```
1 . clear

2 . use "C:\Users\Alang\Documents\MSc UGM\Semester 1\Teks Material\Ekonometrika I
  > II\Tugas Jurnal\Dataset stata.dta"

3 . ****Test Endogeneity****

4 . reg EG CA
```

Source	SS	df	MS	Number of obs	=	21
				F(1, 19)	=	0.07
Model	.194534438	1		Prob > F	=	0.7977
Residual	54.6728661	19	2.87751927	R-squared	=	0.0035
				Adj R-squared	=	-0.0489
Total	54.8674006	20		Root MSE	=	1.6963

EG	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
CA	.0064406	.0247705	0.26	0.798	-.0454046	
_cons	5.239895	.4007083	13.08	0.000	4.401203	6.078587

```
5 . reg CA INF WO IR ER
```

Source	SS	df	MS	Number of obs	=	21
				F(4, 16)	=	9.95
Model	3344.81425	4		Prob > F	=	0.0003
Residual	1344.93854	16	84.0586586	R-squared	=	0.7132
				Adj R-squared	=	0.6415
Total	4689.75279	20		Root MSE	=	9.1684

CA	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
INF	-1.154469	.6654172	-1.73	0.102	-2.565091	
WO	-.3041142	.0827685	-3.67	0.002	-.4795756	-
IR	-1.658874	.6591775	-2.52	0.023	-3.056267	-
ER	-.0045148	.0010475	-4.31	0.001	-.0067353	-
_cons	80.77492	16.10079	5.02	0.000	46.64276	114.9071

```
6 . predict vhat, residual

7 . reg EG CA Vhat
variable Vhat not
found r(111);

8 . reg EG CA vhat
```

Source	SS	df	MS	Number of obs	=	21
				F(2, 18)	=	1.28
Model	6.8368438	2		Prob > F	=	0.3019
Residual	48.0305568	18	2.66836427	R-squared	=	0.1246
				Adj R-squared	=	0.0273
Total	54.8674006	20		Root MSE	=	1.6335

EG	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
CA	.0303049	.0282447	1.07	0.297	-.0290349	
vhat	-.0832142	.0527425	-1.58	0.032	-.194022	
_cons	5.387717	.3970824	13.57	0.000	4.553478	6.221956

```
9 . reg EG CI
```

Source	SS	df	MS	Number of obs	=	21
				F(1, 19)	=	0.17
Model	.488963264	1		Prob > F	=	0.6840
Residual	54.3784373	19		R-squared	=	0.0089
			2.86202302	Adj R-squared	=	-0.0433
Total	54.8674006	20		Root MSE	=	1.6918

EG	Coefficient	Std. err.	t	P>|t|	[95% conf.
CI	-.0191363	.0462974	-0.41	0.684	-.1160378
_cons	5.433208	.6742556	8.06	0.000	4.021975
					6.844441

```
10 . reg CI INF WO ER IR
```

Source	SS	df	MS	Number of obs	=	21
				F(4, 16)	=	15.26
Model	1057.95334	4		Prob > F	=	0.0000
Residual	277.289485	16		R-squared	=	0.7923
			17.3305928	Adj R-squared	=	0.7404
Total	1335.24282	20		Root MSE	=	4.163

CI	Coefficient	Std. err.	t	P>|t|	[95% conf.	
INF	-.1401558	.3021409	-0.46	0.649	-.7806659	
WO	.1864886	.0375821	4.96	0.000	.1068181	
ER	.0021073	.0004756	4.43	0.000	.001099	
IR	.2012994	.2993077	0.67	0.511	-.4332045	
_cons	-23.93869	7.310764	-3.27	0.005	-39.43682	-
					-8.440563	

```
11 . predict vhat1, residual

12 . reg EG CI vhat1
```

Source	SS	df	MS	Number of obs	=	21
				F(2, 18)	=	0.28
Model	1.67131768	2		Prob > F	=	0.7570
Residual	53.1960829	18		R-squared	=	0.0305
			2.95533794	Adj R-squared	=	-0.0773
Total	54.8674006	20		Root MSE	=	1.7191

EG	Coefficient	Std. err.	t	P>|t|	[95% conf.
CI	-.0039018	.0528531	-0.07	0.942	-.114942
vhat1	-.0733591	.1159802	-0.63	0.053	-.3170244
_cons	5.24755	.7453851	7.04	0.000	3.681554
					6.813546

```
13 . ****2SLS****
```

```
14 . ivreg EG (CI CA = INF WO IR ER), first
```

First-stage regressions

Source	SS	df	MS		
				Number of obs	= 21
				F(4, 16)	= 15.26
Model	1057.95334	4		Prob > F	= 0.0000
Residual	277.289485	16		R-squared	= 0.7923
			17.3305928	Adj R-squared	= 0.7404
Total	1335.24282	20		Root MSE	= 4.163

CI	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
INF	-.1401558	.3021409	-0.46	0.649	-.7806659	
WO	.1864886	.0375821	4.96	0.000	.1068181	
IR	.2012994	.2993077	0.67	0.511	-.4332045	
ER	.0021073	.0004756	4.43	0.000	.001099	
_cons	-23.93869	7.310764	-3.27	0.005	-39.43682	-8.440563

Source	SS	df	MS		
				F(4, 16)	= 9.95
Model	3344.81425	4		Prob > F	= 0.0003
Residual	1344.93854	16		R-squared	= 0.7132
			84.0586586	Adj R-squared	= 0.6415
Total	4689.75279	20		Root MSE	= 9.1684

CA	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
INF	-1.154469	.6654172	-1.73	0.102	-2.565091	
WO	-.3041142	.0827685	-3.67	0.002	-.4795756	-.1286528
IR	-1.658874	.6591775	-2.52	0.023	-3.056267	-.2614807
ER	-.0045148	.0010475	-4.31	0.001	-.0067353	-.0022943
_cons	80.77492	16.10079	5.02	0.000	46.64276	114.9071

Instrumental variables 2SLS regression

Source	SS	df	MS		
				Number of obs	= 21
				F(2, 18)	= 1.14
Model	-57.9012415	2		Prob > F	= 0.3429
Residual	112.768642	18		R-squared	= .
			6.26492456	Adj R-squared	= .
Total	54.8674006	20		Root MSE	= 2.503

EG	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
CI	.2365038	.1771401	1.34	0.198	-.1356537	
CA	.1501088	.099624	1.51	0.149	-.0591935	
_cons	3.247624	1.71451	1.89	0.074	-.3544265	6.849675

Instrumented: CI CA
Instruments: INF WO IR ER

```
15 . ****Another stage in 2SLS****

16 . reg CI INF WO ER IR
```

Source	SS	df	MS
Model	1057.95334	4	
Residual	277.289485	16	17.3305928
Total	1335.24282	20	

Number of obs	= 21
F(4, 16)	= 15.26
Prob > F	= 0.0000
R-squared	= 0.7923
Adj R-squared	= 0.7404
Root MSE	= 4.163

CI	Coefficient	Std. err.	t	P>|t|	[95% conf.
INF	-.1401558	.3021409	-0.46	0.649	-.7806659
WO	.1864886	.0375821	4.96	0.000	.1068181
ER	.0021073	.0004756	4.43	0.000	.001099
IR	.2012994	.2993077	0.67	0.511	-.4332045
_cons	-23.93869	7.310764	-3.27	0.005	-39.43682 - 8.440563

```
17 . **Testing whether CI,INF, WO, IR, ER are correlated or not**

18 . test INF ER IR WO

 ( 1)  INF = 0
 ( 2)  ER = 0
 ( 3)  IR = 0
 ( 4)  WO = 0

       F(  4,    16) =   15.26
            Prob > F =    0.0000

19 . predict CI_hat, xb

20 . reg CA INF WO ER IR
```

Source	SS	df	MS
Model	3344.81425	4	
Residual	1344.93854	16	84.0586586
Total	4689.75279	20	

Number of obs	= 21
F(4, 16)	= 9.95
Prob > F	= 0.0003
R-squared	= 0.7132
Adj R-squared	= 0.6415
Root MSE	= 9.1684

CA	Coefficient	Std. err.	t	P>|t|	[95% conf.
INF	-1.154469	.6654172	-1.73	0.102	-2.565091
WO	-.3041142	.0827685	-3.67	0.002	-.4795756 -
ER	-.0045148	.0010475	-4.31	0.001	-.0067353 -
IR	-1.658874	.6591775	-2.52	0.023	-3.056267 -
_cons	80.77492	16.10079	5.02	0.000	46.64276 114.9071

```
21 . predict CA_hat, xb
```

```
22 . reg EG CI_hat CA_hat
```

Source	SS	df	MS	Number of obs	=	21
				F(2, 18)	=	3.15
Model	14.2393988	2		Prob > F	=	0.0669
Residual	40.6280017	18		R-squared	=	0.2595
		2.25711121		Adj R-squared	=	0.1772
Total	54.8674006	20		Root MSE	=	1.5024

EG	Coefficient	Std. err.	t	P>|t|	[95% conf. interval]
CI_hat	.2365038	.106325	2.22	0.039	.0131232
CA_hat	.1501088	.0597974	2.51	0.022	.0244791
_cons	3.247624	1.029102	3.16	0.005	1.085561 5.409688

```
23 .
```