

```

. use 4klem_wide_defl, clear
(35KLEM: Jorgensen industry sector data)
. tsset
    time variable: year, 1958 to 1996
. summarize year *d

```

Variable	Obs	Mean	Std. Dev.	Min	Max
year	39	1977	11.40175	1958	1996
pi32d	39	.611359	.02581	.566742	.6751782
pk32d	39	.7335128	.0587348	.5981754	.840534
pl32d	39	.5444872	.0198763	.4976022	.5784216
pe32d	39	.5592308	.0786871	.4531953	.7390293
pm32d	39	.5499744	.0166443	.5171617	.5823871
pi33d	39	.4948205	.0149315	.4624915	.5163859
pk33d	39	.5190769	.035114	.4277323	.5760419
pl33d	39	.5200256	.0424153	.4325826	.6127931
pe33d	39	.5706154	.093766	.4387668	.8175654
pm33d	39	.5192564	.0151137	.4870717	.5421571
pi34d	39	.5013333	.0178689	.4659021	.5258276
pk34d	39	.5157692	.0558735	.377311	.6376742
pl34d	39	.5073077	.0169301	.468933	.5492905
pe34d	39	.5774359	.0974223	.4349643	.8020797
pm34d	39	.5440256	.0180344	.5070866	.5773573
pi35d	39	.5159487	.0168748	.4821945	.5484785
pk35d	39	.7182051	.1315394	.423117	1.061852
pl35d	39	.4984872	.0216141	.4493805	.5516838
pe35d	39	.5629231	.0865252	.4476493	.7584586
pm35d	39	.5684615	.0234541	.5317762	.6334837

```

. forvalues i=32/35 {
2.     local eqn "'eqn' (pi'i'd L.pi'i'd pk'i'd pl'i'd pe'i'd pm'i'd) "
3. }
. sureg 'eqn', corr
Seemingly unrelated regression

```

Equation	Obs	Parms	RMSE	"R-sq"	chi2	P
pi32d	38	5	.0098142	0.8492	219.14	0.0000
pi33d	38	5	.0027985	0.9615	1043.58	0.0000
pi34d	38	5	.0030355	0.9677	1182.37	0.0000
pi35d	38	5	.0092102	0.6751	78.10	0.0000

	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
pi32d						
pi32d						
L1.	-.0053176	.1623386	-0.03	0.974	-.3234953	.3128602
pk32d	-.0188711	.0344315	-0.55	0.584	-.0863556	.0486133
pl32d	-.5575705	.1166238	-4.78	0.000	-.786149	-.328992
pe32d	.0402698	.0592351	0.68	0.497	-.0758289	.1563684
pm32d	1.587711	.3252302	4.88	0.000	.9502717	2.225151
_cons	.0362004	.1104716	0.33	0.743	-.1803199	.2527208

pi33d							
	pi33d						
	L1.	.1627936	.0495681	3.28	0.001	.065642	.2599453
	pk33d	-.0199381	.0250173	-0.80	0.425	-.0689712	.0290949
	pl33d	-.0655277	.0225466	-2.91	0.004	-.1097181	-.0213372
	pe33d	-.0657604	.008287	-7.94	0.000	-.0820027	-.0495181
	pm33d	1.133285	.084572	13.40	0.000	.9675273	1.299043
	_cons	-.0923547	.0185494	-4.98	0.000	-.1287109	-.0559985
pi34d							
	pi34d						
	L1.	.3146301	.0462574	6.80	0.000	.2239673	.405293
	pk34d	.0137423	.009935	1.38	0.167	-.0057298	.0332145
	pl34d	.0513415	.0373337	1.38	0.169	-.0218312	.1245142
	pe34d	-.0483202	.0115829	-4.17	0.000	-.0710222	-.0256182
	pm34d	.8680835	.0783476	11.08	0.000	.7145251	1.021642
	_cons	-.1338766	.0241593	-5.54	0.000	-.1812279	-.0865252
pi35d							
	pi35d						
	L1.	.2084134	.1231019	1.69	0.090	-.0328619	.4496887
	pk35d	-.0499452	.0125305	-3.99	0.000	-.0745046	-.0253858
	pl35d	.0129142	.0847428	0.15	0.879	-.1531786	.179007
	pe35d	.1071003	.0641549	1.67	0.095	-.018641	.2328415
	pm35d	.0619171	.2051799	0.30	0.763	-.3402282	.4640624
	_cons	.3427017	.1482904	2.31	0.021	.0520579	.6333454

Correlation matrix of residuals:

	pi32d	pi33d	pi34d	pi35d
pi32d	1.0000			
pi33d	-0.3909	1.0000		
pi34d	-0.2311	0.2225	1.0000	
pi35d	-0.1614	-0.1419	0.1238	1.0000

Breusch-Pagan test of independence: chi2(6) = 12.057, Pr = 0.0607

```
. test ([pi32d]pe32d = [pi33d]pe33d) ([pi32d]pe32d = [pi34d]pe34d) ///
> ([pi32d]pe32d = [pi35d]pe35d)
( 1) [pi32d]pe32d - [pi33d]pe33d = 0
( 2) [pi32d]pe32d - [pi34d]pe34d = 0
( 3) [pi32d]pe32d - [pi35d]pe35d = 0
      chi2( 3) = 11.38
      Prob > chi2 = 0.0098
```

```
. constraint define 1 [pi32d]pe32d = [pi33d]pe33d
. constraint define 2 [pi32d]pe32d = [pi34d]pe34d
. constraint define 3 [pi32d]pe32d = [pi35d]pe35d
. sureg 'eqn', notable c(1 2 3)
```

Seemingly unrelated regression

Constraints:

```
( 1) [pi32d]pe32d - [pi33d]pe33d = 0
( 2) [pi32d]pe32d - [pi34d]pe34d = 0
( 3) [pi32d]pe32d - [pi35d]pe35d = 0
```

Equation	Obs	Parms	RMSE	"R-sq"	chi2	P
pi32d	38	5	.0098793	0.8472	236.78	0.0000
pi33d	38	5	.0029664	0.9567	719.32	0.0000

pi34d	38	5	.0030594	0.9672	1212.12	0.0000
pi35d	38	5	.0101484	0.6055	110.37	0.0000

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