**Introduction:**

The purpose of this report is used model british electorate’s attitude toward the environment, the data set at hand BES\_2019 is survey that was computed using observation method (face to face) which was carried out between December 2019 and march 2020. The dataset provides respondent’s answers to series of questions regarding election review with total respondent of 3,946

The purpose of this analysis is to investigate and be able to understand the perspectives of voters regarding the environment by making use of the data gotten from 2019 British Election Study (BES). The variable measuring British electorate’s towards the environment here is h01 which was collected from respondents about their opinion. The variable is 10 point scale including positive and negative attitudes towards environmental issues

**Interest in the Analysis:**

Shared knowledge when it comes statistical comprehension of public sentiments toward the environment is essential for researchers or organizations in the environment as it enables the extraction of insights into the why individual perceptions of environmental challenges.

It can also serve as a guiding framework that helps when it comes to formulation of policies and communication strategies while the identification of factors influencing attitude toward the environment helps in building sustainable practices that align with public opinions.

**First Test**

**Political Trust Hypothesis**

Hypothesis: There is a significant association between political trust and environmental attitudes.

Variables: **h01** and **m03**

Dependent Variable: **h01** (Attitudes toward the environment)

Independent Variable: **n03** (Political Trust Interval Variable)

Expected Relationship: We expect that people who have levels of trust, in the system are more likely to hold favorable attitudes towards the environment in comparison, to those who have lower levels of political trust.

**Second Test**

**Gender Hypothesis:**

Hypothesis: There is a significant difference in environmental attitudes between genders.

Variables: **y09, h01** and **gender\_recoded**

Dependent Variable: **h01** (Attitudes toward the environment)

Independent Variable: **gender\_recoded** (1=Male, 2=Female)

Expected Relationship: We anticipate that there will be a variation, in the environmental attitude score between genders, with one gender displaying a favorable attitude compared to the other.

**Third Test**

**Income Hypothesis:**

Hypothesis: There is a significant relationship between personal income and environmental attitudes.

Variables: **h01** and **Y01\_detailed**

Dependent Variable: **h01** (Attitudes toward the environment)

Independent Variable: **Y01\_detailed** (Income Nominal/Ordinal Variable)

Expected Relationship: We anticipate that people who earn income will have environmental attitudes compared to those, with lower incomes.

**Fourth Test (Additional Test)**

**Conditional Hypothesis**

Hypothesis: The relationship between personal income and attitudes toward the environment is the same for different levels of political interest.

Variables: **h01, Y01\_detailed** and **k01**

Dependent Variable (**h01**): Environmental attitudes

Independent Variable **(Y01\_detailed**): Personal income

Conditional Variable (**k01**): Political interest

**Variables Description**

1. **h01** (Attitudes toward the environment):

The variable presented here reflects the viewpoints of the participants regarding the environment. Is assessed on a scale ranging from 1, to 10.

The decision to use a 10 point scale, for measurement allows for an evaluation of individuals attitudes accommodating responses and encompassing the wide variety of opinions concerning environmental matters.

2. **n03** (Political Trust):

Political Trust is a measurement of peoples trust in institutions usually assessed on a scale. The importance of Political Trust lies in its capacity to provide insights, into how individuals trust in institutions can impact their attitudes towards the environment. When people have confidence, in the government or political entities it has the potential to influence their perceptions of policies and actions.

3. **gender\_recoded** (Gender):

The variable has been transformed to indicate gender, where the value 1 represents males and the value 2 represents females. This change is justified by acknowledging that gender plays a role, in shaping attitudes and behaviors within society. By recoding the variable to reflect female categories it becomes easier to interpret any gender related findings in relation, to attitudes.

4. **Y01\_detailed (**Income):

Income is a factor, for understanding how economic conditions can impact peoples attitudes towards the environment. By examining income levels we can gain insights into differences in concerns, among various income groups.

5. **K01 (Political Interest):** Political interest is an important factor when it comes to our conditional hypothesis, we intend to measure if people with higher income have different reactions to the environment based on their political interest or not

**Data Transformation**

**Deletion of Missing values**: I actually checked if missing values exist in the data. I use **h01** as unique value and check for missing value, and got an output of no missing values. There is no missing values in the dataset. There will be no graph displaying missing values as it was mentioned not to include any screenshot of stata window

Creation of the gender\_recoded Variable: The original variable is Gender (**y09**) which contains 5 variables, out of which two is needed which are Male and Female. Then I created a new variable **gender\_recoded** to select Male and Female category and stored into **gender\_recoded.**

**Result and Findings**

**Bivariate Analysis of the first test**

|  |  |  |  |
| --- | --- | --- | --- |
| Trust British Politicians in general? | SUMMARY OF ECONOMIC GROWTH/PROTECTING THE ENVIRONMENT SCALE | | |
| MEAN | STD. DEVIATION | FREQUENCY |
| Not stated | -999 | 0 | 1 |
| Don’t Know | 2.021978 | 3.7888081 | 91 |
| 0 No trust | 2.3481781 | 63.99474 | 494 |
| 1 | 6.6169492 | 2.7846245 | 295 |
| 2 | 6.7621622 | 2.4170743 | 555 |
| 3 | 6.3757485 | 2.4861497 | 668 |
| 4 | 6.4603524 | 2.3001998 | 454 |
| 5 | 3.0425532 | 57.52811 | 611 |
| 6 | 6.3183183 | 2.2536839 | 333 |
| 7 | 6.3630137 | 2.57634 | 292 |
| 8 | 6.1061947 | 3.0099918 | 113 |
| 9 | 5.5909091 | 2.6486131 | 22 |
| 10 A great trust | 6.4705882 | 4.1097087 | 17 |
| Total | 5.0648758 | 35.873356 | 3946 |

Table 1 showing bivariate analysis of trust in british politicians and attitudes towards environment

A look at Table 1 shows that the mean attitude varies across all levels of trust with lower value of 0 and 1 having mean value around 6.62, and higher level of trust having mean value around 6.32 to 6.47 and the highest level of trust which is 10 have some variability in it because of the very small sample size

**First Test**

Liner regression is suitable here for us to understand or find out whether the independent variable really have significant effect or impact on our dependent variable

**Political Trust Hypothesis**

H0: There is no significant association between political trust and environmental attitudes

H1: There is a significant association between political trust and environmental attitudes.

Variables: **h01** and **m03**

Test type: Linear Regression

**Result**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| H01 | Coefficient | Std.error | t-value | p-value |
| N03 | .9849585 | .0317484 | 31.02 | 0.0000 |
| Intercept | 1.943761 | .5218618 | 3,71 | 0.0000 |

*Table 2 displaying the result of linear regression*

**Conclusion**:

Taking a look at table 2 which presents the result from linear regression.The findings back, up the theory that there is an positive connection between trust in politics (**n03**) and attitudes towards the environment (**h01**). Both the coefficient for **n03** and the intercept show significance with p values. The model indicates that on average people who have trust in politics generally hold favorable views, towards the environment.

**Bivariate Analysis of Second test**

|  |  |  |  |
| --- | --- | --- | --- |
| GENDER\_RECODED | SUMMARY OF ECONOMIC GROWTH/PROTECTING THE ENVIRONMENT SCALE | | |
| Mean | Std. Deviation | Frequency |
| 1 | 4.5887231 | 41.000243 | 1809 |
| 2 | 5.4638095 | 31.146018 | 2100 |
| Total | 5.0588386 | 36.040657 | 3909 |

Table 3 displaying bivariate analysis of gender and attitudes towards the environment

Table 3 showing (1=Male, 2=Female)

**Second Test**

T-test is applicable here in order to compare the means between two groups (Male and Female) and to check if there is statistically significant difference in the mean attitudes toward the environment between the two groups

**Gender Hypothesis**

H0: There is a significant difference in environmental attitudes between genders.

H1: There is no significant difference in environmental attitudes between genders

Variables: **y09, h01** and **gender\_recoded**

Test type: T-test

**Result**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group | Observations | Mean | Std. Error | Std. Dev |
| Male | 1809 | 4.588723 | .9639781 | 41.00024 |
| Female | 2100 | 5.46381 | .6796618 | 31.14602 |
| Combined | 3909 | 5.058839 | .5764476 | 36.04066 |
| Diff |  | -.8750865 | 1.156166 |  |

Table 4 displaying the t-test result

t = -0.7569 Degrees of freedom = 3907

**Alternative Hypotheses (Ha):**

Ha: The mean difference is less than zero (Pr(T < t) = 0.2246).

Ha: The mean difference is not equal to zero (Pr(|T| > |t|) = 0.4492).

Ha: The mean difference is greater than zero (Pr(T > t) = 0.7754).

**Conclusion**

Table 4 displaying a p-value of 0.4492 (Pr(|T| > |t|)), there is insufficient evidence to reject the null hypothesis that the mean difference is equal to zero.

The t-test does not provide strong evidence for a significant difference in attitudes toward the environment between Male and Female.

**Third Test**

The spearman rank-order is applicable here in order to assess if there is relationship between environmental attitudes and personal income .

**Income Hypothesis**

H0: the variables **h01** and **Y01**\_detailed are independent (no monotonic relationship).

H1: There is a monotonic relationship between **h01** and **Y01\_detailed**

Variables: **h01** and **Y01\_detailed**

**Result**

Test type: Spearman’s Rank Order

|  |  |
| --- | --- |
| Number of Observations | 3946 |
| Correlation Coefficient | 0.0571 |
| Prob > |t| | 0.0003 |

Table 5 displaying the result of spearman rank test

**Conclusion**:

Table 5 displaying the he Spearman's rank-order correlation test provides evidence that there is a statistically significant monotonic relationship between environmental attitudes (**h01**) and personal income (**Y01\_detailed**). However, the correlation coefficient (ρ = 0.0571) suggests a very weak positive relationship. While the relationship is statistically significant due to the large sample size, the practical significance of this correlation may be limited.

**Fourth Test**

**Conditional Hypothesis**

Hypothesis: The relationship between personal income and attitudes toward the environment is the same for different levels of political interest.

Variables: **h01, Y01\_detailed** and **k01**

Dependent Variable (**h01**): Environmental attitudes

Independent Variable (**Y01\_detailed**): Personal income

Conditional Variable (**k01**): Political interest

Test type: Regression

**Result**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| H01 | Coefficient | Std. err | T | p>|t| |
| Y01\_detailed | .0107536 | .0016465 | 6.53 | 0.000 |
| K01 | .1879671 | .1743283 | 1.08 | 0.281 |
| Income\_interest interaction | -.0008034 | .0001756 | -4.58 | 0.000 |
| coefficient | 5.275588 | 1.082247 | 4.87 | 0.000 |

Table 6 displaying the result of linear regression

**Conclusion**

From the result displayed by table 6, we can assume that for a one-unit increase in personal income, attitudes toward the environment (**h01**) are expected to increase by approximately 0.0107536 units, holding other variables constant while coefficient is not statistically significant (p-value = 0.281), suggesting that, on average, political interest alone is not significantly associated with attitudes toward the environment. The negative coefficient suggests that the relationship between personal income and attitudes toward the environment is attenuated (weaker) as political interest increases.

**Appendix**

**Text log-file**

do "C:\Users\user\Desktop\aji\STATA NEW\Actions.do"

use "C:/Users/user/Desktop/aji/STATA NEW/BES\_2019.dta", clear

tabulate y09

Gender | Freq. Percent Cum.

------------------+-----------------------------------

Not stated | 2 0.05 0.05

Male | 1,809 45.84 45.89

Female | 2,100 53.22 99.11

In another way | 3 0.08 99.19

Prefer not to say | 32 0.81 100.00

------------------+-----------------------------------

Total | 3,946 100.00

tabulate n03, summarize(h01)

Trust | Summary of Economic

British | growth/protecting the environment

politicians | scale

in general? | Mean Std. dev. Freq.

------------+------------------------------------

Not state | -999 0 1

Don't kno | 2.021978 3.7888081 91

0 No trus | 2.3481781 63.99474 494

1 | 6.6169492 2.7846245 295

2 | 6.7621622 2.4170743 555

3 | 6.3757485 2.4861497 668

4 | 6.4603524 2.3001998 454

5 | 3.0425532 57.52811 611

6 | 6.3183183 2.2536839 333

7 | 6.3630137 2.57634 292

8 | 6.1061947 3.0099918 113

9 | 5.5909091 2.6486131 22

10 A grea | 6.4705882 4.1097087 17

------------+------------------------------------

Total | 5.0648758 35.873356 3,946

regress h01 n03

Source | SS df MS Number of obs = 3,946

-------------+---------------------------------- F(1, 3944) = 962.48

Model | 995896.245 1 995896.245 Prob > F = 0.0000

Residual | 4080915.15 3,944 1034.71479 R-squared = 0.1962

-------------+---------------------------------- Adj R-squared = 0.1960

Total | 5076811.39 3,945 1286.89769 Root MSE = 32.167

------------------------------------------------------------------------------

h01 | Coefficient Std. err. t P>|t| [95% conf. interval]

-------------+----------------------------------------------------------------

n03 | .9849585 .0317484 31.02 0.000 .9227138 1.047203

\_cons | 1.943761 .5218618 3.72 0.000 .9206163 2.966905

------------------------------------------------------------------------------

. gen gender\_recoded = .

(3,946 missing values generated)

. replace gender\_recoded = 1 if y09 == 1

(1,809 real changes made)

. tabulate gender\_recoded

gender\_reco |

ded | Freq. Percent Cum.

------------+-----------------------------------

1 | 1,809 100.00 100.00

------------+-----------------------------------

Total | 1,809 100.00

. tabulate y09

Gender | Freq. Percent Cum.

------------------+-----------------------------------

Not stated | 2 0.05 0.05

Male | 1,809 45.84 45.89

Female | 2,100 53.22 99.11

In another way | 3 0.08 99.19

Prefer not to say | 32 0.81 100.00

------------------+-----------------------------------

Total | 3,946 100.00

. replace gender\_recoded = 2 if y09 == 2

(2,100 real changes made)

. tabulate gender\_recoded

gender\_reco |

ded | Freq. Percent Cum.

------------+-----------------------------------

1 | 1,809 46.28 46.28

2 | 2,100 53.72 100.00

------------+-----------------------------------

Total | 3,909 100.00

. tabulate gender\_recoded, summarize(h01)

| Summary of Economic

| growth/protecting the environment

gender\_reco | scale

ded | Mean Std. dev. Freq.

------------+------------------------------------

1 | 4.5887231 41.000243 1,809

2 | 5.4638095 31.146018 2,100

------------+------------------------------------

Total | 5.0588386 36.040657 3,909

. ttest h01, by(gender\_recoded)

Two-sample t test with equal variances

------------------------------------------------------------------------------

Group | Obs Mean Std. err. Std. dev. [95% conf. interval]

---------+--------------------------------------------------------------------

1 | 1,809 4.588723 .9639781 41.00024 2.698095 6.479351

2 | 2,100 5.46381 .6796618 31.14602 4.130928 6.796691

---------+--------------------------------------------------------------------

Combined | 3,909 5.058839 .5764476 36.04066 3.928672 6.189005

---------+--------------------------------------------------------------------

diff | -.8750865 1.156166 -3.141833 1.39166

------------------------------------------------------------------------------

diff = mean(1) - mean(2) t = -0.7569

H0: diff = 0 Degrees of freedom = 3907

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0

Pr(T < t) = 0.2246 Pr(|T| > |t|) = 0.4492 Pr(T > t) = 0.7754

. tabulate Y01\_detailed, summarize(h01)

What is the |

total |

annual |

income of |

your |

household |

from all | Summary of Economic

sources | growth/protecting the environment

before tax | scale

- | Mean Std. dev. Freq.

------------+------------------------------------

Not state | -3.8463074 100.05688 501

Prefer no | 5.6466809 3.3898049 467

Don't kno | 6.06639 3.0638604 241

Under £2, | 6.3333333 3.4674181 30

£2,600 - | 6.1692308 2.7926759 65

£5,200 - | 6.2329545 3.105248 176

£10,400 - | 6.3945313 2.8181153 256

£15,600 - | 6.3901515 2.8330037 264

£20,800 - | 6.6587302 2.4662267 252

£26,000 - | 6.5116279 2.5341751 258

£31,200 - | 6.3641026 2.47997 195

£36,400 - | 6.7360406 2.2386609 197

£41,600 - | 6.4840764 2.6544715 157

£46,800 - | 6.5350318 2.2773372 157

£52,000 - | 6.6006192 2.1665726 323

£75,000 - | 6.7213115 2.3798454 183

£100,000 | 6.5611511 2.2070871 139

£150,000 | 6.5647059 2.2331222 85

------------+------------------------------------

Total | 5.0648758 35.873356 3,946

. spearman h01 Y01\_detailed

Number of obs = 3946

Spearman's rho = 0.0571

Test of H0: h01 and Y01\_detailed are independent

Prob > |t| = 0.0003

gen income\_interest\_interaction = Y01\_detailed \* k01

regress h01 Y01\_detailed k01 income\_interest\_interaction

Source | SS df MS Number of obs = 3,946

-------------+---------------------------------- F(3, 3942) = 870.38

Model | 2022882.68 3 674294.226 Prob > F = 0.0000

Residual | 3053928.71 3,942 774.715554 R-squared = 0.3985

-------------+---------------------------------- Adj R-squared = 0.3980

Total | 5076811.39 3,945 1286.89769 Root MSE = 27.834

---------------------------------------------------------------------------------------------

h01 | Coefficient Std. err. t P>|t| [95% conf. interval]

----------------------------+----------------------------------------------------------------

Y01\_detailed | .0107536 .0016465 6.53 0.000 .0075256 .0139816

k01 | .1879671 .1743283 1.08 0.281 -.1538149 .5297492

income\_ | -.0008034 .0001756 -4.58 0.000 -.0011477 -.0004592

\_cons | 5.275588 1.082247 4.87 0.000 3.153772 7.397405

---------------------------------------------------------------------------------------------

.

end of do-file

**DO-FILE**

use "C:/Users/user/Desktop/aji/STATA NEW/BES\_2019.dta", clear

describe

summarize h01

summarize

tabulate h01, missing

drop if missing(h01)

tabulate y09

tabulate n03, summarize(h01)

regress h01 n03

gen gender\_recoded = .

replace gender\_recoded = 1 if y09 == 1

tabulate gender\_recoded

tabulate y09

replace gender\_recoded = 2 if y09 == 2

tabulate gender\_recoded

tabulate gender\_recoded, summarize(h01)

ttest h01, by(gender\_recoded)

tabulate Y01\_detailed, summarize(h01)

spearman h01 Y01\_detailed