**Negativity Bias: The Impact of Framing of Immigration on Welfare State Support in Germany, Sweden and the UK – Online Appendix**

**Marginal effects graphs**



Figure A1. The marginal effect of negative and positive frames on the probability of opposition and support for welfare spending



Figure A2. The marginal effect of negative and positive frames on the probability of opposition to welfare spending conditional on anti/pro-welfare attitudes



Figure A3. The marginal effect of negative and positive frames on the probability of opposition to welfare spending conditional on anti/pro-immigrant attitudes



Figure A4. The marginal effect of negative and positive frames on the probability of opposition to welfare spending conditional on perceptions of economic insecurity



Figure A5: Predicted probability of opposition to increased welfare spending in the positive treatment group conditional on pro/anti-welfare attitudes



Figure A6: Predicted probability of opposition to increased welfare spending in the positive treatment group conditional on attitudes towards immigrants



Figure A7: Predicted probability of opposition to increased welfare spending in the positive treatment group conditional on perceived economic insecurity



Figure A8: Predicted probability of opposition to increased welfare spending in the positive treatment group conditional on pro/anti-welfare attitudes

Note: Question “To what extent you agree or disagree with the following statement: Many people who receive welfare benefits don’t really deserve any help.” 1. Strongly agree, 2. Tend to agree, 3. Neither agree nor disagree, 4. Tend to disagree, 5. Strongly disagree



Figure A9: Predicted probability of opposition to increased welfare spending in the positive treatment group conditional on attitudes towards immigrants

Note: Questions: “On a scale from 0 to 10, where 0 stands for “would not mind at all” and 10 stands for “would mind a great deal”, please say how much would you mind or not mind: (a) living next door to an immigrant family?, (b) working with immigrants?” An index was created by averaging responses on the two scales.



Figure A10: Predicted probability of opposition to increased welfare spending in the positive treatment group conditional on perceived economic insecurity

Note: Question: “Looking forward to the next 12 months, how confident do you feel about being able to keep your current job?” 1. Very confident, 2. Confident, 3. Slightly confident, 4. Not confident, 5. Not employed at the moment

Table A1.1: Immigration Framing and Welfare Support (with controls) - Germany

|  |  |
| --- | --- |
|  | Germany |
|  | b/se |
| No frame (ref) |  |
| Negative frame | -0.3505\*\*\* |
|  | (0.0748) |
| Positive frame | -0.1183 |
|  | (0.0708) |
| Age (18-24 ref) |  |
| 25-34 | -0.1401 |
|  | (0.1421) |
| 35-44 | -0.1813 |
|  | (0.1499) |
| 45-54 | -0.2991\* |
|  | (0.1462) |
| Over 55 | -0.2237 |
|  | (0.1396) |
| Female | -0.3985\*\*\* |
|  | (0.0619) |
| Education level |  |
| (no qualification, ref) |  |
| Still in training | 0.0860 |
|  | (0.2561) |
| Still studying | -0.0987 |
|  | (0.2078) |
| Vocational degree | -0.1349 |
|  | (0.1423) |
| University or higher | 0.0351 |
|  | (0.1509) |
| Refused to say | 0.0022 |
|  | (0.1749) |
| Work status (full time, ref) |  |
|  |  |
| Part time 8-29 h p/w | 0.1894 |
|  | (0.1142) |
| Part time < 8h p/w | -0.3821 |
|  | (0.3209) |
| Not working | 0.3472\*\*\* |
|  | (0.0710) |
| Other  | -0.2529 |
|  | (0.7361) |
| Past vote (CDU/CSU, ref) |  |
| SPD | 0.4355\*\*\* |
|  | (0.0920) |
| Die Linke | 0.4515\*\* |
|  | (0.1390) |
| Gruene | 0.8502\*\*\* |
|  | (0.1309) |
| FDP | -0.5826\*\* |
|  | (0.2009) |
| AfD | -0.8889\*\*\* |
|  | (0.1830) |
| Other | -0.0547 |
|  | (0.1645) |
| Non-voter | 0.0486 |
|  | (0.0815) |
| cut1 | -0.7685\*\*\* |
|  | (0.2005) |
|  |  |
| cut2 | 0.5974\*\* |
|  | (0.2002) |
| *N* | 4158 |
| Log likelihood | -4417.446 |

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Note: Differences in categories are due to different questions asked (or the way in which questions are coded) in the YouGov Omnibus in the respective countries. The vote in the last elections is taken as a proxy for political leaning. The results are unaffected if party id is used instead.

Table A1.2: Immigration Framing and Welfare Support (with controls) – Sweden

|  |  |
| --- | --- |
|  | Sweden |
|  | b/se |
| No frame (ref) |  |
| Negative frame | -0.7367\*\*\* |
|  | (0.1244) |
| Positive frame | -0.2752\* |
|  | (0.1167) |
| Age | 0.0065 |
|  | (0.0043) |
| Male | -0.1275 |
|  | (0.1028) |
| Education level(elementary, ref) |  |
| Secondary | 0.1572 |
|  | (0.2194) |
| Post-secondary | 0.2564 |
|  | (0.2723) |
| Post-secondary vocational | -0.0563 |
|  | (0.2549) |
| University, 1-2y | 0.2131 |
|  | (0.2486) |
| University, 3-4y | 0.4893\* |
|  | (0.2282) |
| University, 5y+ | 0.1346 |
|  | (0.2458) |
| Doctorate | -0.4536 |
|  | (0.5417) |
| Rather not say | -0.1074 |
|  | (0.4880) |
| Work status  |  |
| Full time | 0.0264 |
|  | (0.2624) |
| Part time 8-29h p/w | 0.3075 |
|  | (0.2701) |
| Part time < 8h p/w | 0.6184\* |
|  | (0.2751) |
| Studying | 0.1071 |
|  | (0.2446) |
| Pensioner | -0.2314 |
|  | (0.2803) |
| Seeking work | -0.3868 |
|  | (0.3431) |
| Does not work at all | 0.5178 |
|  | (0.4916) |
| Past vote (Moderates, ref) |  |
|  |  |
| Centre Party | 0.7763\*\* |
|  | (0.2978) |
| Liberals | 0.4764 |
|  | (0.2531) |
| Christian Democrats | 0.6209\* |
|  | (0.2885) |
| Greens | 2.0849\*\*\* |
|  | (0.2262) |
| Social Democrats | 1.9012\*\*\* |
|  | (0.1529) |
| Left Party | 2.8296\*\*\* |
|  | (0.2297) |
| Feminist Initiative | 3.1209\*\*\* |
|  | (0.3800) |
| Sweden Democrats | -0.7365\*\*\* |
|  | (0.1808) |
| Other | 1.6851\*\* |
|  | (0.6147) |
| Non-voter | 0.6989\* |
|  | (0.2941) |
| None of the above | 0.5238 |
|  | (0.3561) |
| No right to vote | 1.6036\*\*\* |
|  | (0.2834) |
| Don’t know | 1.2064\*\*\* |
|  | (0.3120) |
| Don’t want to say | 0.9988\*\*\* |
|  | (0.1776) |
|  |  |
| cut1 | 0.8772\* |
|  | (0.4221) |
|  |  |
| cut2 | 2.4750\*\*\* |
|  | (0.4260) |
| *N* | 2001 |
| Log likelihood | -1879.471 |

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Note: Differences in categories are due to different questions asked (or the way in which questions are coded) in the YouGov Omnibus in the respective countries. The vote in the last elections is taken as a proxy for political leaning. The results are unaffected if party id is used instead.

Table A1.3: Immigration Framing and Welfare Support (with controls) - UK

|  |  |
| --- | --- |
|  | UK |
|  | b/se |
| No frame (ref) |  |
| Negative frame | -0.7843\*\*\* |
|  | (0.0985) |
| Positive frame | -0.1407 |
|  | (0.0936) |
| Age | 0.0117\*\* |
|  | (0.0038) |
| Female | -0.1369 |
|  | (0.0810) |
| Education level (no qualifications, ref) |  |
| Vocational | 0.0880 |
|  | (0.1846) |
| Secondary | -0.0627 |
|  | (0.1672) |
| Tertiary | 0.3113 |
|  | (0.1645) |
| Don’t know | -0.4064 |
|  | (0.2680) |
| Work status (full time, ref) |  |
| Part-time 8-29h p/w | 0.2814\* |
|  | (0.1194) |
| Part-time < 8h p/w | 0.4485 |
|  | (0.3016) |
| Full time student | 0.9086\*\*\* |
|  | (0.1972) |
| retired | 0.4092\*\* |
|  | (0.1345) |
| Unemployed | 0.5983\* |
|  | (0.2369) |
| Not working | 0.8413\*\*\* |
|  | (0.1549) |
| Past vote (Conservatives, ref) |  |
| Labour | 1.8369\*\*\* |
|  | (0.1017) |
| Liberal Democrats | 1.5865\*\*\* |
|  | (0.1595) |
| SNP | 2.0325\*\*\* |
|  | (0.2249) |
| Plaid Cymru | 0.3541 |
|  | (0.5209) |
| UKIP | 0.5165\* |
|  | (0.2550) |
| Green | 1.8621\*\*\* |
|  | (0.3361) |
| Other | 0.3784 |
|  | (0.4014) |
| Don’t know | 0.2198 |
|  | (0.4003) |
| Not asked | 0.7742\*\*\* |
|  | (0.1290) |
| Cut 1 | 0.7682\*\* |
|  | (0.2727) |
|  |  |
| Cut 2 | 1.9832\*\*\* |
|  | (0.2759) |
| N | 3191 |
| Log-likelihood | -3043.3224 |

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Note: Differences in categories are due to different questions asked (or the way in which questions are coded) in the YouGov Omnibus in the respective countries. The vote in the last elections is taken as a proxy for political leaning. The results are unaffected if party id is used instead.

Table A2. Pairwise contrasts of treatment groups

1. Germany

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Treatment group | Contrast | Std. error | Sig. | 95% conf interval |
| Positive vs negative  | 0.23 | 0.074 | 0.01 | 0.06  | 0.41 |
| Control vs negative | 0.37 | 0.07 | 0.000 | 0.19  | 0.54 |
| Control vs positive | 0.14 | 0.07 | 0.15 | -0.03  | 0.30 |

1. Sweden

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Treatment group | Contrast | Std. error | Sig. | 95% conf interval |
| Positive vs negative  | 0.40 | 0.11 | 0.00 | 0.13  | 0.66 |
| Control vs negative | 0.61 | 0.11 | 0.00 | 0.34  | 0.88 |
| Control vs positive | 0.22 | 0.11 | 0.12 | -0.03  | 0.47 |

1. United Kingdom

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Treatment group | Contrast | Std. error | Sig. | 95% conf interval |
| Positive vs negative | 0.49 | 0.09 | 0.00 | 0.28  | 0.70 |
| Control vs negative | 0.63 | 0.09 | 0.00 | 0.42  | 0.85 |
| Control vs positive | 0.14 | 0.09 | 0.31 | -0.07 | 0.35 |

Table A3. Manipulation check – logit results

|  |  |
| --- | --- |
|  |  |
|  | b/se |
| Positive frame (ref.) |  |
|  Negative frame | -0.46\*\* |
|  | (0.15) |
|  No frame | -0.29\* |
|  | (0.15) |
| Constant | 0.07 |
|  | (0.11) |
| N | 1304 |
| Log-likelihood | -885.97 |

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Note: dependent variable is the question: “Do you believe that, on average, immigrants contribute more in taxes and national insurance than they receive in benefits and services from the welfare state?”. Responses are coded: 0 “No, immigrants cost more than they contribute” and 1 “Yes, immigrants contribute more than they cost”.

Fieldwork carried out by YouGov, February 20th-21st 2019.

Table A4: Immigration Framing and Support for Social Spending in Germany – reduced sample

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | b/se | b/se | b/se | b/se |
| No frame (ref.) |  |  |  |  |
|  Negative frame | -0.34\*\* | -0.08 | -0.29\* | -0.26 |
|  | (0.11) | (0.14) | (0.12) | (0.14) |
|  Positive frame | -0.15 | 0.02 | -0.12 | -0.20 |
|  | (0.10) | (0.13) | (0.11) | (0.13) |
| Anti-welfare |  | -0.68\*\*\* |  |  |
|  |  | (0.15) |  |  |
| Negative frame X Anti-welfare |  | -0.64\*\* |  |  |
|  |  | (0.22) |  |  |
| Positive frame X Anti-welfare |  | -0.33 |  |  |
|  |  | (0.21) |  |  |
| Anti-immigrant |  |  | -0.61\*\*\* |  |
|  |  |  | (0.16) |  |
| Negative frame X Anti-immigrant |  |  | -0.25 |  |
|  |  |  | (0.26) |  |
| Positive frame X Anti-immigrant |  |  | -0.13 |  |
|  |  |  | (0.25) |  |
| Economic insecurity |  |  |  | 0.03 |
|  |  |  |  | (0.14) |
| Negative frame X Economic insecurity |  |  |  | -0.21 |
|  |  |  |  | (0.21) |
| Positive frame X Economic insecurity |  |  |  | 0.14 |
|  |  |  |  | (0.21) |
|  |  |  |  |  |
| cut1 | -0.61\*\*\* | -0.96\*\*\* | -0.76\*\*\* | -0.60\*\*\* |
|  | (0.07) | (0.10) | (0.09) | (0.10) |
| cut2 | 0.67\*\*\* | 0.40\*\*\* | 0.55\*\*\* | 0.68\*\*\* |
|  | (0.07) | (0.09) | (0.08) | (0.10) |
| N | 2001 | 2001 | 2001 | 2001 |
| Log-likelihood | -2178.5 | -2104.8 | -2150.9 | -2177.0 |
| AIC | 4364.9 | 4223.5 | 4315.7 | 4368.1 |

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Note: N reduced to correspond to the Swedish sample.

Table A5: Immigration Framing and Support for Social Spending in United Kingdom – reduced sample

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) |
|  | b/se | b/se | b/se | b/se |
| No frame (ref.) |  |  |  |  |
|  Negative frame | -0.63\*\*\* | -0.44\*\* | -0.37\*\* | -0.42\*\* |
|  | (0.11) | (0.15) | (0.14) | (0.15) |
|  Positive frame | -0.07 | -0.06 | -0.07 | -0.05 |
|  | (0.11) | (0.15) | (0.14) | (0.15) |
| Anti-welfare |  | -0.94\*\*\* |  |  |
|  |  | (0.17) |  |  |
| Negative frame X Anti-welfare |  | -0.62\* |  |  |
|  |  | (0.24) |  |  |
| Positive frame X Anti-welfare |  | -0.28 |  |  |
|  |  | (0.24) |  |  |
| Anti-immigrant |  |  | -0.57\*\*\* |  |
|  |  |  | (0.17) |  |
| Negative frame X Anti-immigrant |  |  | -0.91\*\*\* |  |
|  |  |  | (0.26) |  |
| Positive frame X Anti-immigrant |  |  | -0.03 |  |
|  |  |  | (0.24) |  |
| Economic insecurity |  |  |  | 0.57\*\*\* |
|  |  |  |  | (0.16) |
| Negative frame X Economic insecurity |  |  |  | -0.51\* |
|  |  |  |  | (0.23) |
| Positive frame X Economic insecurity |  |  |  | -0.15 |
|  |  |  |  | (0.23) |
|  |  |  |  |  |
| cut1 | -0.89\*\*\* | -1.37\*\*\* | -1.12\*\*\* | -0.66\*\*\* |
|  | (0.09) | (0.12) | (0.11) | (0.11) |
| cut2 | 0.11 | -0.28\* | -0.08 | 0.35\*\* |
|  | (0.08) | (0.11) | (0.10) | (0.11) |
| N | 2001 | 2001 | 2001 | 2001 |
| Log-likelihood | -2083.6 | -1981.3 | -2026.4 | -2071.8 |
| AIC | 4175.2 | 3976.5 | 4066.9 | 4157.7 |

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Note: N reduced to correspond to the Swedish sample.

Table A6: Germany - treatment group balance

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) |
|  | Age | Gender | Past vote | Education | Work status |
|  | b/se | b/se | b/se | b/se | b/se |
| *Negative frame group* |  |  |  |  |  |
|  |  |  |  |  |  |
| 18-24 (ref.) |  |  |  |  |  |
| 25-34 | -0.07 |  |  |  |  |
|  | (0.17) |  |  |  |  |
| 35-44 | 0.16 |  |  |  |  |
|  | (0.17) |  |  |  |  |
| 45-54 | 0.06 |  |  |  |  |
|  | (0.16) |  |  |  |  |
| Over 55 | 0.13 |  |  |  |  |
|  | (0.15) |  |  |  |  |
| Female |  | 0.12 |  |  |  |
|  |  | (0.08) |  |  |  |
| CDU/CSU (ref.) |  |  |  |  |  |
| SPD |  |  | -0.26\* |  |  |
|  |  |  | (0.12) |  |  |
| Die Linke |  |  | -0.14 |  |  |
|  |  |  | (0.17) |  |  |
| Grüne |  |  | -0.06 |  |  |
|  |  |  | (0.17) |  |  |
| FDP |  |  | 0.14 |  |  |
|  |  |  | (0.22) |  |  |
| AfD |  |  | 0.10 |  |  |
|  |  |  | (0.23) |  |  |
| Other |  |  | -0.32 |  |  |
|  |  |  | (0.21) |  |  |
| Non-voter |  |  | -0.24\* |  |  |
|  |  |  | (0.10) |  |  |
| No qualifications (ref.) |  |  |  |  |  |
| Still training |  |  |  | 0.27 |  |
|  |  |  |  | (0.33) |  |
| Still studying |  |  |  | 0.43 |  |
|  |  |  |  | (0.28) |  |
| Vocational degree |  |  |  | 0.28 |  |
|  |  |  |  | (0.21) |  |
| University or higher degree |  |  |  | 0.29 |  |
|  |  |  |  | (0.21) |  |
| Full-time (ref.) |  |  |  |  |  |
| P/T 8-29 hours p/w |  |  |  |  | -0.10 |
|  |  |  |  |  | (0.15) |
| P/T less than 8 hours p/w |  |  |  |  | 0.22 |
|  |  |  |  |  | (0.42) |
| Not working |  |  |  |  | -0.09 |
|  |  |  |  |  | (0.08) |
| Constant | -0.11 | -0.10 | 0.11 | -0.31 | 0.02 |
|  | (0.13) | (0.06) | (0.08) | (0.20) | (0.07) |
| *Positive frame group* |  |  |  |  |  |
|  |  |  |  |  |  |
| 18-24 (ref.) |  |  |  |  |  |
| 25-34 | 0.25 |  |  |  |  |
|  | (0.17) |  |  |  |  |
| 35-44 | 0.38\* |  |  |  |  |
|  | (0.17) |  |  |  |  |
| 45-54 | 0.09 |  |  |  |  |
|  | (0.16) |  |  |  |  |
| Over 55 | 0.28 |  |  |  |  |
|  | (0.15) |  |  |  |  |
| Female |  | 0.06 |  |  |  |
|  |  | (0.08) |  |  |  |
| CDU/CSU (ref.) |  |  |  |  |  |
| SPD |  |  | -0.15 |  |  |
|  |  |  | (0.12) |  |  |
| Die Linke |  |  | -0.05 |  |  |
|  |  |  | (0.17) |  |  |
| Grüne |  |  | -0.11 |  |  |
|  |  |  | (0.17) |  |  |
| FDP |  |  | 0.04 |  |  |
|  |  |  | (0.23) |  |  |
| AfD |  |  | 0.23 |  |  |
|  |  |  | (0.23) |  |  |
| Other |  |  | 0.04 |  |  |
|  |  |  | (0.19) |  |  |
| Non-voter |  |  | -0.03 |  |  |
|  |  |  | (0.10) |  |  |
| No qualifications (ref.) |  |  |  |  |  |
| Still training |  |  |  | 0.43 |  |
|  |  |  |  | (0.31) |  |
| Still studying |  |  |  | 0.43 |  |
|  |  |  |  | (0.28) |  |
| Vocational degree |  |  |  | 0.32 |  |
|  |  |  |  | (0.20) |  |
| University or higher degree |  |  |  | 0.20 |  |
|  |  |  |  | (0.21) |  |
| Full-time (ref.) |  |  |  |  |  |
| P/T 8-29 hours p/w |  |  |  |  | -0.11 |
|  |  |  |  |  | (0.15) |
| P/T less than 8 hours p/w |  |  |  |  | -0.22 |
|  |  |  |  |  | (0.45) |
| Not working |  |  |  |  | -0.05 |
|  |  |  |  |  | (0.08) |
| Constant | -0.25 | -0.06 | 0.01 | -0.31 | 0.01 |
|  | (0.14) | (0.06) | (0.08) | (0.20) | (0.07) |
| N | 4158 | 4158 | 4158 | 3661 | 4147 |
| Log-likelihood | -4561.0 | -4566.2 | -4559.9 | -3992.1 | -4553.3 |

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Table A7: SWE - treatment group balance

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) |
|  | Age | Gender | Past vote | Education | Work status |
|  | b/se | b/se | b/se | b/se | b/se |
| *Negative frame group* |  |  |  |  |  |
|  |  |  |  |  |  |
| Age | -0.00 |  |  |  |  |
|  | (0.00) |  |  |  |  |
| Male |  | -0.17 |  |  |  |
|  |  | (0.12) |  |  |  |
| Moderates (ref.) |  |  |  |  |  |
| Centre Party |  |  | -0.06 |  |  |
|  |  |  | (0.36) |  |  |
| Liberals  |  |  | -0.39 |  |  |
|  |  |  | (0.29) |  |  |
| Christian Democrats |  |  | -0.10 |  |  |
|  |  |  | (0.34) |  |  |
| Greens |  |  | 0.04 |  |  |
|  |  |  | (0.28) |  |  |
| Social Democrats |  |  | 0.04 |  |  |
|  |  |  | (0.19) |  |  |
| Left Party |  |  | 0.07 |  |  |
|  |  |  | (0.28) |  |  |
| Feminist Initiative |  |  | -0.01 |  |  |
|  |  |  | (0.35) |  |  |
| Sweden Democrats |  |  | 0.15 |  |  |
|  |  |  | (0.19) |  |  |
| Other |  |  | -0.08 |  |  |
|  |  |  | (0.49) |  |  |
| Non-voter |  |  | -0.29 |  |  |
|  |  |  | (0.36) |  |  |
| None of the above |  |  | -0.12 |  |  |
|  |  |  | (0.47) |  |  |
| No right to vote |  |  | 0.52 |  |  |
|  |  |  | (0.34) |  |  |
| Don’t know |  |  | -0.20 |  |  |
|  |  |  | (0.49) |  |  |
| Don’t want to say |  |  | 0.16 |  |  |
|  |  |  | (0.25) |  |  |
| Elementary school (ref.) |  |  |  |  |  |
| Secondary school |  |  |  | 0.10 |  |
|  |  |  |  | (0.24) |  |
| Post-secondary |  |  |  | -0.30 |  |
|  |  |  |  | (0.32) |  |
| Post-secondary vocational |  |  |  | 0.25 |  |
|  |  |  |  | (0.29) |  |
| University, 1-2 years |  |  |  | -0.17 |  |
|  |  |  |  | (0.29) |  |
| University, 3-4 years |  |  |  | -0.28 |  |
|  |  |  |  | (0.25) |  |
| University, 5 years or more |  |  |  | -0.13 |  |
|  |  |  |  | (0.27) |  |
| Doctorate |  |  |  | 0.30 |  |
|  |  |  |  | (0.53) |  |
| Rather not say |  |  |  | -0.14 |  |
|  |  |  |  | (0.66) |  |
| Working full-time |  |  |  |  | -0.03 |
|  |  |  |  |  | (0.33) |
| Working part-time (8-29 hours) |  |  |  |  | -0.11 |
|  |  |  |  |  | (0.32) |
| Working part-time (less than 8 hours) |  |  |  |  | -0.62 |
|  |  |  |  |  | (0.34) |
| Student |  |  |  |  | 0.25 |
|  |  |  |  |  | (0.29) |
| Pensioner |  |  |  |  | -0.08 |
|  |  |  |  |  | (0.33) |
| Seeking work |  |  |  |  | 0.03 |
|  |  |  |  |  | (0.44) |
| Does not work at all |  |  |  |  | -0.27 |
|  |  |  |  |  | (0.61) |
| Constant | 0.02 | 0.02 | -0.09 | -0.02 | -0.01 |
|  | (0.18) | (0.08) | (0.14) | (0.22) | (0.32) |
| *Positive frame group* |  |  |  |  |  |
|  |  |  |  |  |  |
| Age | -0.00 |  |  |  |  |
|  | (0.00) |  |  |  |  |
| Male |  | 0.02 |  |  |  |
|  |  | (0.12) |  |  |  |
| Moderates (ref.) |  |  |  |  |  |
| Centre Party |  |  | 0.04 |  |  |
|  |  |  | (0.34) |  |  |
| Liberals  |  |  | -0.22 |  |  |
|  |  |  | (0.27) |  |  |
| Christian Democrats |  |  | -0.54 |  |  |
|  |  |  | (0.36) |  |  |
| Greens |  |  | -0.05 |  |  |
|  |  |  | (0.27) |  |  |
| Social Democrats |  |  | -0.06 |  |  |
|  |  |  | (0.18) |  |  |
| Left Party |  |  | 0.23 |  |  |
|  |  |  | (0.26) |  |  |
| Feminist Initiative |  |  | -0.59 |  |  |
|  |  |  | (0.39) |  |  |
| Sweden Democrats |  |  | -0.17 |  |  |
|  |  |  | (0.19) |  |  |
| Other |  |  | 0.05 |  |  |
|  |  |  | (0.68) |  |  |
| Non-voter |  |  | 0.01 |  |  |
|  |  |  | (0.33) |  |  |
| None of the above |  |  | 0.29 |  |  |
|  |  |  | (0.42) |  |  |
| No right to vote |  |  | 0.38 |  |  |
|  |  |  | (0.35) |  |  |
| Don’t know |  |  | -0.86 |  |  |
|  |  |  | (0.56) |  |  |
| Don’t want to say |  |  | -0.13 |  |  |
|  |  |  | (0.26) |  |  |
| Elementary school (ref.) |  |  |  |  |  |
| Secondary school |  |  |  | -0.04 |  |
|  |  |  |  | (0.24) |  |
| Post-secondary |  |  |  | -0.24 |  |
|  |  |  |  | (0.31) |  |
| Post-secondary vocational |  |  |  | 0.25 |  |
|  |  |  |  | (0.29) |  |
| University, 1-2 years |  |  |  | 0.04 |  |
|  |  |  |  | (0.29) |  |
| University, 3-4 years |  |  |  | 0.24 |  |
|  |  |  |  | (0.25) |  |
| University, 5 years or more |  |  |  | 0.14 |  |
|  |  |  |  | (0.27) |  |
| Doctorate |  |  |  | -0.05 |  |
|  |  |  |  | (0.63) |  |
| Rather not say |  |  |  | 0.19 |  |
|  |  |  |  | (0.68) |  |
| Working full-time  |  |  |  |  | -0.18 |
|  |  |  |  |  | (0.32) |
| Working part-time (8-29 hours) |  |  |  |  | -0.27 |
|  |  |  |  |  | (0.32) |
| Working part-time (less than 8 hours) |  |  |  |  | -0.97\*\* |
|  |  |  |  |  | (0.32) |
| Student |  |  |  |  | 0.44 |
|  |  |  |  |  | (0.29) |
| Pensioner |  |  |  |  | -0.09 |
|  |  |  |  |  | (0.33) |
| Seeking work |  |  |  |  | 0.21 |
|  |  |  |  |  | (0.43) |
| Does not work at all |  |  |  |  | -0.02 |
|  |  |  |  |  | (0.58) |
| Constant | 0.11 | -0.04 | 0.04 | -0.10 | 0.11 |
|  | (0.18) | (0.08) | (0.13) | (0.22) | (0.32) |
| N | 2001 | 2001 | 2001 | 2001 | 2001 |
| Log-likelihood | -2229.1 | -2227.6 | -2217.8 | -2215.9 | -2217.9 |

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Table A8: UK - treatment group balance

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | (1) | (2) | (3) | (4) | (5) |
|  | Age | Gender | Past vote | Education | Work status |
|  | b/se | b/se | b/se | b/se | b/se |
| *Negative frame group* |  |  |  |  |  |
|  |  |  |  |  |  |
| Age | 0.00 |  |  |  |  |
|  | (0.00) |  |  |  |  |
| Female |  | -0.06 |  |  |  |
|  |  | (0.10) |  |  |  |
| Conservative (ref.) |  |  |  |  |  |
| Labour |  |  | 0.17 |  |  |
|  |  |  | (0.11) |  |  |
| Liberal Democrat |  |  | 0.06 |  |  |
|  |  |  | (0.20) |  |  |
| Scottish National Party (SNP) |  |  | 0.05 |  |  |
|  |  |  | (0.24) |  |  |
| Plaid Cymru |  |  | 0.13 |  |  |
|  |  |  | (0.67) |  |  |
| UK Independence Party (UKIP) |  |  | -0.42 |  |  |
|  |  |  | (0.37) |  |  |
| Green |  |  | -0.06 |  |  |
|  |  |  | (0.32) |  |  |
| Other |  |  | 0.33 |  |  |
|  |  |  | (0.39) |  |  |
| Don’t know |  |  | 0.17 |  |  |
|  |  |  | (0.52) |  |  |
| Not Asked |  |  | 0.12 |  |  |
|  |  |  | (0.17) |  |  |
| No qualifications (ref.) |  |  |  |  |  |
| Vocational |  |  |  | -0.31 |  |
|  |  |  |  | (0.25) |  |
| Secondary |  |  |  | -0.36 |  |
|  |  |  |  | (0.22) |  |
| Tertiary |  |  |  | -0.24 |  |
|  |  |  |  | (0.21) |  |
| Don’t know |  |  |  | 0.20 |  |
|  |  |  |  | (0.34) |  |
| Working full-time (ref.) |  |  |  |  |  |
| Working part time (8-29 hours a week) |  |  |  |  | -0.12 |
|  |  |  |  |  | (0.14) |
| Working part time (Less than 8 hours a week) |  |  |  |  | 0.15 |
|  |  |  |  |  | (0.39) |
| Full time student |  |  |  |  | -0.19 |
|  |  |  |  |  | (0.21) |
| Retired |  |  |  |  | -0.07 |
|  |  |  |  |  | (0.12) |
| Unemployed |  |  |  |  | 0.41 |
|  |  |  |  |  | (0.32) |
| Not working |  |  |  |  | 0.24 |
|  |  |  |  |  | (0.19) |
| Constant | -0.02 | 0.03 | -0.09 | 0.25 | 0.00 |
|  | (0.15) | (0.07) | (0.08) | (0.20) | (0.07) |
| *Positive frame group* |  |  |  |  |  |
|  |  |  |  |  |  |
| Age | 0.00 |  |  |  |  |
|  | (0.00) |  |  |  |  |
| Female |  | -0.11 |  |  |  |
|  |  | (0.10) |  |  |  |
| Conservative (ref.) |  |  |  |  |  |
| Labour |  |  | -0.01 |  |  |
|  |  |  | (0.11) |  |  |
| Liberal Democrat |  |  | -0.00 |  |  |
|  |  |  | (0.19) |  |  |
| Scottish National Party (SNP) |  |  | -0.44 |  |  |
|  |  |  | (0.26) |  |  |
| Plaid Cymru |  |  | -0.04 |  |  |
|  |  |  | (0.69) |  |  |
| UK Independence Party (UKIP) |  |  | -0.11 |  |  |
|  |  |  | (0.35) |  |  |
| Green |  |  | -0.62 |  |  |
|  |  |  | (0.40) |  |  |
| Other |  |  | 0.07 |  |  |
|  |  |  | (0.43) |  |  |
| Don’t know |  |  | -0.22 |  |  |
|  |  |  | (0.52) |  |  |
| Not Asked |  |  | 0.24 |  |  |
|  |  |  | (0.16) |  |  |
| No qualifications (ref.) |  |  |  |  |  |
| Vocational |  |  |  | 0.10 |  |
|  |  |  |  | (0.26) |  |
| Secondary |  |  |  | -0.03 |  |
|  |  |  |  | (0.23) |  |
| Tertiary |  |  |  | -0.19 |  |
|  |  |  |  | (0.22) |  |
| Don’t know |  |  |  | 0.33 |  |
|  |  |  |  | (0.35) |  |
| Working full-time (ref.) |  |  |  |  |  |
| Working part time (8-29 hours a week) |  |  |  |  | -0.28 |
|  |  |  |  |  | (0.15) |
| Working part time (Less than 8 hours a week) |  |  |  |  | 0.35 |
|  |  |  |  |  | (0.41) |
| Full time student |  |  |  |  | 0.04 |
|  |  |  |  |  | (0.21) |
| Retired |  |  |  |  | 0.04 |
|  |  |  |  |  | (0.12) |
| Unemployed |  |  |  |  | 0.53 |
|  |  |  |  |  | (0.30) |
| Not working |  |  |  |  | 0.03 |
|  |  |  |  |  | (0.18) |
| Constant | -0.06 | 0.03 | -0.03 | 0.05 | -0.03 |
|  | (0.15) | (0.07) | (0.08) | (0.21) | (0.08) |
| N | 3269 | 3269 | 3269 | 3269 | 3191 |
| Log-likelihood | -3538.7 | -3537.9 | -3528.9 | -3529.4 | -3446.2 |

\* p<0.05, \*\* p<0.01, \*\*\* p<0.001

Note: Although there are some significant results in these tables, for example, 35-44-year-olds in Germany are more likely to be in the positive frame group, these do not affect our results as can be seen when we control for these variables (see Table A1).

Table A9. Descriptive statistics – Germany (%)

|  |  |  |  |
| --- | --- | --- | --- |
|   | Negative frame | Positive frame | Control group |
| *Age* |   |   |   |
| 18-24 | 8.8 | 7.8 | 9.5 |
| 25-34 | 14.6 | 17 | 16.3 |
| 35-44 | 14.4 | 15.2 | 13.3 |
| 45-54 | 18.3 | 16.5 | 18.8 |
| Over 55 | 44.1 | 43.5 | 42.1 |
|   |   |   |   |
| Male | 47.2 | 49 | 50.3 |
| Female | 52.8 | 51 | 49.7 |
|   |   |   |   |
| *Past vote* |   |   |   |
| CDU/CSU | 28.2 | 25.4 | 24.6 |
| SPD | 18.1 | 17.9 | 20.6 |
| Die Linke | 6.6 | 6.5 | 6.6 |
| Grüne | 7.1 | 6 | 6.3 |
| FDP | 4.3 | 3.4 | 3.2 |
| AfD | 3.8 | 3.6 | 2.9 |
| Other | 3.7 | 4.9 | 4.6 |
| Non-voter | 28.3 | 32.4 | 31.1 |
|   |   |   |   |
| No qualifications | 3.7 | 3.8 | 4.4 |
| Still training | 2.4 | 3.2 | 2.6 |
| Still studying | 44.8 | 4.6 | 4 |
| Vocational degree | 59.1 | 61.5 | 59.6 |
| University degree | 30 | 26.9 | 29.4 |
|   |   |   |   |
| Full-time | 38.04 | 37.06 | 35.7 |
| P/T 8-29 hours p/w | 8.71 | 8.36 | 9.25 |
| P/T less than 8 hours p/w | 0.89 | 0.72 | 0.85 |
| Not working | 52.36 | 53.86 | 54.2 |
|   |   |   |   |
| *Anti-welfare* |   |   |   |
| No | 49.5 | 53.3 | 52.9 |
| Yes | 50.5 | 46.7 | 47.1 |
|   |   |   |   |
| *Anti-immigration* |   |   |   |
| No | 74.4 | 75.1 | 77 |
| Yes | 25.6 | 24.9 | 23 |
|   |   |   |   |
| *Economically secure* |   |   |   |
| Yes | 64 | 62 | 60 |
| No | 36 | 38 | 40 |

Table A10. Descriptive statistics – Sweden (%)

|  |  |  |  |
| --- | --- | --- | --- |
|   | Negative frame | Positive frame | Control group |
| Age (mean) | 45.9 | 46.3 | 46.7 |
|   |   |   |   |
| Male | 49.2 | 53.3 | 53 |
| Female | 50.8 | 46.7 | 47 |
|   |   |   |   |
| *Past vote* |   |   |   |
| Moderates | 16.4 | 17.5 | 17.1 |
| Centre Party | 2.8 | 3.6 | 3.5 |
| Liberals  | 4.9 | 6.2 | 6.1 |
| Christian Democrats | 3.1 | 2.3 | 3.7 |
| Greens | 5.5 | 5.7 | 5.6 |
| Social Democrats | 19.8 | 19.9 | 20.2 |
| Left Party | 5.7 | 7.7 | 5.4 |
| Feminist Initiative | 3.2 | 2.1 | 3.5 |
| Sweden Democrats | 20.9 | 17.2 | 18.1 |
| Other | 1.5 | 1.2 | 1.5 |
| Non-voter | 2.6 | 3.8 | 3.2 |
| None of the above | 1.4 | 2.4 | 1.8 |
| No right to vote | 4.1 | 3.8 | 2.6 |
| Don’t know | 1.2 | 0.8 | 1.6 |
| Don’t want to say | 6.9 | 6 | 6.3 |
|   |   |   |   |
| Elementary school (ref.) | 7.06 | 6.78 | 7.3 |
| Secondary school | 33.9 | 26.36 | 31.09 |
| Post-secondary | 5.83 | 6.02 | 7.3 |
| Post-secondary vocational | 10.43 | 9.04 | 8.03 |
| University, 1-2 years | 8.74 | 9.64 | 9.2 |
| University, 3-4 years | 19.63 | 26.51 | 22.04 |
| University, 5 years or more | 11.81 | 14.01 | 12.85 |
| Doctorate | 1.84 | 0.9 | 1.31 |
| Rather not say | 0.77 | 0.75 | 0.88 |
|   |   |   |   |
| Working full-time | 54.6 | 49 | 48.8 |
| Working part-time (8-29 hours) | 10.4 | 10.1 | 11.5 |
| Working part-time (less than 8 hours) | 4.1 | 3.8 | 6.7 |
| Student | 9.2 | 11.6 | 8.8 |
| Pensioner | 16.9 | 19.6 | 19.3 |
| Seeking work | 3.7 | 4.5 | 3.7 |
| Does not work at all | 1.1 | 1.4 | 1.2 |
|   |   |   |   |
| Anti-welfare |   |   |   |
| No | 57.8 | 63.3 | 60 |
| Yes | 42.2 | 36.7 | 40 |
|   |   |   |   |
| Anti-immigration |   |   |   |
| No | 69.6 | 66 | 71.2 |
| Yes | 30.4 | 34 | 28.8 |
|   |   |   |   |
| Economically secure |   |   |   |
| Yes | 64.7 | 61.7 | 61.8 |
| No | 35.3 | 38.3 | 38.2 |

Table A11. Descriptive statistics – UK (%)

|  |  |  |  |
| --- | --- | --- | --- |
|   | Negative frame | Positive frame | Control group |
| Age (mean) | 48.2 | 48.5 | 48.1 |
|   |   |   |   |
| Male | 45.4 | 46.2 | 45.8 |
| Female | 54.6 | 53.8 | 54.2 |
|   |   |   |   |
| *Past vote 2017* |   |   |   |
| Conservative | 32.2 | 36 | 34.8 |
| Labour | 38.8 | 36 | 36.4 |
| Lib Dem | 7.2 | 7.5 | 7.1 |
| Scots Nats. | 4.3 | 2.7 | 4.1 |
| Plaid Cymru | 0.6 | 0.6 | 0.5 |
| UKIP | 1.5 | 2 | 2.2 |
| Green | 2.1 | 1 | 2.1 |
| Other | 1.6 | 1.2 | 1.2 |
| Don't know | 1.2 | 1 | 0.8 |
| Not asked | 10.4 | 12.2 | 10.9 |
|   |   |   |   |
| No qualifications | 6.8 | 5.7 | 4.78 |
| Vocational | 10.3 | 12.04 | 10.46 |
| Secondary | 29.6 | 34.08 | 32.46 |
| Tertiary | 49.8 | 45 | 49.59 |
| Don't know | 3.6 | 3.17 | 2.71 |
|   |   |   |   |
| Working full time | 41.77 | 40.88 | 41.54 |
| Working part time (8-29 hours a week) | 14.68 | 11.94 | 15.17 |
| Working part time (Less than 8 hours) | 1.98 | 1.91 | 1.3 |
| Full time student | 5.64 | 6.59 | 6.66 |
| Retired | 23.8 | 26.55 | 25.35 |
| Unemployed | 3.48 | 3.72 | 2.5 |
| Not working | 8.65 | 8.4 | 7.49 |
|   |   |   |   |
| *Anti-welfare* |   |   |   |
| No | 60 | 62.6 | 59.6 |
| Yes | 40 | 37.4 | 40.4 |
|   |   |   |   |
| *Anti-immigration* |   |   |   |
| No | 67.9 | 66.2 | 67.6 |
| Yes | 32.1 | 33.8 | 32.3 |
|   |   |   |   |
| *Economically secure* |   |   |   |
| Yes | 54.7 | 51.9 | 56.6 |
| No | 45.3 | 48.1 | 43.4 |

Table A12. The effect of framing and newspaper readership

|  |  |  |  |
| --- | --- | --- | --- |
|  | Germany | Sweden | UK |
| No Frame (ref.) |  |  |  |
|  Negative frame | -0.36\*\*\*(0.09) | 0.99 \*\*\*(0.28)  | -0.55\*\*\*(0.10) |
|  Positive frame | -0.12(0.08) | -0.26(0.25)  | -0.12(0.10) |
| Anti-immigration papers | 0.01(0.12) |  | -0.43\*\*\*(0.15) |
| Negative frame\*anti-immigration papers | -0.10(0.18) |  | -0.38(0.21) |
| Positive frame\*anti-immigration papers | -0.08(0.17) |  | -0.08(0.20) |
| Expressen |  | 0.02 (0.10)  |   |
| Goteborg’s Posten |  | 0.05  (0.09)  |   |
| Svenska Dagbladet |  | -0.11 (0.09)  |   |
| Negative frame X Expressen |  | -0.04 (0.13) |  |
| Positive frame X Expressen |  | -0.01 (0.13)  |  |
| Negative frame X Goteborg’s Posten |  | 0.11 (0.12)  |  |
| Positive frame X Goteborg’s Posten |  | 0.07 (0.11)  |  |
| Negative frame X Svenska Dagbladet |  | 0.09 (0.12)  |  |
| Positive frame X Svenska Dagbladet |  | -0.04 (0.13)  |  |
| Cut 1 | -0.60\*\*\*(0.06) | -0.59  (0.18)  | -1.06(0.08) |
| Cut 2 | 0.71\*\*\*(0.06) | 0.69 (0.18)  | -0.02(0.07) |
| N | 4,004 | 2001 | 3269 |
| Log-likelihood | -4345.3 | -2152.4 | -3401.0  |

\*P<0.05, \*\*p<0.01, \*\*\*p<0.001

Note: Data on newspaper readership in Sweden is on a scale 0-7 for how many days per week respondents read a particular paper. The three papers here were selected as being more associated with anti-immigration messages.

**Ethical considerations**

This project was assessed as “minimal risk” following the risk assessment tool at [university name redacted for review]. The Research Ethics Number for the project is MR/16/17-370 [Note: the official letter of confirmation contains details of the researcher which would compromise the anonymity of the review process. This can be provided to the editor on request].

The principal ethical consideration with the project was whether deception would be used in either the negative or positive frames. However, one of the premises of the project is that the impact of migrants on public finances is contestable. Before fielding the experiments, we ensured that research existed that would support the interpretation of both the negative and positive frames in each country. Put simply, we found credible research that could support the proposition that migrants were a net cost to the public purse and net contributors in each country. As a result, neither the respondents in the negative nor the positive group were given false information. Some of the studies used as the evidential basis for the frames in each country are provided below. Nevertheless, all respondents in each country were also informed by YouGov immediately after the survey that the questions relating to this research were part of an academic experiment.

*Germany*

Positive frame:

Fiskalische Wirkungen der Zuwanderung (2015). Institut fuer Arbeitsmarkt und Berufsforschung der Bundesagentur fuer Arbeit, Nuernberg, 6/2015.

Negative frame:

Hans-Werner Sinn (2016) So kann es nicht weitergehen. Ifo Schnelldienst 69(4): 3-6.

OECD (2013) The fiscal impact of immigration in OECD countries, *International Migration Outlook 2013,* OECD Publishing, Paris

*Sweden*

Positive frame:

OECD (2013) The fiscal impact of immigration in OECD countries, *International Migration Outlook 2013,* OECD Publishing, Paris

Negative frame:

Ruist, J. (2015) The fiscal cost of refugee immigration: The example of Sweden, *Population and Development Review*, 41(4), pp 567-581

*United Kingdom*

Positive frame:

Dustmann, C. and Frattini, T. (2014) The fiscal effects of immigration to the UK, *The Economic Journal*, 124(580), pp F593-F643

Negative frame:

Migration Watch (2014) *An Assessment of the Fiscal Impact of Immigration to the UK*, Migration Watch UK, London

An overview of studies showing both negative and positive fiscal impact of immigration in the UK can be found at <https://migrationobservatory.ox.ac.uk/resources/briefings/the-fiscal-impact-of-immigration-in-the-uk/>