```
In [9]: runfile('C:/Users/claire.loupias/Desktop/exercice-4.4.py', wdir='C:/Users/
claire.loupias/Desktop')
                            OLS Regression Results
==============================================================================
Dep. Variable:           logged_psoda   R-squared:                       0.087
Model:                            OLS   Adj. R-squared:                  0.080
Method:                 Least Squares   F-statistic:                     12.60
Date:                Wed, 25 Mar 2020   Prob (F-statistic):           6.92e-08
Time:                        16:24:07   Log-Likelihood:                439.04
No. Observations:                 401   AIC:                            -870.1
Df Residuals:                     397   BIC:                            -854.1
Df Model:                           3
Covariance Type:            nonrobust
==============================================================================
                 coef    std err          t      P>|t|      [0.025      0.975]
------------------------------------------------------------------------------
Intercept     -1.4633      0.294     -4.982      0.000      -2.041      -0.886
prpblck        0.0728      0.031      2.373      0.018       0.013       0.133
logged_income  0.1370      0.027      5.119      0.000       0.084       0.190
prppov         0.3804      0.133      2.864      0.004       0.119       0.641
==============================================================================
Omnibus:                       12.002   Durbin-Watson:                   1.727
Prob(Omnibus):                  0.002   Jarque-Bera (JB):               24.056
Skew:                          -0.014   Prob(JB):                     5.97e-06
Kurtosis:                       4.200   Cond. No.                         834.
==============================================================================

Warnings:
[1] Standard Errors assume that the covariance matrix of the errors is correctly
specified.
La corrélation entre log(income) et prppov est  -0.8384669727732672
                            OLS Regression Results
==============================================================================
Dep. Variable:           logged_psoda   R-squared:                       0.184
Model:                            OLS   Adj. R-squared:                  0.176
Method:                 Least Squares   F-statistic:                     22.31
Date:                Wed, 25 Mar 2020   Prob (F-statistic):           1.24e-16
Time:                        16:24:07   Log-Likelihood:                461.55
No. Observations:                 401   AIC:                            -913.1
Df Residuals:                     396   BIC:                            -893.1
Df Model:                           4
Covariance Type:            nonrobust
==============================================================================
                 coef    std err          t      P>|t|      [0.025      0.975]
------------------------------------------------------------------------------
Intercept     -0.8415      0.292     -2.878      0.004      -1.416      -0.267
prpblck        0.0976      0.029      3.334      0.001       0.040       0.155
logged_income -0.0530      0.038     -1.412      0.159      -0.127       0.021
prppov         0.0521      0.134      0.388      0.699      -0.212       0.317
logged_hseval  0.1213      0.018      6.860      0.000       0.087       0.156
==============================================================================
Omnibus:                       16.452   Durbin-Watson:                   1.973
Prob(Omnibus):                  0.000   Jarque-Bera (JB):               40.077
Skew:                          -0.016   Prob(JB):                     1.98e-09
Kurtosis:                       4.548   Cond. No.                     1.31e+03
==============================================================================
```

```
Warnings:
[1] Standard Errors assume that the covariance matrix of the errors is correctly
specified.
[2] The condition number is large, 1.31e+03. This might indicate that there are
strong multicollinearity or other numerical problems.
La pvalue du test de nullité jointe des coefficients associés à log(income) et prppov
est  0.03044846499970666
```

In [**10**]: