Regression Quick Reference Guide

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. reg y x1 x2 x3
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Source	SS	df	MS		
				Number of obs	= 10,000
				F(3, 9996)	= 7513.06
Model	23084.8873	3	7694.96245	Prob > F	= 0.0000
Residual	10238.0139	9,996	1.02421107	R-squared	= 0.6928
				Adj R-squared	= 0.6927
Total	33322.9012	9,999	3.33262338	Root MSE	= 1.012

y	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
x1	.5036943	.010175	49.50	0.000	.4837493	.5236394
x2	-.0147095	.0101744	-1.45	0.148	-.0346533	.0052343
x3	1.417347	.0100138	141.54	0.000	1.397718	1.436976
_cons	1.300601	.0101221	128.49	0.000	1.280759	1.320442

Objects in Regression Table

- **COEF (Coefficient)**
  Estimates for the marginal effect of variable on outcome (e.g. a 1 unit increase in x1 is associated with a 0.5 unit increase in y)

- **STD. ERR. (Standard Error)**
  Sample standard deviation of estimate. Informs about the precision of the estimate.

- **T (T-Value)**
  Ratio of the coefficient to the standard error. The test statistic for a single t-test of the null hypothesis that the variable has zero effect on the outcome.

- **P>|t| (P-Value)**
  The lowest significance level at which the variable would be statistically significant (e.g. p-value of 0.020 indicates significance at the 5% level but not the 1% level).

- **R-Squared**
  Variance in the outcome (y) explained by variance in the regression variables (x1, x2, x3)

Concepts

- **Statistical significance level**
  The tolerance level for error of supposing there is a statistically significant effect when in reality the variable has no effect of the outcome. Usually 10% (marginal), 5% (standard), 1% (strong)

- **Omitted Variables**
  Variables *not included* in the regression which are *correlated* with the outcome *and* a variable included in the regression. These variables bias the coefficients.