace
  (file DETRENDEDDTheft.png written in PNG format)

120
121
122
123
124 log close
       name:  <unnamed>
        log:  C:\Users\LENOVO\OneDrive\Desktop\Crime_GDP_relationship\Analysis\Crime_GD
  > P_relation_analysis.smcl
    log type:  smcl
   closed on:  20 Oct 2023, 20:07:59
-------------------------------------------------------------------------------
```