Logistic Regression and Multinomial Logistic Regression

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In this study, there are three categories of depend variable (vote). We use the “conservative” group as the reference group.

* logit format results

Under the framework of logistic regression, we assign the estimated probability of observation votes each party can be expressed as:

, and

, where indicates all the covariates in the model. The estimated parameter value represents a multiply effect of corresponding independent variable on the odd of observed response compared with the reference category, given the other covariates.

* Odd forms result

Under the framework of logistic regression, we assign the estimated probability of observation votes each party can be expressed as:

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, where indicates all the covariates in the model. The estimated parameter value represents an additive effect of corresponding independent variable on the logit of observed response compared with the reference category, given the other covariates.

Given these results, we will focus on the relationship between Euroscepticism and voting, given the specific value of knowledge of parties’ positions on European integration.

1. When knowledge equals to 0

When the knowledge equals to 0, a one-unit increase in Euroscepticism leads to a 0.002 decrease in the logit of identifying as a Labor relative to identifying as a Conservative. While, a one-unit increase in Euroscepticism leads to a 0.068 increase in the logit of identifying as a Liberal Democrat to identifying as a Conservative

Similarly:

When the knowledge equals to 0, a one-unit increase in Euroscepticism leads to a 0.2% decrease in the odd of identifying as a Labor relative to identifying as a Conservative. While, a one-unit increase in Euroscepticism leads to a 7.1% increase in the odd of identifying as a Liberal Democrat to identifying as a Conservative

* When knowledge equals to 2

When the knowledge equals to 2, a one-unit increase in Euroscepticism leads to a decrease in the logit of identifying as a Labor relative to identifying as a Conservative. While, a one-unit increase in Euroscepticism leads to a increase in the logit of identifying as a Liberal Democrat to identifying as a Conservative.

Similarly:

When the knowledge equals to 0, a one-unit increase in Euroscepticism leads to a 629% decrease in the odd of identifying as a Labor relative to identifying as a Conservative. While, a one-unit increase in Euroscepticism leads to a 659% increase in the odd of identifying as a Liberal Democrat to identifying as a Conservative.