# Annexe

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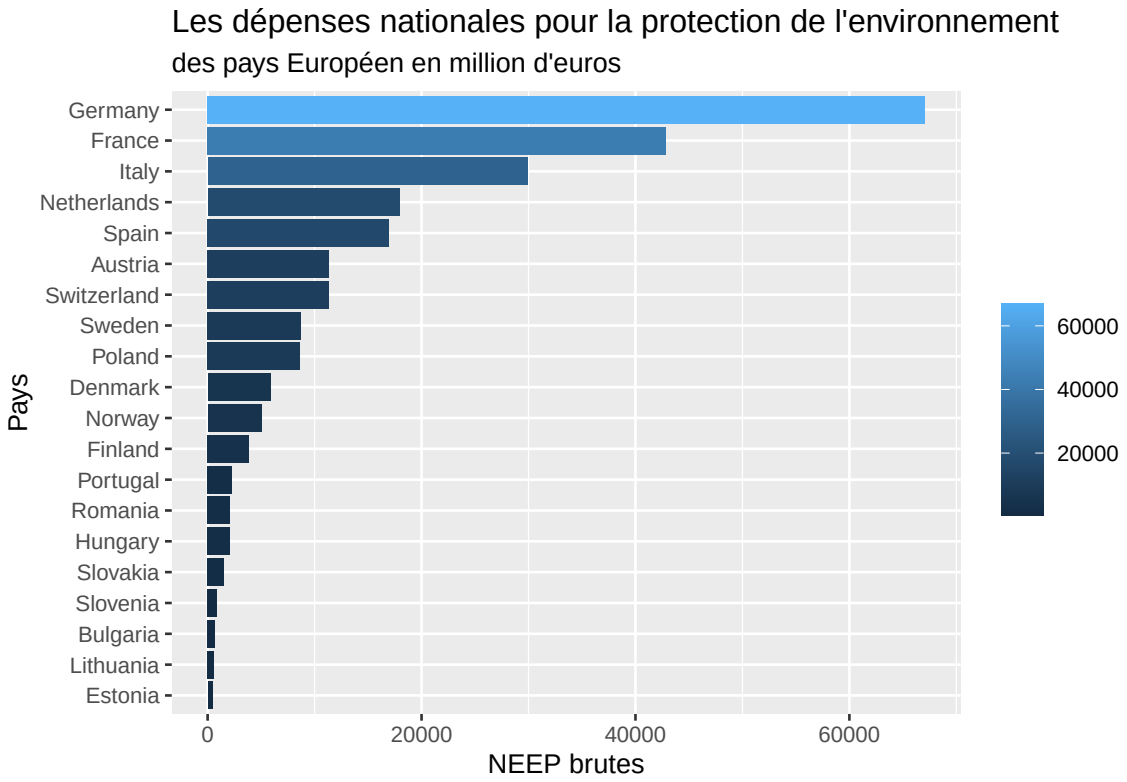
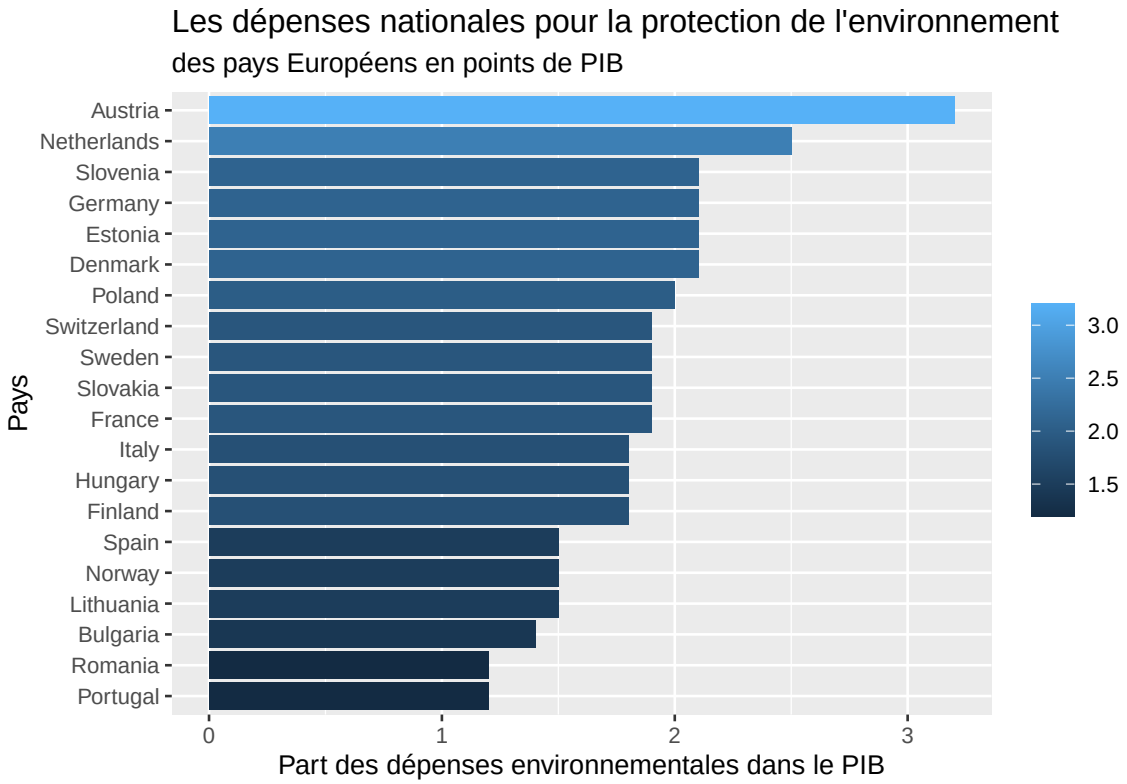
## Annexe 1 - Principaux indicateurs des variables.

Table 1: Principaux indicateurs des variables

| Statistic | N | Mean | St. Dev. | Min | Pctl(25) | Pctl(75) | Max |
|---|---|---|---|---|---|---|---|
| sensi_env | 20 | 65.126 | 8.318 | 46.786 | 60.185 | 71.557 | 83.552 |
| perc_env | 20 | 71.304 | 9.942 | 54.552 | 64.794 | 77.878 | 90.416 |
| soutien_pol_env | 20 | 65.995 | 11.755 | 35.605 | 63.360 | 72.472 | 88.840 |
| conn_env | 20 | 58.080 | 10.218 | 39.000 | 50.500 | 65.625 | 73.100 |
| depenses_env | 20 | 12,006.920 | 16,946.670 | 455.200 | 1,946.325 | 12,736.620 | 67,055.000 |
| part_depenses_env | 20 | 1.870 | 0.455 | 1.200 | 1.500 | 2.100 | 3.200 |
| ind_gini | 20 | 31.130 | 4.151 | 24.200 | 28.650 | 34.025 | 40.400 |
| educ_sup | 20 | 28.675 | 6.921 | 15.300 | 23.800 | 34.725 | 36.800 |
| rev_median | 20 | 17,281.550 | 11,712.950 | 2,742 | 6,921 | 24,178.2 | 43,663 |
| epi | 20 | 71.925 | 7.706 | 57.000 | 65.150 | 78.750 | 82.500 |

## Annexe 2 - Dépenses nationales pour la protection de l'environnement selon les pays.






**Annexe 3 - Carte des pays européens selon leur sensibilité environnementale.**

Figure VI − Sensibilité environnementale en Europe

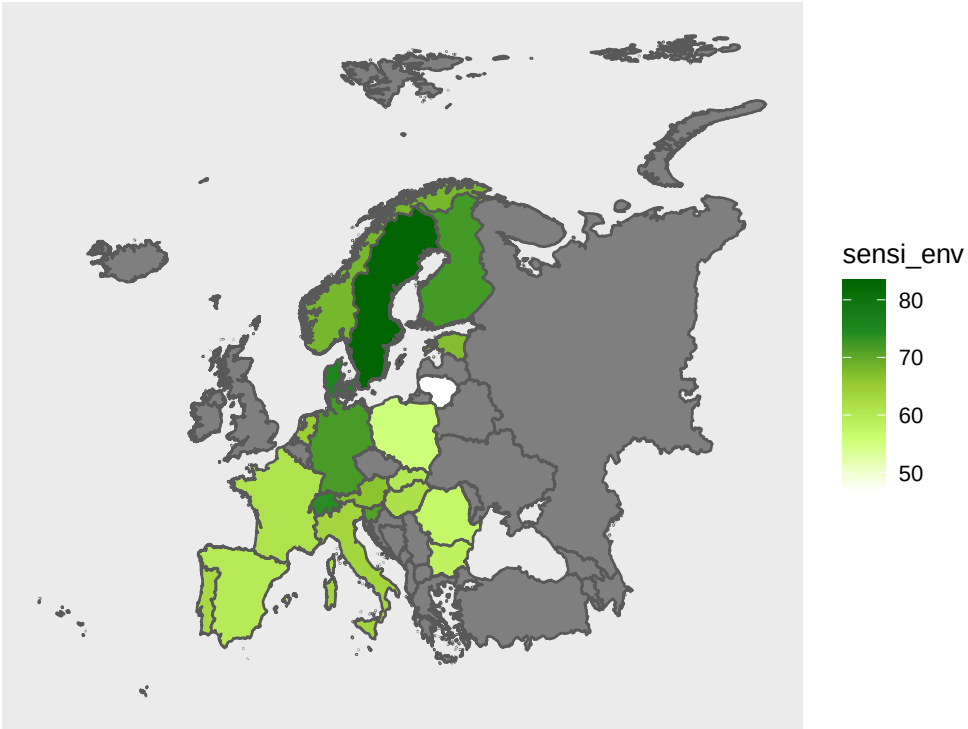
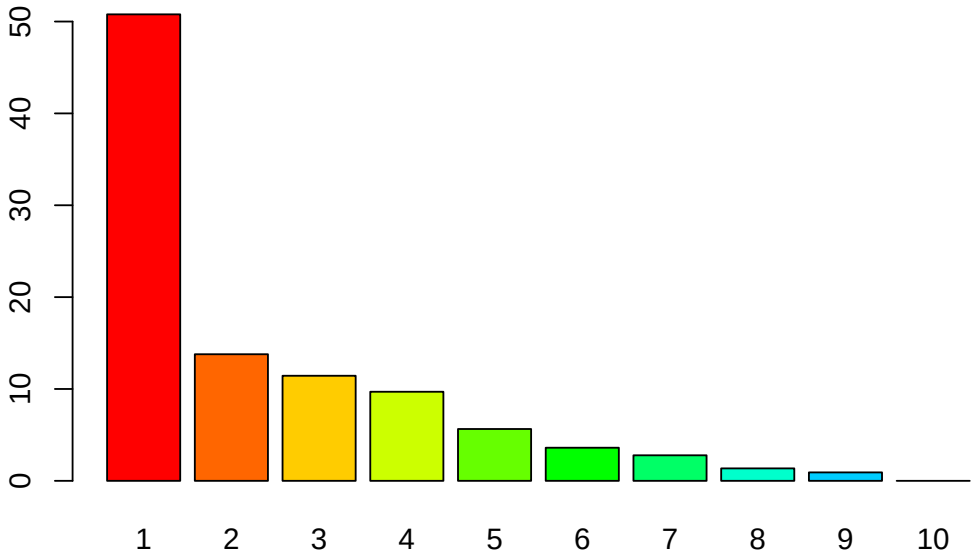


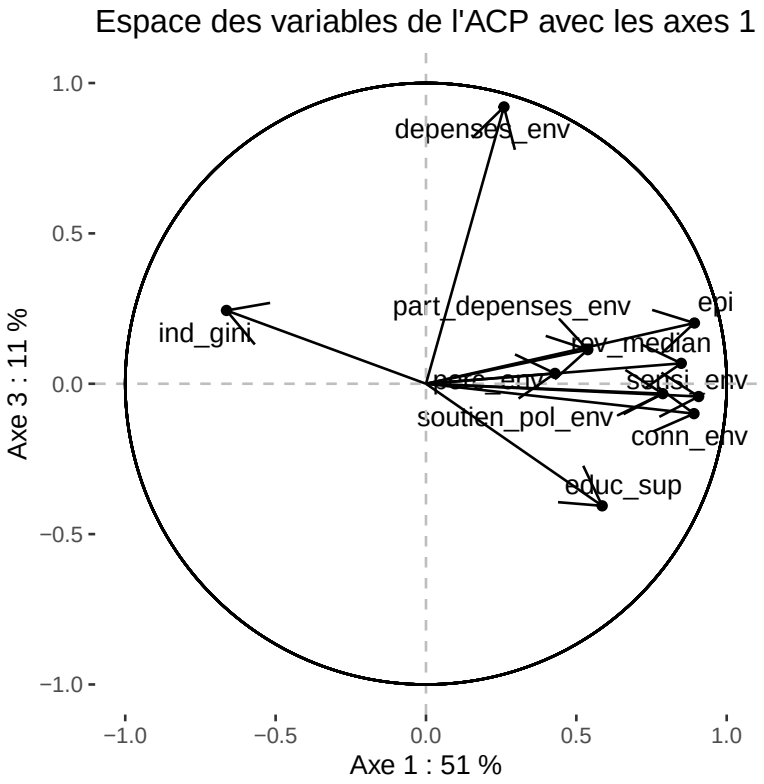
Table 2: Tableau des valeurs propres et variances des composantes principales

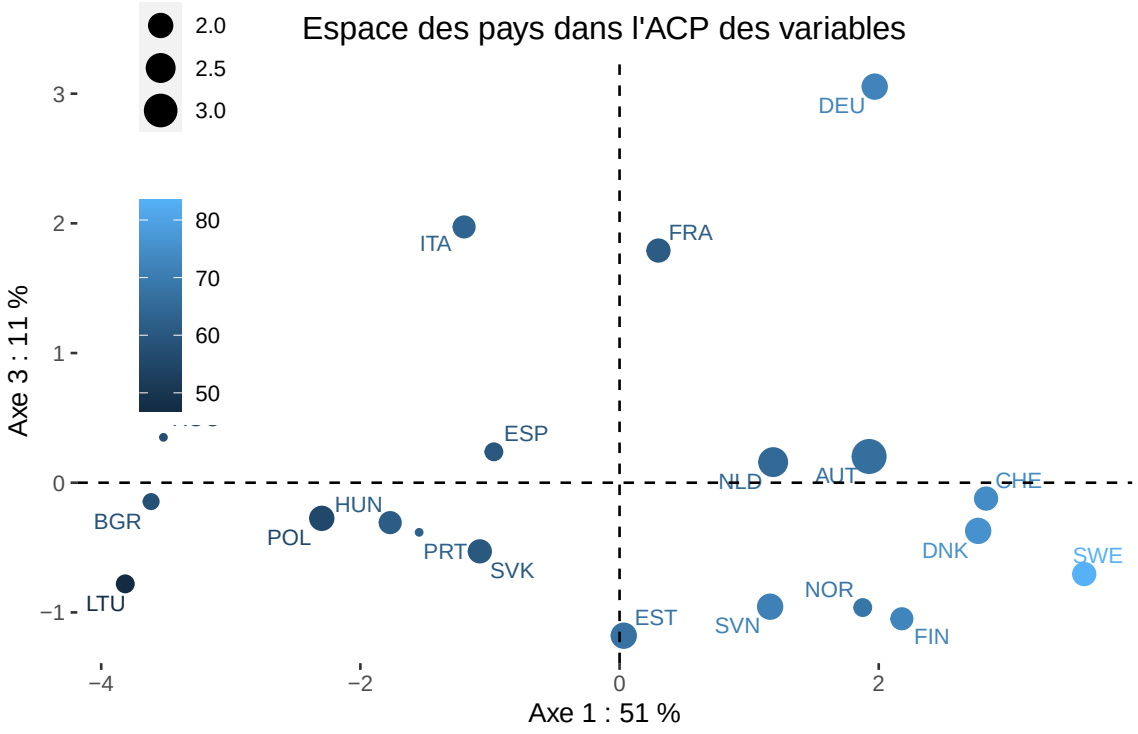
| | eigenvalue | percentage of variance | cumulative percentage of variance |
|---|---|---|---|
| comp 1 | 5.0782409 | 50.7824086 | 50.78241 |
| comp 2 | 1.3782209 | 13.7822093 | 64.56462 |
| comp 3 | 1.1437830 | 11.4378304 | 76.00245 |
| comp 4 | 0.9696891 | 9.6968908 | 85.69934 |
| comp 5 | 0.5641442 | 5.6414425 | 91.34078 |
| comp 6 | 0.3604530 | 3.6045303 | 94.94531 |
| comp 7 | 0.2779413 | 2.7794129 | 97.72472 |
| comp 8 | 0.1356383 | 1.3563831 | 99.08111 |
| comp 9 | 0.0918892 | 0.9188921 | 100.00000 |
| comp 10 | 0.0000000 | 0.0000000 | 100.00000 |

## Annexe 4 - Résultats de l'ACP

**Figure I – Part expliquée par chaque axe dans la variance totale**

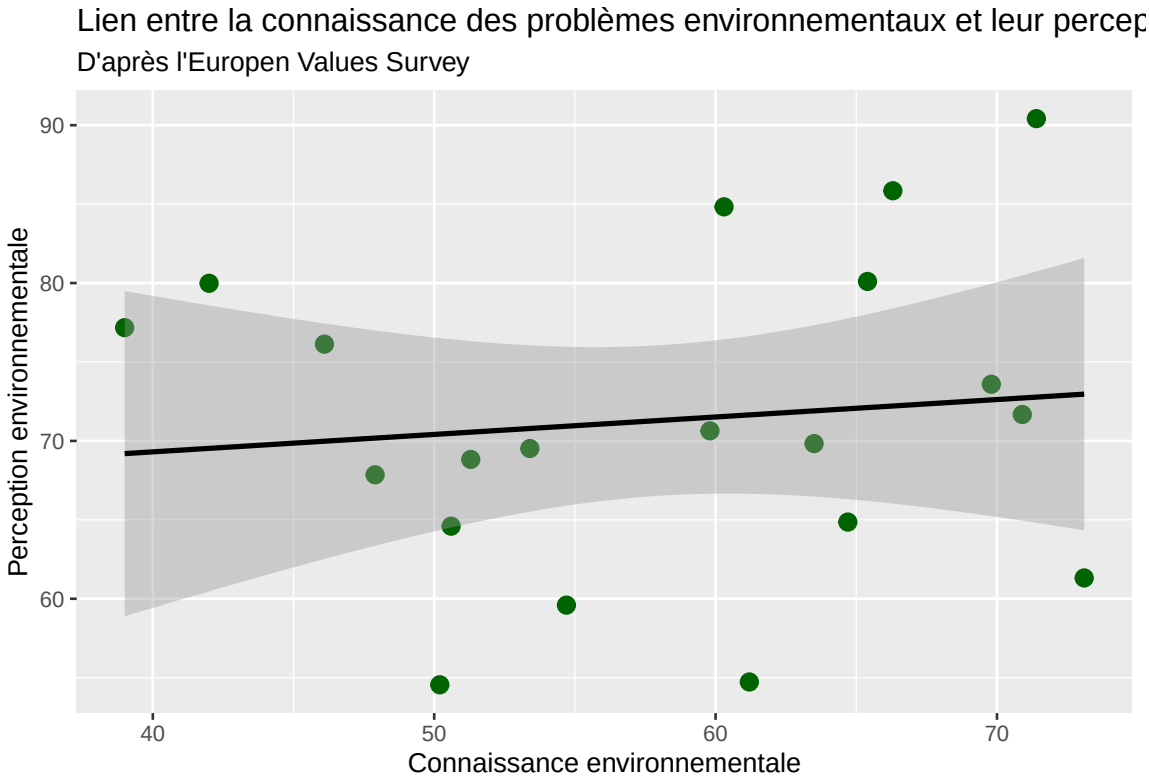


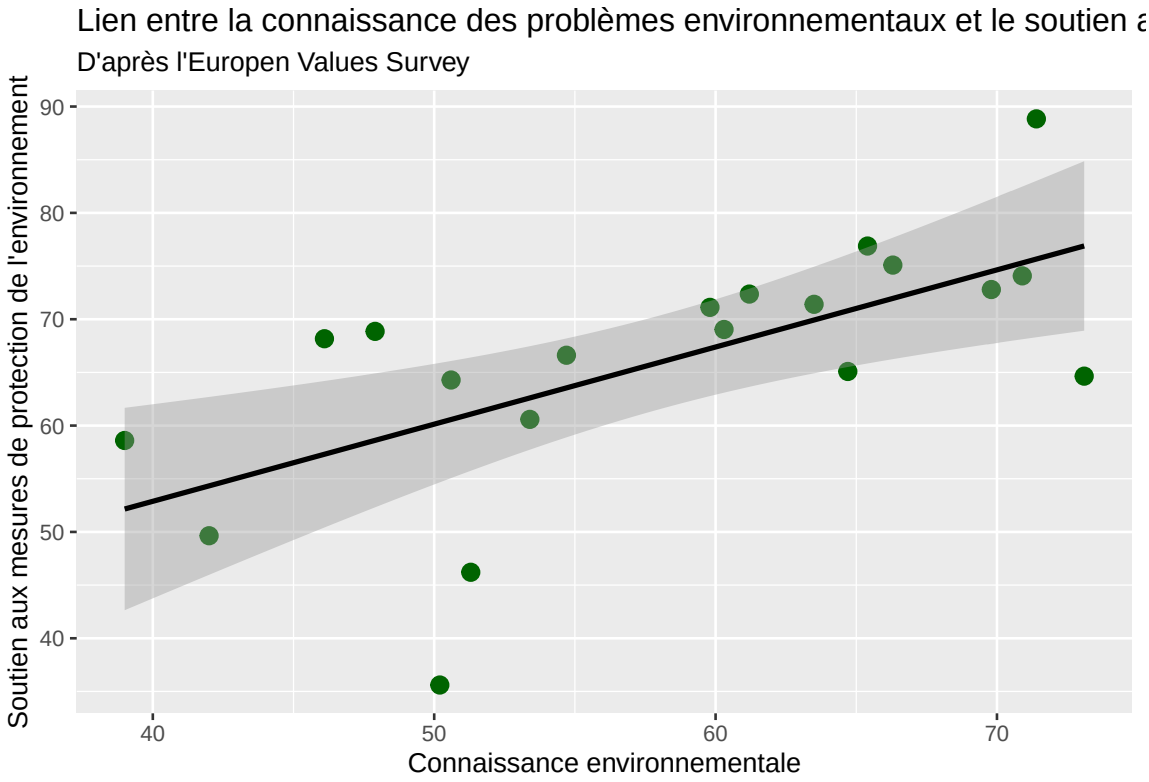



Plus un pays est en bleu clair, plus il est sensibilisé à l'environnement, plus le cercle est gros, plus ses dépenses pour l'environnement en points de PIB sont élevées.

**Annexe 5 - Relations linéaires simples entre variables explicatives.**



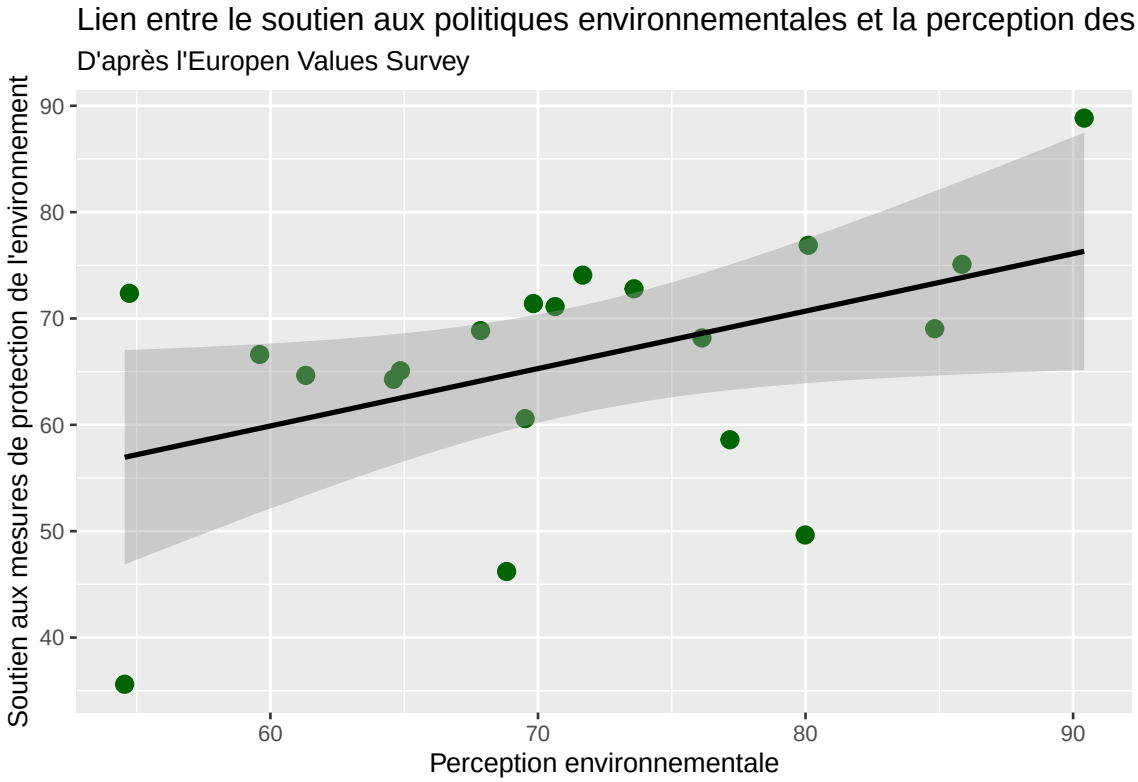

Lien entre le soutien aux politiques environnementales et la perception des
D'après l'Europen Values Survey
Soutien aux mesures de protection de l'environnement
90
80
70
60
50
40
60
70
80
90
Perception environnementale

Table 3: Matrice des corrélations

| | sensi_env | perc_env | soutien_pol_env | conn_env | depenses_env |
|---|---|---|---|---|---|
| sensi_env | 1.000 | 0.660 | 0.911 | 0.752 | 0.150 |
| perc_env | 0.660 | 1.000 | 0.457 | 0.114 | 0.051 |
| soutien_pol_env | 0.911 | 0.457 | 1.000 | 0.631 | 0.121 |
| conn_env | 0.752 | 0.114 | 0.631 | 1.000 | 0.178 |
| depenses_env | 0.150 | 0.051 | 0.121 | 0.178 | 1.000 |
| part_depenses_env | 0.338 | 0.014 | 0.202 | 0.578 | 0.221 |
| ind_gini | -0.548 | -0.141 | -0.470 | -0.661 | -0.002 |
| educ_sup | 0.389 | 0.087 | 0.249 | 0.579 | -0.089 |
| rev_median | 0.680 | 0.310 | 0.573 | 0.699 | 0.264 |
| epi | 0.715 | 0.293 | 0.608 | 0.761 | 0.396 |

Table 4: Matrice des corrélations (suite)

| | part_depenses_env | ind_gini | educ_sup | rev_median | epi |
|---|---|---|---|---|---|
| sensi_env | 0.338 | -0.548 | 0.389 | 0.680 | 0.715 |
| perc_env | 0.014 | -0.141 | 0.087 | 0.310 | 0.293 |
| soutien_pol_env | 0.202 | -0.470 | 0.249 | 0.573 | 0.608 |
| conn_env | 0.578 | -0.661 | 0.579 | 0.699 | 0.761 |
| depenses_env | 0.221 | -0.002 | -0.089 | 0.264 | 0.396 |
| part_depenses_env | 1.000 | -0.505 | 0.239 | 0.334 | 0.439 |
| ind_gini | -0.505 | 1.000 | -0.290 | -0.368 | -0.486 |
| educ_sup | 0.239 | -0.290 | 1.000 | 0.620 | 0.519 |
| rev_median | 0.334 | -0.368 | 0.620 | 1.000 | 0.877 |
| epi | 0.439 | -0.486 | 0.519 | 0.877 | 1.000 |

## Annexe 6 - Matrice des corrélations.

## Annexe 7 - Représentation graphique des corrélations.

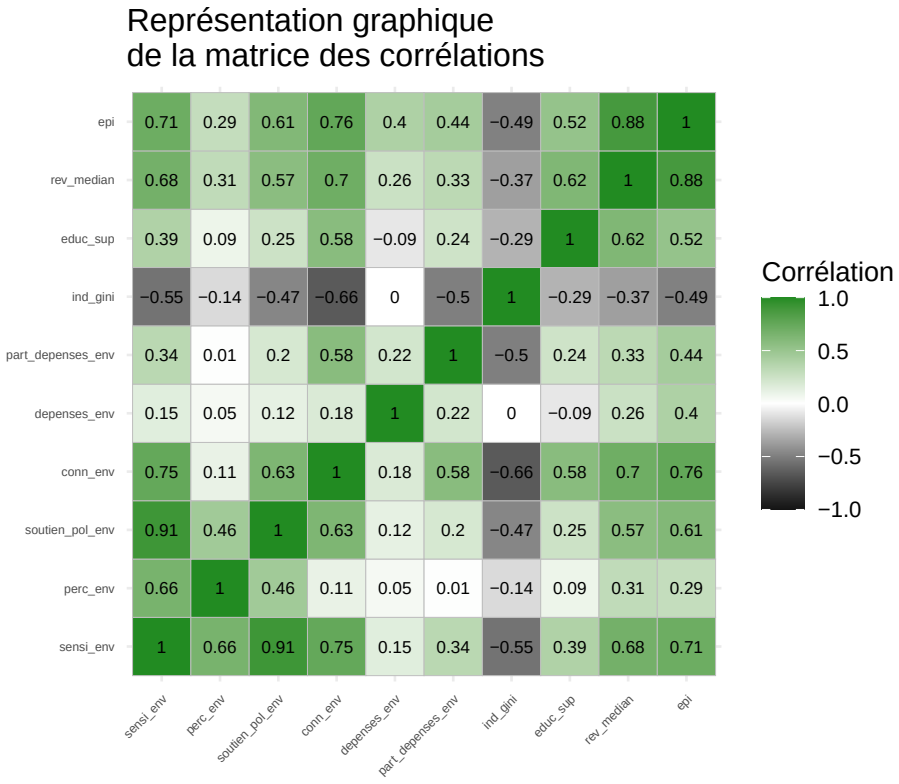


Table 5: Annexe 8 - Présentation des quatre premiers modèles simples.

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | part_depenses_env | | depenses_env | |
| | reg1 | reg1bis | reg1ter | reg1quater |
| | (1) | (2) | (3) | (4) |
| sensi_env | 0.018 | | 306.553 | |
| | (0.012) | | (474.735) | |
| conn_env | | 0.034*** | | 295.435 |
| | | (0.012) | | (543.034) |
| perc_env | | 0.003 | | 57.415 |
| | | (0.010) | | (486.889) |
| soutien_pol_env | | −0.012 | | −8.982 |
| | | (0.011) | | (527.144) |
| Constant | 0.666 | 0.454 | −7,957.756 | −8,653.055 |
| | (0.797) | (0.786) | (31,156.420) | (36,564.380) |
| Observations | 20 | 20 | 20 | 20 |
| $R^2$ | 0.114 | 0.381 | 0.023 | 0.033 |
| Adjusted $R^2$ | 0.065 | 0.266 | −0.032 | −0.149 |
| Residual Std. Error | 0.440 (df = 18) | 0.390 (df = 16) | 17,212.820 (df = 18) | 18,162.970 (df = 16) |
| F Statistic | 2.317 (df = 1; 18) | 3.289** (df = 3; 16) | 0.417 (df = 1; 18) | 0.180 (df = 3; 16) |
| *Note:* | | | | *p<0.1; **p<0.05; ***p<0.01 |

Table 6: Annexe 9 - Présentation de deux modèles avec conn.env.

| | *Dependent variable:* | |
|---|---|---|
| | part_depenses_env | depenses_env |
| | reg2 | reg2bis |
| | (1) | (2) |
| conn_env | 0.026*** | 295.261 |
| | (0.009) | (384.663) |
| Constant | 0.373 | −5,141.841 |
| | (0.505) | (22,667.330) |
| Observations | 20 | 20 |
| $R^2$ | 0.334 | 0.032 |
| Adjusted $R^2$ | 0.297 | −0.022 |
| Residual Std. Error (df = 18) | 0.382 | 17,132.900 |
| F Statistic (df = 1; 18) | 9.033*** | 0.589 |
| *Note:* | | *p<0.1; **p<0.05; ***p<0.01 |

Table 7: Annexe 10 - Présentation de quatre modèles avec variables de contrôle.

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | part_depenses_env | | depenses_env | |
| | reg3 | reg4 | reg3bis | reg4bis |
| | (1) | (2) | (3) | (4) |
| sensi_env | −0.006 | | −336.305 | |
| | (0.019) | | (692.576) | |
| conn_env | | 0.022 | | 108.729 |
| | | (0.018) | | (703.563) |
| epi | 0.024 | 0.010 | 1,969.223* | 1,802.809 |
| | (0.030) | (0.030) | (1,102.069) | (1,150.375) |
| rev_median | −0.00000 | −0.00001 | −0.161 | −0.253 |
| | (0.00002) | (0.00002) | (0.750) | (0.736) |
| educ_sup | 0.002 | −0.005 | −891.047 | −897.014 |
| | (0.019) | (0.019) | (690.563) | (728.499) |
| ind_gini | −0.044 | −0.020 | 798.316 | 1,096.733 |
| | (0.030) | (0.032) | (1,114.194) | (1,230.626) |
| Constant | 1.890 | 0.701 | −104,242.900 | −128,027.900 |
| | (2.678) | (2.426) | (98,231.170) | (94,125.220) |
| Observations | 20 | 20 | 20 | 20 |
| $R^2$ | 0.313 | 0.377 | 0.332 | 0.322 |
| Adjusted $R^2$ | 0.068 | 0.154 | 0.094 | 0.080 |
| Residual Std. Error (df = 14) | 0.440 | 0.419 | 16,129.970 | 16,251.380 |
| F Statistic (df = 5; 14) | 1.276 | 1.693 | 1.395 | 1.332 |
| *Note:* | | | | *p<0.1; **p<0.05; ***p<0.01 |

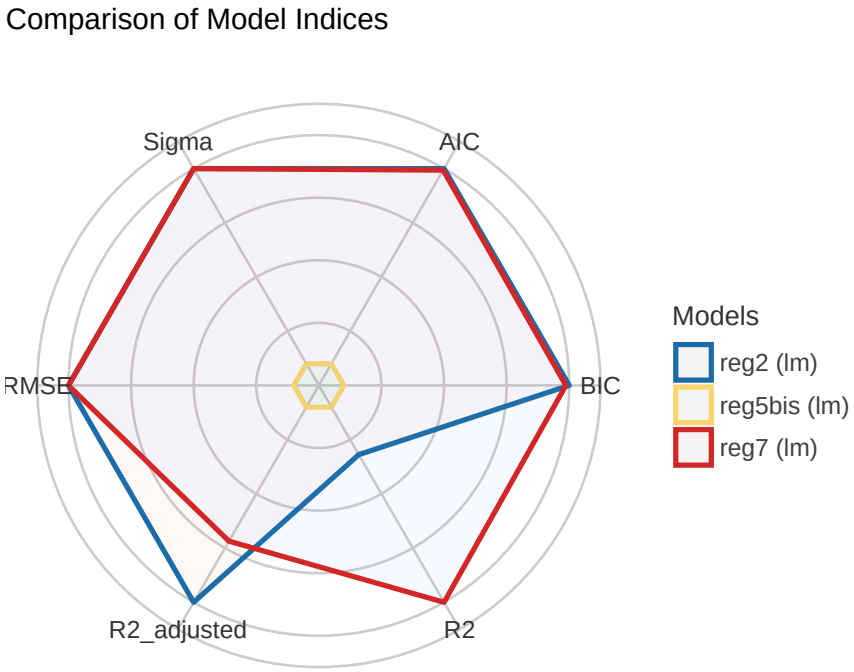
Table 8: Annexe 11 - Présentation de quatre autres modèles avec variables de contrôle.

| | *Dependent variable:* | | | |
|---|---|---|---|---|
| | part_depenses_env | | depenses_env | |
| | reg5 | reg6 | reg5bis | reg6bis |
| | (1) | (2) | (3) | (4) |
| sensi_env | −0.007 | | −522.244 | |
| | (0.018) | | (606.115) | |
| conn_env | | 0.022 | | 93.865 |
| | | (0.018) | | (681.265) |
| epi | 0.019 | 0.002 | 1,726.900** | 1,504.822* |
| | (0.020) | (0.019) | (705.111) | (732.184) |
| educ_sup | −0.0002 | −0.008 | −972.413 | −990.684 |
| | (0.017) | (0.017) | (595.914) | (655.283) |
| ind_gini | −0.045 | −0.022 | | 1,020.994 |
| | (0.029) | (0.030) | | (1,174.538) |
| Constant | 2.332 | 1.377 | −50,304.560 | −105,054.700 |
| | (1.748) | (1.657) | (33,727.920) | (64,202.110) |
| Observations | 20 | 20 | 20 | 20 |
| $R^2$ | 0.311 | 0.370 | 0.308 | 0.317 |
| Adjusted $R^2$ | 0.127 | 0.202 | 0.178 | 0.134 |
| Residual Std. Error | 0.426 (df = 15) | 0.407 (df = 15) | 15,363.330 (df = 16) | 15,766.240 (df = 15) |
| F Statistic | 1.689 (df = 4; 15) | 2.202 (df = 4; 15) | 2.373 (df = 3; 16) | 1.738 (df = 4; 15) |
| *Note:* | | | | *p<0.1; **p<0.05; ***p<0.01 |

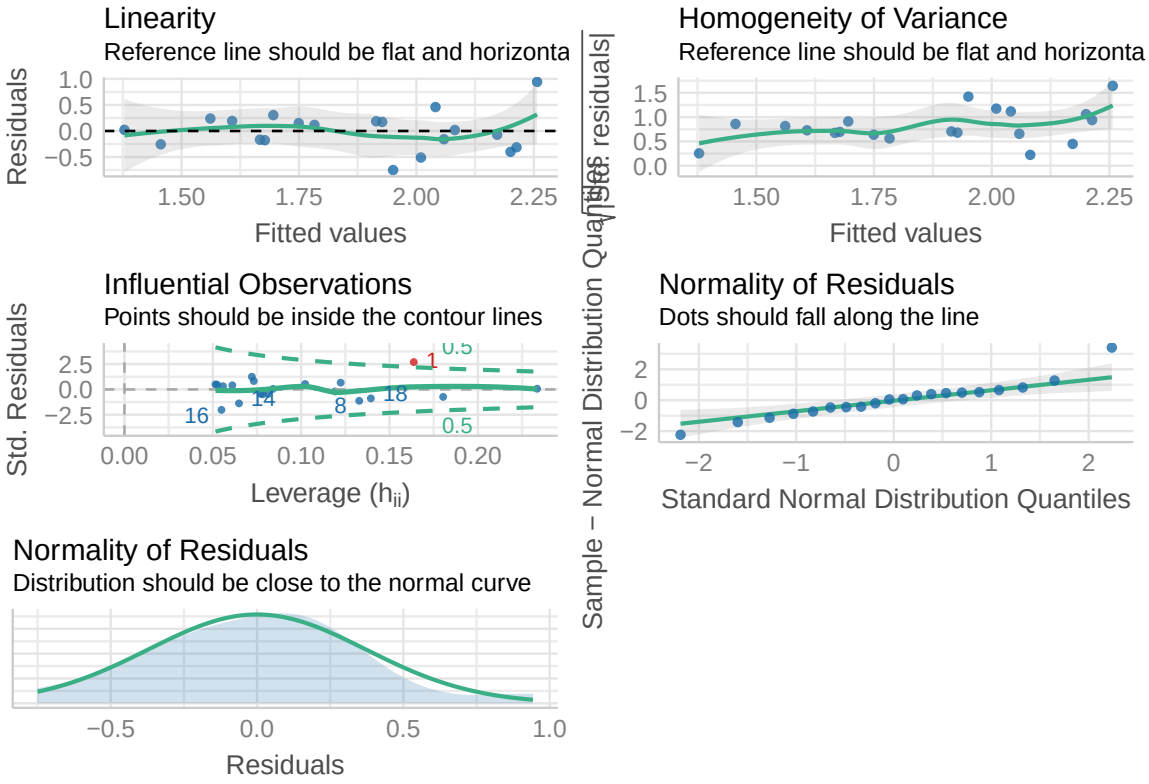
Table 9: Annexe 12 - Présentation d'un autre modèle, globalement significatif.

| | *Dependent variable:* |
|---|---|
| | part_depenses_env |
| | reg7 |
| conn_env | 0.024 |
| | (0.016) |
| soutien_pol_env | −0.012 |
| | (0.010) |
| epi | 0.006 |
| | (0.019) |
| ind_gini | −0.028 |
| | (0.029) |
| Constant | 1.714 |
| | (1.595) |
| Observations | 20 |
| $R^2$ | 0.416 |
| Adjusted $R^2$ | 0.260 |
| Residual Std. Error | 0.392 (df = 15) |
| F Statistic | 2.668* (df = 4; 15) |
| *Note:* | *p<0.1; **p<0.05; ***p<0.01 |

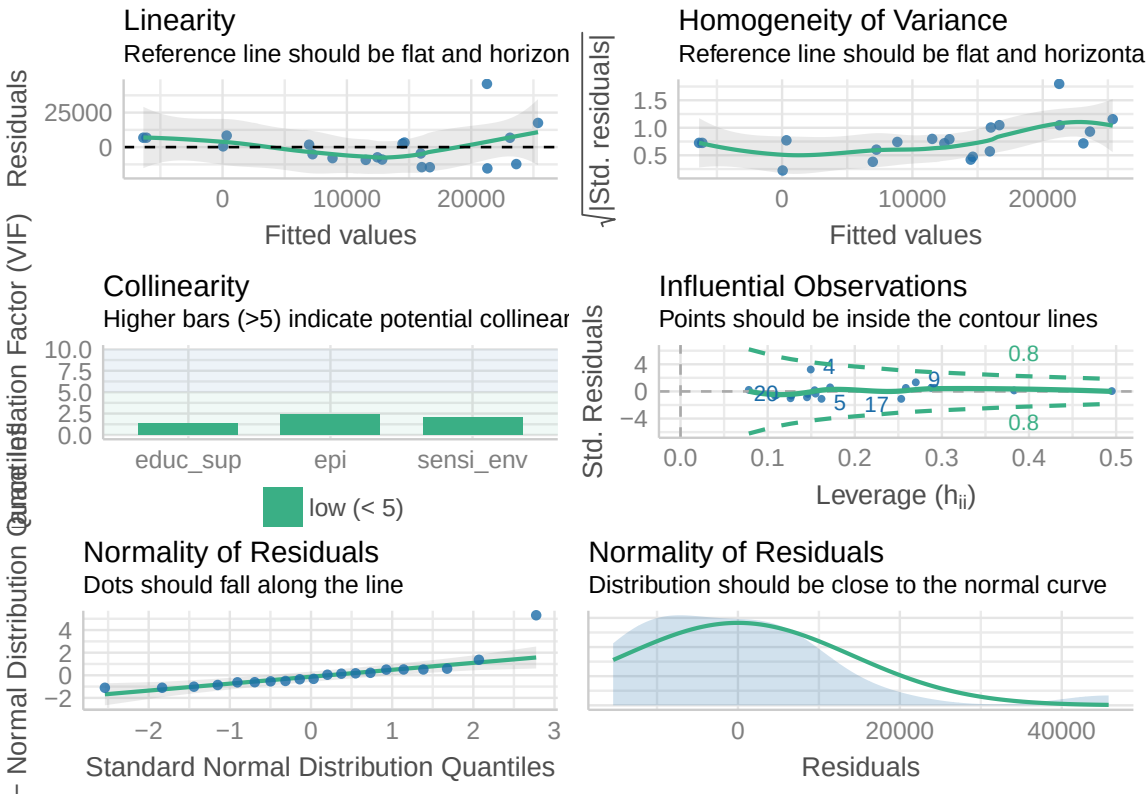
**Annexe 13 - Comparaison des performances des modèles retenus.**



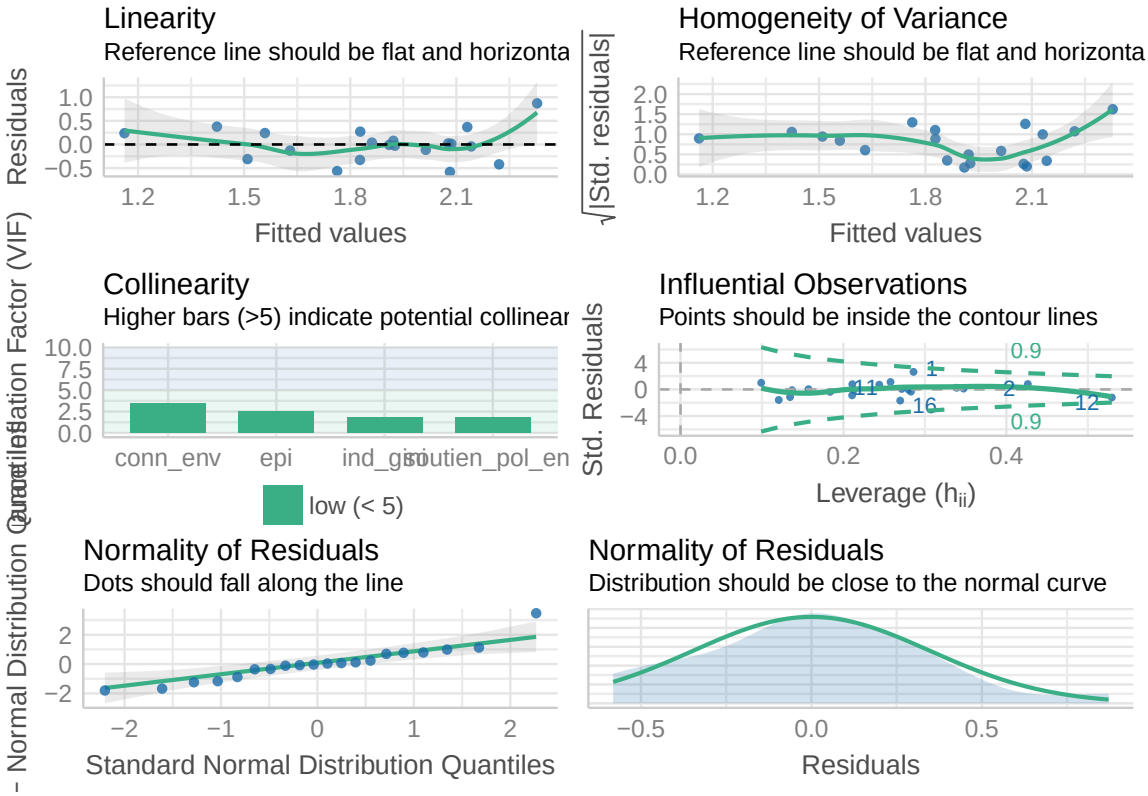
## Annexe 14 - Vérification graphique des hypothèses du modèle reg2.



**Annexe 15 - Vérification graphique des hypothèses du modèle reg5bis.**



## Annexe 16 - Vérification graphique des hypothèses du modèle reg7.




## Annexe 17 - Tests d'homoscédasticité des modèles retenus.

| Modèle | Test d'homoscédasticité |
|---|---|
| reg2 | c(BP = 3.61622036257904), c(df = 1), studentized Breusch-Pagan test, c(BP = 0.0572187276357335), reg2 |
| reg5bis | c(BP = 3.17128777107866), c(df = 3), studentized Breusch-Pagan test, c(BP = 0.365962437213716), reg5bis |
| reg7 | c(BP = 4.95446696661351), c(df = 4), studentized Breusch-Pagan test, c(BP = 0.292001458535223), reg7 |

## Annexe 18 - Tableau synthétique de tous les modèles présentés.

| Modèle économétrique | Formule | $R^2$ | $R^2$ ajusté |
|---|---|---|---|
| reg1 | part_depenses_env ~ sensi_env | 0.114 | 0.065 |
| reg1bis | part_depenses_env ~ conn_env + perc_env + soutien_pol_env | 0.381 | 0.266 |
| reg1ter | depenses_env ~ sensi_env | 0.023 | -0.032 |
| reg1quater | depenses_env ~ part_depenses_env ~ conn_env + perc_env + soutien_pol_env | 0.033 | -0.149 |
| reg2 | part_depenses_env ~ conn_env | 0.334 | 0.297 |
| reg2bis | depenses_env ~ conn_env | 0.032 | -0.022 |
| reg3 | part_depenses_env ~ sensi_env + epi + rev_median + educ_sup + ind_gini | 0.313 | 0.068 |
| reg4 | part_depenes_env ~ conn_env + rev_median + educ_sup + ind_gini | 0.377 | 0.154 |
| reg3bis | depenses_env ~ sensi_env + epi + rev_median + educ_sup + ind_gini | 0.332 | 0.094 |
| reg4bis | depenses_env ~ conn_env + epi + rev_median + educ_sup + ind_gini | 0.322 | 0.080 |
| reg5 | part_depenses_env ~ sensi_env + epi + educ_sup + ind_gini | 0.311 | 0.127 |
| reg6 | part_depenses_env ~ conn_env + epi + educ_sup + ind_gini | 0.370 | 0.202 |
| reg5bis | depenses_env ~ sensi_env + epi + educ_sup + ind_gini | 0.308 | 0.178 |
| reg6bis | depenses_env ~ conn_env + epi + educ_sup + ind_gini | 0.317 | 0.134 |
| reg7 | part_depenses_env ~ conn_env + soutien_pol_env + epi + educ_sup + ind_gini | 0.416 | 0.260 |