

Immigration Attitudes in the UK

Word Count: 1282

1. Aims

1.1 Research Question

On May 12th, 2025, the Home Office released a white paper (Home Office, 2025) focusing on the immigration situation/system in the UK. The White Paper discusses how immigration over the last few years has put pressure on public services, the housing and labour markets, and may also have caused the GDP per capita to stagnate. The paper also suggests policies to curb net migration, such as accepting only high-skilled workers and reducing the ability for graduates to remain in the UK for 18 months, for example.

To predict public opinion in response to these new amendments, this report aims to analyse public attitudes towards immigration in the UK over the last two years.

1.2 Hypothesis

Hypothesis: Higher levels of income predict higher support for immigration

2.Measures

Table 1. Summary Table - Variables

Variable Name	Type	Recoding/Transformation	Min	Max	Mean	Median	SD
imdfetn	Ordinal	Reverse-coded: 5 – imdfetn	1	4	2.99	3	0.80
hinctnta	continuous	None	1	10	5.50	5	2.98
ipeqopta_rev	Ordinal (treated as pseudo-continuous)	Reverse-coded: 7 – ipeqopta	1	6	5.17	5	1.01
lrscale	Continuous	None	0	10	4.66	5	2.05
agea	Continuous	None	15	90	53.65	49	17.55
eduyrs	Continuous	None	0	30	15.03	13	3.91

Data Source: Data from the European Social Survey (ESS) Round 11 (2023), UK subset

The dependent variable ‘imdfetn’ (Allow many/few immigrants from other countries) and control variable ipeqopta (Belief in Equality) have their scales reversed for intuitive purposes, whereby a higher category value correlates to a higher output value (e.g., higher imdfetn = more support for immigration).

Additionally, ‘ipeqopta’ is an ordinal variable with 6 categories and is treated as pseudo-continuous (numerical) in our regression model.

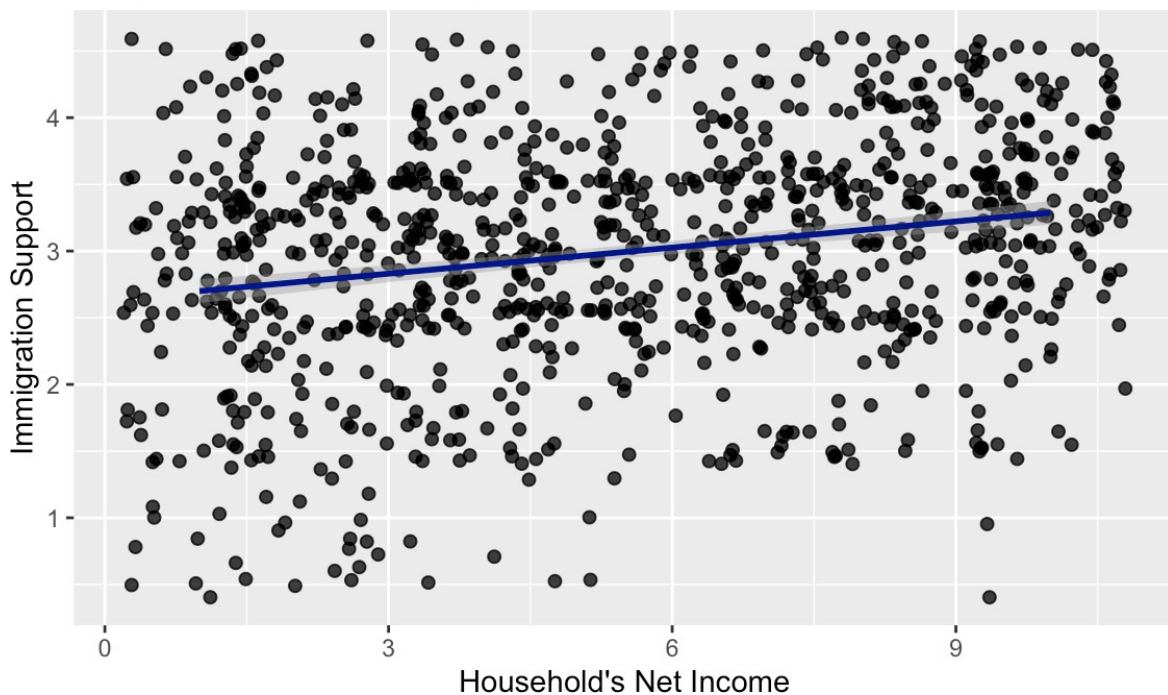
Variables:

1. imdfetn = Allow many/few immigrants from other countries
2. hinctnta = Household's total net income
3. ipeqopta = Important that people are treated equally and have equal opportunities
4. lrscale = Placement on left right scale
5. agea = Age of Respondent
6. eduyrs = Years of full-time education completed

3. Visualizations

3.1 Bivariate Relationship Between Income Level and Support for Immigration

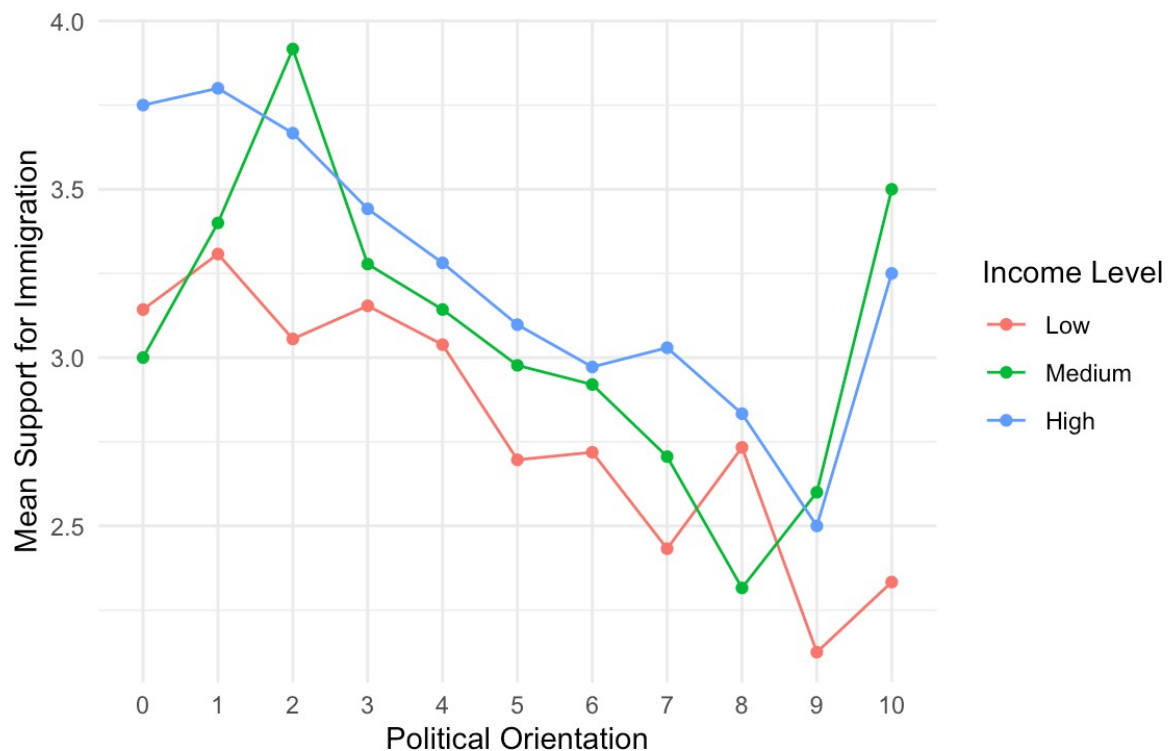
Graph 1. Income and Support for Immigration



The slightly upward sloping Loess curve (see Graph 1) illustrates a positive relationship between income level and support for immigration. This suggests that as income increases, so does the support for immigration, and vice versa. This relationship is in line with our hypothesis.

3.2 Mean Support for Immigration by Political Orientation and Income Level

Graph 2. Mean Support for Immigration by Political Orientation and Income Level



Graph 2 demonstrates the mean support for immigration across the political spectrum (0 = left, 10 = right) for three income levels: low, medium, and high. This shows us how support for immigration changes by income level and political leaning. Support for immigration declines as political orientation becomes more right-leaning. What's interesting is that high-income individuals consistently show the highest support for immigration, especially on the left, while low-income individuals show the least. However, income-based differences become narrow on the right, with all groups converging toward lower support for immigration. This indicates that political ideology becomes a stronger predictor of immigration attitudes than income at the conservative end.

4. Regression Analysis

4.1 Regression Model

Table 2. Ordinal Logistic Regression Results

<i>Predictors</i>	<i>Variable Category</i>	<i>Odds Ratio</i>	<i>Std. Error</i>	<i>p-value</i>
1 2	Ordinal Cut	0.083	0.032	<0.001
2 3	Ordinal Cut	0.600	0.229	0.346
3 4	Ordinal Cut	8.557	3.268	<0.001
Hinctnta (Income level)	Continuous	1.111	0.023	<0.001
ipeqopta_rev (Belief in equality)	Ordinal	1.292	0.063	<0.001
Lrscale (political leaning)	Continuous	0.764	0.034	<0.001
Agea (age in years)	Continuous	0.985	0.004	<0.001
Eduyrs (education in years)	Continuous	1.077	0.018	<0.001

Observations: 957

Nagelkerke R²: 0.233

As the dependent variable is ordinal with 4 categories, we have run a proportional odds logistic regression analysis. To assess the regression models' goodness-of-fit, we use the Akaike Information Criterion (AIC). The model's AIC is 1994.514 with a residual deviance of 1978.514. Additionally, the Nagelkerke R² (pseudo- R²) is 0.233, indicating that our regression model explains 23.3% of the variance in support for immigration.

4.2 Results and Interpretation

The ordinal logistic regression model indicates a statistically significant association between support for immigration and the explanatory variables (see Table 2). For every one-unit increase in household income, the odds of higher support for immigration increase by a factor of 1.11 ($SE = 0.02$, $p < 0.001$).

Among the covariates, stronger belief in equality is associated with 1.29 times greater odds of higher immigration support per unit increase ($SE = 0.06$, $p < 0.001$). Political orientation is negatively related to support, with a one-unit increase toward the right corresponding to a decrease in the odds of higher support by a factor of 0.76 ($SE = 0.03$, $p < 0.001$). Age also shows a negative association, where each additional year decreases the odds of higher immigration support by a factor of 0.99 ($SE = 0.004$, $p < 0.001$). Education has a positive effect, with each additional year increasing the odds of higher immigration support by a factor of 1.08 ($SE = 0.02$, $p < 0.001$).

In summary, support for immigration varies by income level, controlling for other factors including age, belief in equality, political leaning, and education. The results suggest that lower levels of income tend to be less supportive of immigration and vice versa. This, in part, could be because of the economic threat hypothesis. The economic threat hypothesis suggests that lower-income individuals would be less supportive of immigration, considering there is more competition and limited availability in the job market. As mentioned in the White Paper, more immigration would put pressure on the labour market. Therefore, we can predict with some confidence that individuals with lower income levels would be more likely to support curbing immigration through policies proposed by the White Paper.

5. Appendix

#Install and load packages

```
install.packages(c("tidyverse", "haven", "MASS", "psych", "sjPlot", "pacman"))
pacman::p_load(tidyverse, haven, MASS, psych, sjPlot)
```

2. MEASURES

#Pre-processing Data

```
ess_data <- read_dta("ESS11-subset.dta")
analysis_data <- ess_data %>%
  dplyr::select(imdfetn, hinctnta, ipeqopta, lrscale, agea, eduyrs) %>%
  mutate(across(everything(), as.numeric)) %>%
  mutate(across(everything(), ~na_if(., 77)),
         across(everything(), ~na_if(., 88)),
         across(everything(), ~na_if(., 99))) %>%
  mutate(imdfetn = 5 - imdfetn,
         ipeqopta_rev = 7 - ipeqopta,
         imdfetn = factor(imdfetn,
                          levels = 1:4,
                          ordered = TRUE)) %>%
  drop_na()
```

#Creating variable summary table

```
continuous_table <- analysis_data %>%
  dplyr::select(imdfetn, hinctnta, ipeqopta_rev, lrscale, agea, eduyrs)

continuous_table <- psych::describe(continuous_table) %>%
  as.data.frame() %>%
  tibble::rownames_to_column("Variable") %>%
  dplyr::select(Variable, min, max, mean, median, sd) %>%
  dplyr::mutate(across(where(is.numeric), ~ round(.x, 2)))
```

3. VISUALISATIONS

#Graph 1. Income and Support for Immigration

```
ggplot(analysis_data, aes(x = hinctnta, y = as.numeric(imdfetn))) +
  geom_point(position = position_jitter(width = 0.8, height = 0.6), alpha
            = 0.8, size = 1.8, color = "#000000") +
  geom_smooth(method = "lm", se = TRUE, color = "darkblue") +
  labs(title = "Graph 1. Income and Support for Immigration", x = "Household's Net Income", y = "Immigration Support")
```

#Graph 2. Mean Support for Immigration by Political Orientation and Income Level

```
analysis_data %>%  
  mutate(income_level = cut(hinctnta, breaks = 3, labels = c("Low", "Medium", "High"))) %>%  
  group_by(lrscale, income_level) %>%  
  summarise(mean_support = mean(as.numeric(imdfetn)), .groups = "drop") %>%  
  ggplot(aes(x = factor(lrscale), y = mean_support, group = income_level, color = income_level)) +  
  geom_line() +  
  geom_point() +  
  labs(x = "Political Orientation", y = "Mean Support for Immigration", color = "Income Level") +  
  theme_minimal()
```

4. Regression Analysis

#Proportional odds Logistics regression

```
regression_model <- polr(imdfetn ~ hinctnta + ipeqopta_rev + lrscale + agea + eduysr,  
                          data = analysis_data, Hess = TRUE)  
summary(regression_model)
```

#Visualizing regression results

```
tab_model(regression_model,  
  digits = 3,  
  show.std = TRUE,  
  show.ci = FALSE,  
  show.p = TRUE,  
  pred.labels = c(  
    "Household Income (hinctnta)",  
    "Belief in Equality (ipeqopta_rev)",  
    "Political Ideology (lrscale)",  
    "Age (agea)",  
    "Education (eduysr)"  
  ),  
  dv.labels = "Support for Immigration (imdfetn)",  
  title = "Ordinal Logistic Regression Results")
```

6. References

1. Home Office. 2025. Restoring control over the immigration system (CP 1326) [White paper]. UK Government.