



```

name: <unnamed>
log: c:\temp\stata\tsls.smcl
log type: smcl
opened on: 26 Sep 2011, 11:24:31
    
```

```

. gen l wage = ln(wage)
(325 missing values generated)
    
```

```

. ivregress 2sls l wage exper ki dsl 6 (educ = mothereduc fathereduc), first
    
```

First-stage regressions

```

Number of obs = 428
F( 4, 423) = 30.11
Prob > F = 0.0000
R-squared = 0.2216
Adj R-squared = 0.2142
Root MSE = 2.0258
    
```

educ	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
exper	.0186492	.0124779	1.49	0.136	-.0058773	.0431757
ki dsl 6	.6357332	.2548563	2.49	0.013	.1347908	1.136676
mothereduc	.1564345	.0356586	4.39	0.000	.0863445	.2265246
fathereduc	.1887341	.0335207	5.63	0.000	.1228462	.254622
_cons	9.141532	.379942	24.06	0.000	8.394723	9.888341

Instrumental variables (2SLS) regression

```

Number of obs = 428
Wald chi2(3) = 18.70
Prob > chi2 = 0.0003
R-squared = 0.1304
Root MSE = .6736
    
```

l wage	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
educ	.0668639	.0315186	2.12	0.034	.0050885	.1286392
exper	.0152513	.0041188	3.70	0.000	.0071786	.0233241
ki dsl 6	-.0263947	.0880046	-0.30	0.764	-.1988806	.1460912
_cons	.1486142	.3999887	0.37	0.710	-.6353493	.9325777

```

Instrumented: educ
Instruments: exper ki dsl 6 mothereduc
              fathereduc
    
```

```

. estimates store tsls
    
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```

. estat overid
    
```

Tests of overidentifying restrictions:

```

Sargan (score) chi2(1) = .383169 (p = 0.5359)
Basmann chi2(1) = .379032 (p = 0.5381)
    
```

. estat firststage

First-stage regression summary statistics

Variable	R-sq.	Adjusted R-sq.	Partial R-sq.	F(2, 423)	Prob > F
educ	<b>0.2216</b>	<b>0.2142</b>	<b>0.2083</b>	<b>55.6475</b>	<b>0.0000</b>

Minimum eigenvalue statistic = **55.6475**

Critical Values # of endogenous regressors: **1**  
 Ho: Instruments are weak # of excluded instruments: **2**

2SLS relative bias	5%	10% (not available)	20%	30%
2SLS Size of nominal 5% Wald test	<b>19.93</b>	<b>11.59</b>	<b>8.75</b>	<b>7.25</b>
LIML Size of nominal 5% Wald test	<b>8.68</b>	<b>5.33</b>	<b>4.42</b>	<b>3.92</b>

. estat endogenous

Tests of endogeneity  
 Ho: variables are exogenous

Durbin (score) chi2(1) = **2.50794** (p = **0.1133**)  
 Wu-Hausman F(1, 423) = **2.49325** (p = **0.1151**)

. ivregress liml lwage exper kidsl6 (educ = mothereduc fathereduc), first

First-stage regressions

Number of obs = **428**  
 F( 4, 423) = **30.11**  
 Prob > F = **0.0000**  
 R-squared = **0.2216**  
 Adj R-squared = **0.2142**  
 Root MSE = **2.0258**

educ	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
exper	.0186492	.0124779	1.49	0.136	-.0058773 .0431757
kidsl6	.6357332	.2548563	2.49	0.013	.1347908 1.136676
mothereduc	.1564345	.0356586	4.39	0.000	.0863445 .2265246
fathereduc	.1887341	.0335207	5.63	0.000	.1228462 .254622
_cons	9.141532	.379942	24.06	0.000	8.394723 9.888341

Instrumental variables (LIML) regression

Number of obs = **428**  
 Wald chi2(3) = **18.65**  
 Prob > chi2 = **0.0003**  
 R-squared = **0.1303**  
 Root MSE = **.67367**

l wage	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
educ	.0666743	.0315754	2.11	0.035	.0047876	.1285609
exper	.0152518	.0041192	3.70	0.000	.0071783	.0233254
ki dsl 6	-.0262499	.0880242	-0.30	0.766	-.1987741	.1462743
_cons	.1509874	.4006909	0.38	0.706	-.6343522	.9363271

Instrumented: educ  
 Instruments: exper ki dsl 6 mothereduc fathereduc

. estimates store liml

. estat overid

Tests of overidentifying restrictions:

Anderson-Rubin chi2(1) = .383476 (p = 0.5357)  
 Basman F(1, 423) = .378996 (p = 0.5385)

. estat firststage

First-stage regression summary statistics

Variable	R-sq.	Adjusted R-sq.	Partial R-sq.	F(2, 423)	Prob > F
educ	0.2216	0.2142	0.2083	55.6475	0.0000

Minimum eigenvalue statistic = 55.6475

Critical Values # of endogenous regressors: 1  
 Ho: Instruments are weak # of excluded instruments: 2

2SLS relative bias	5%	10% (not available)	20%	30%
2SLS Size of nominal 5% Wald test	19.93	11.59	8.75	7.25
LIML Size of nominal 5% Wald test	8.68	5.33	4.42	3.92

. ivregress 2sls l wage ki dsl 6 (educ exper = mothereduc fathereduc age)

Instrumental variables (2SLS) regression  
 Number of obs = 428  
 Wald chi2(3) = 4.71  
 Prob > chi2 = 0.1942  
 R-squared = 0.1224  
 Root MSE = .6767

l wage	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
educ	.0618332	.031838	1.94	0.052	-.000568	.1242345
exper	.0099093	.0090102	1.10	0.271	-.0077503	.027569
ki dsl 6	-.0429822	.0924525	-0.46	0.642	-.2241857	.1382213
_cons	.284268	.4327884	0.66	0.511	-.5639817	1.132518

Instrumented: educ exper  
 Instruments: ki dsl 6 mothereduc fathereduc age

. estimates store tsls\_2

. estat overid

Tests of overidentifying restrictions:

Sargan (score)  $\chi^2(1) = .375958$  (p = 0.5398)  
 Basman  $\chi^2(1) = .371893$  (p = 0.5420)

. estat firststage

Shea's partial R-squared

Variable	Shea's Partial R-sq.	Adj. Partial R-sq.
educ	0.2060	0.2004
exper	0.2108	0.2052

Minimum eigenvalue statistic = 31.9736

Critical Values # of endogenous regressors: 2  
 Ho: Instruments are weak # of excluded instruments: 3

2SLS relative bias	5%	10% (not available)	20%	30%
2SLS Size of nominal 5% Wald test	10%	15%	20%	25%
LIML Size of nominal 5% Wald test	13.43	8.18	6.40	5.45
	5.44	3.81	3.32	3.09

. estat endogenous

Tests of endogeneity  
 Ho: variables are exogenous

Durbin (score)  $\chi^2(2) = 3.23679$  (p = 0.1982)  
 Wu-Hausman  $F(2, 422) = 1.60787$  (p = 0.2015)

. estimates table tsls liml tsls\_2, b(%7.4f) se(%7.4f) stats(N r2\_a)

Variable	tsls	liml	tsls_2
educ	0.0669 0.0315	0.0667 0.0316	0.0618 0.0318
exper	0.0153 0.0041	0.0153 0.0041	0.0099 0.0090
ki dsl 6	-0.0264 0.0880	-0.0262 0.0880	-0.0430 0.0925
_cons	0.1486 0.4000	0.1510 0.4007	0.2843 0.4328
N	428	428	428
r2_a	0.1243	0.1241	0.1162

Legend: b/se