STATA Regression Example

$$Q_t = \beta_0 + \beta_1 P_t + \beta_2 C_t + u_t, \quad t = 1,...,n$$

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  regress Q P C

      Source |       SS       df       MS              Number of obs =      20
-------------+------------------------------           F(  2,    17) =  135.56
       Model |  58.5993861     2   29.299693           Prob > F      =  0.0000
    Residual |  3.67423437    17  .216131434           R-squared     =  0.9410
-------------+------------------------------           Adj R-squared =  0.9341
       Total |  62.2736205    19  3.27755897           Root MSE      =   .4649

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           Q |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
           P |   .0519107   .0073657     7.05   0.000     .0363705    .0674509
           C |   .0321153   .0034454     9.32   0.000     .0248461    .0393844
       _cons |  -6.174253   .6603314    -9.35   0.000    -7.567431   -4.781076
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where

$\hat{\beta}_0 = -6.174253 \quad \hat{\sigma}_{\hat{\beta}_0} = 0.6603314 \quad t_{\hat{\beta}_0} = -9.35$

$\hat{\beta}_1 = 0.0519107 \quad \hat{\sigma}_{\hat{\beta}_1} = 0.0073657 \quad t_{\hat{\beta}_1} = 7.05$

$\hat{\beta}_2 = 0.0321153 \quad \hat{\sigma}_{\hat{\beta}_2} = 0.0034454 \quad t_{\hat{\beta}_2} = 9.32$

$$\sum_{t=1}^{n} (Q_t - \overline{Q})^2 = 62.2736205 \qquad \frac{\sum_{t=1}^{n} (Q_t - \overline{Q})^2}{n-1} = 3.27755897 \qquad \sqrt{\frac{\sum_{t=1}^{n} (\hat{u}_t)^2}{n-k}} = 0.4649$$

$$\sum_{t=1}^{n} (\hat{Q}_t - \overline{Q})^2 = 58.5993861$$

$$\sum_{t=1}^{n} (\hat{u}_t)^2 = 3.67423437 \qquad \frac{\sum_{t=1}^{n} (\hat{u}_t)^2}{n-k} = 0.216131434$$