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Data private; set metrics.newages2004;
if a_sex = 1 then m = 1; else m = 0;
if a_sex = 2 then f = 1; else f = 0;
if a_uncov = 1 then unioncov = 1; else unioncov = 0;
if penplan = 1 then pension = 1; else pension = 0;
if a_grswk gt 0 then wagewk = a_grswk; else wagewk = 0;
if a_hrspay gt 0 then wagehr = a_hrspay/100; else wagehr = 0;
exp = a_age - 6 - yrsed;
expm = exp*m;
edm = yrsed*m;
expsq = exp**2;
expunion = exp*unioncov;
munion = m*unioncov;
wagehr2 = A_grswk/hrswk;
lnwagehr = log(wagehr);
run;
proc means data=private;
var wagehr wagehr2 wagewk yrsed exp m f unioncov munion pension;
run;
proc reg data=private;
model lnwagehr = yrsed exp expsq m expm unioncov expunion munion pension/vif ;
test m = 0, expm = 0, munion = 0;
test unioncov = 0, expunion = 0, munion = 0;
run;
proc reg data=private; where m = 1;
model lnwagehr = yrsed exp expsq unioncov expunion pension/ vif;
test unioncov = 0, expunion = 0;
run;
proc reg data=private; where m = 0;
model lnwagehr = yrsed exp expsq unioncov expunion pension/vif ;
test unioncov = 0, expunion = 0;
run;

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The MEANS Procedure

Variable	Label	N	Mean	Std Dev	Minimum	Maximum
wagehr		758	15.7758311	8.6428966	2.6300000	72.1200000
wagehr2		750	16.6951992	9.5868028	0.6250000	84.2000000
wagewk		758	673.2968338	393.0690075	25.0000000	2885.00
yrsed	yrsed	758	12.8126649	2.2507590	0.5000000	22.0000000
exp		758	21.3773087	12.0899638	-1.0000000	61.0000000
m		758	0.5052770	0.5003023	0	1.0000000
f		758	0.4947230	0.5003023	0	1.0000000
unioncov		758	0.0079156	0.0886752	0	1.0000000
munion		758	0.0039578	0.0628278	0	1.0000000
pension		758	0.6121372	0.4875847	0	1.0000000

The REG Procedure  
 Model: MODEL1  
 Dependent Variable: lnwagehr

Number of Observations Read 758  
 Number of Observations Used 758

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	9	48.49142	5.38794	35.52	<.0001
Error	748	113.46092	0.15169		
Corrected Total	757	161.95234			

Root MSE 0.38947 R-Square 0.2994  
 Dependent Mean 2.64474 Adj R-Sq 0.2910  
 Coeff Var 14.72617

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variance Inflation
Intercept	Intercept	1	1.20179	0.10271	11.70	<.0001	0
yrsted	yrsted	1	0.07302	0.00657	11.11	<.0001	1.09265
exp		1	0.03096	0.00411	7.54	<.0001	12.31049
expsq		1	-0.00055552	0.00008105	-6.85	<.0001	11.01472
m		1	0.02367	0.05801	0.41	0.6833	4.20413
expm		1	0.00640	0.00236	2.72	0.0068	5.02192
unioncov		1	0.12663	0.63218	0.20	0.8413	15.68313
expunion		1	-0.00252	0.01876	-0.13	0.8931	8.43472
munion		1	-0.13770	0.52889	-0.26	0.7947	5.51041
pension		1	0.16551	0.03000	5.52	<.0001	1.06812

The REG Procedure  
 Model: MODEL1

Test 1 Results for Dependent Variable lnwagehr

Source	DF	Mean Square	F Value	Pr > F
Numerator	3	1.97834	13.04	<.0001
Denominator	748	0.15169		

The REG Procedure  
 Model: MODEL1

Test 2 Results for Dependent Variable lnwagehr

Source	DF	Mean Square	F Value	Pr > F
Numerator	3	0.00425	0.03	0.9937
Denominator	748	0.15169		

The REG Procedure  
 Model: MODEL1  
 Dependent Variable: lnwagehr

Number of Observations Read 383  
 Number of Observations Used 383

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	25.26600	4.21100	28.22	<.0001
Error	376	56.10888	0.14923		
Corrected Total	382	81.37488			

Root MSE 0.38630 R-Square 0.3105  
 Dependent Mean 2.71004 Adj R-Sq 0.2995  
 Coeff Var 14.25429

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variance Inflation
Intercept	Intercept	1	1.23316	0.13773	8.95	<.0001	0
yrsed	yrsed	1	0.06736	0.00962	7.00	<.0001	1.06961
exp		1	0.04663	0.00576	8.10	<.0001	12.38253
expsq		1	-0.00075926	0.00012049	-6.30	<.0001	12.14490
unioncov		1	0.22913	0.31696	0.72	0.4702	2.00384
expunion		1	-0.02676	0.02452	-1.09	0.2759	1.99430
pension		1	0.14781	0.04237	3.49	0.0005	1.08091

The REG Procedure  
 Model: MODEL1

Test 1 Results for Dependent Variable lnwagehr

Source	DF	Mean Square	F Value	Pr > F
Numerator	2	0.08915	0.60	0.5508
Denominator	376	0.14923		

The REG Procedure  
 Model: MODEL1  
 Dependent Variable: lnwagehr

Number of Observations Read 375  
 Number of Observations Used 375

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	6	21.01842	3.50307	22.91	<.0001
Error	368	56.25728	0.15287		
Corrected Total	374	77.27571			

Root MSE 0.39099 R-Square 0.2720  
 Dependent Mean 2.57804 Adj R-Sq 0.2601  
 Coeff Var 15.16617

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr >  t	Variance Inflation
Intercept	Intercept	1	1.16173	0.13472	8.62	<.0001	0
yr sed	yr sed	1	0.07968	0.00903	8.83	<.0001	1.11746
exp		1	0.02411	0.00535	4.51	<.0001	10.19820
expsq		1	-0.00040319	0.00011007	-3.66	0.0003	10.21469
unioncov		1	-0.74160	0.95201	-0.78	0.4365	17.64340
exp union		1	0.02527	0.02939	0.86	0.3905	17.70827
pension		1	0.18025	0.04237	4.25	<.0001	1.05691

The REG Procedure  
 Model: MODEL1

Test 1 Results for Dependent Variable lnwagehr

Source	DF	Mean Square	F Value	Pr > F
Numerator	2	0.06070	0.40	0.6726
Denominator	368	0.15287		