

## Appendix A Additional Tables and Figures

Table A1: Pre-Dispersal Summary Statistics by Recipient Status

	Recipients (Mean)	Non-recipients (Mean)	T-test (Diff)	P-value (Diff)
Unemployment	0.063	0.051	8.875	0.000
Violent Crime	0.044	0.031	14.791	0.000
White UK 2001	0.857	0.925	-11.597	0.000
Ethnic Fragmentation 2001	0.240	0.137	12.417	0.000
Deprivation	-1.319	-3.772	-35.7997	0.000
Max pre-2000 BNP Share	0.0003	0.0001	2.265	0.024
Mean BNP Vote Share Pre 2000	0.001	0.0003	2.743	0.006

Table A2: Pre-1999 BNP Vote Share Trend

Dependent Variable: Pre-1999 BNP Vote Share	
Asylum Relocation Participant Dummy	-.010 (.047)
Asylum Relocation Participant Dummy $\times$ Year	5.19e-06 (.00002)
Year	1.84e-06 (2.62e-06)
Local authority fixed effects	No
Year fixed effects	No
N	2,615
$r^2$	.007

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A3: Effects of Asylum Seekers on White Flight

Change in White UK Proportion of the Population, 2001–2011 Census	
Total Asylum Seekers	-8.29e-06 (1.42e-06)***
N	312
$r^2$	.099

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A4: Summary Statistics for Key Variables (whole sample)

	Observations	Mean	Std Dev	Min	Max
BNP Share	4,857	.0045847	.0185567	0	.2957795
Far right share	4,857	.0046804	.0186023	0	.2957795
UKIP Share	4,857	.0067471	.0255299	0	.2918916
Euroceptic Share	4,857	.0072686	.0262466	0	.2918916
Conservative share	2,778	.3691525	.1308269	0	.6885506
Asylum PC	2,149	.0003486	.0007685	0	.0056279
Unemployment	4,128	.0524274	.0305803	0	.2805941
Violent crime	1,628	.0350814	.0169615	.0054185	.1324471
White UK 2001	4,240	.9160108	.091923	.2919	.988
Ethnic Fractionalization 2001	4,240	.1494138	.136063	.0238368	.8452396
Muslim 2001	4,348	1.817219	3.314321	.04	36.4
Mean pre-2000 BNP Share	2,101	.0000825	.001515	0	.0627883
Max pre-2000 BNP Share	5,216	.0003122	.0024689	0	.0627883

Table A5: Main vote share models

	BNP share	BNP share	Far right share	Far right share
	(1)	(2)	(3)	(4)
Asylum PC	9.742 (3.347)***	9.216 (3.824)**	9.718 (3.331)***	9.214 (3.815)**
Unemployment		-.142 (.054)***		-.132 (.054)**
Violent Crime		.005 (.020)		.005 (.021)
Local authority fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
N	1,710	1,343	1,710	1,343
$r^2$	.61	.694	.615	.698

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A6: BNP Vote Share using raw numbers of asylum seekers

	(1)	(2)
Asylum Seekers	.00003 (8.51e-06)***	.00003 (9.58e-06)***
Unemployment		-.144 (.055)***
Violent Crime		.008 (.019)
Local authority fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
N	1,733	1,353
$r^2$	.616	.698

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A7: BNP Share excluding outliers

	(1)	(2)
Asylum PC	9.017 (2.569)***	7.896 (2.857)***
Unemployment		-.013 (.033)
Violent Crime		-.007 (.012)
Local authority fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
N	1,635	1,284
$r^2$	.682	.823

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A8: Linear and Quadratic Time Trends

	BNP Share	BNP Share	Far Right	Far Right
	(1)	(2)	(3)	(4)
Asylum PC	11.461 (3.581)***	9.216 (3.826)**	11.479 (3.582)***	11.479 (3.582)***
Unemployment	-.172 (.052)***	-.142 (.054)***	-.162 (.052)***	-.161 (.052)***
Violent Crime	-.052 (.019)***	.005 (.020)	-.050 (.019)***	-.050 (.019)***
Local authority fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	No	No	No	No
Linear Time Trend	Yes	No	Yes	No
Quadratic Time Trend	No	Yes	No	Yes
N	1,343	1,343	,1343	1,343
$r^2$	.67	.694	.675	.675

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



Table A9: Seemingly unrelated regression

Asylum PC	9.14 (1.46)***
Violent Crime	.08 (.07)
Unemployment	-.14 (.03)***
Local authority fixed effects	Yes
Year fixed effects	Yes
N	1,323
$r^2$	0.93

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

The related regressions (not shown) regressed the Labour, Conservative, and Liberal Democrat vote on the same control variables and fixed effects

Table A10: BNP Vote Minus Pre-1999 Maximum

	(1)	(2)
Asylum PC	-9.742 (3.340)***	-9.216 (3.817)**
Unemployment		.142 (.054)***
Violent Crime		-.005 (.020)
Local authority fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
N	1,703	1,338
$r^2$	.61	.692

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A11: Effect of CEEC immigration on the BNP Vote Share

	(1)	(2)	(3)	(4)	(5)	(6)
	BNP Share	BNP Share	BNP Share	BNP Share	BNP Share	BNP Share
Asylum PC	12.75*** (4.468)	11.83** (4.575)	12.82*** (4.432)	11.87** (4.578)	10.78*** (3.760)	9.192** (3.760)
EU 8	0.00479 (0.261)	0.342 (0.309)				
EU 10			0.0234 (0.257)	0.331 (0.300)		
EU 2					0.119 (0.541)	-0.0385 (0.529)
Unemployment		-0.135** (0.0575)		-0.135** (0.0572)		-0.143*** (0.0539)
Violent crime		0.146 (0.113)		0.148 (0.115)		0.0773 (0.0979)
N	1,335	1,117	1,300	1,109	1,542	1,334
Local authority fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
$r^2$	0.656	0.703	0.655	0.704	0.651	0.695

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A12: Vote share models including a local authority time trend

	BNP Share	BNP Share	Far Right Share	Far Right Share
	(1)	(2)	(3)	(4)
Asylum PC	8.733 (4.321)**	8.447 (3.998)**	8.736 (4.295)**	8.301 (4.019)**
Unemployment		-.112 (.060)		-.106 (.060)
Violent Crime		-.047 (.039)		-.045 (.039)
N	1,710	1,343	1,710	1,343
Local authority fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Unit Specific Time Trend	Yes	Yes	Yes	Yes
$r^2$	.669	.797	.672	.798

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A13: Effect of CEEC immigration on the BNP Vote Share with Local Authority Year Interaction

	(1)	(2)	(3)
Asylum PC	10.51** (4.929)	10.56** (4.911)	9.899** (4.334)
EU 8	-0.505 (0.479)		
EU 10		-0.556 (0.525)	
EU 2			-0.240 (1.446)
N	1,335	1,300	1,542
Local authority fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Unit specific time trend	Yes	Yes	Yes
$r^2$	0.750	0.749	0.734

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A14: Effects of lagged BNP vote share on asylum seeker dispersals

	(1)	(2)	(3)	(4)
One Year Lag	.002 (.002)			
Two Year Lag		-.0002 (.0007)		
Three Year Lag			-.0001 (.0007)	
Four Year Lag				-.001 (.0006)**
Local authority fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
N	831	1,036	1,049	2,073
$r^2$	.75	.763	.811	.788

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A15: “Effects” of 1 – 5 year lead of asylum seekers on BNP vote share

	BNP Share	BNP Share	BNP Share	BNP Share	BNP Share
	(1)	(2)	(3)	(4)	(5)
One Year Lead	4.521 (2.837)				
Two Year Lead		-.548 (1.690)			
Three Year Lead			-.537 (2.988)		
Four Year Lead				-3.730 (1.812)**	
Five Year Lead					-6.902 (2.162)***
Local authority fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
N	831	1,036	1,049	2,073	1,071
$r^2$	.601	.54	.52	.524	.509

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A16: Effects of Asylum Seekers on the Conservative, UKIP, and Eurosceptic vote shares

	Conservative Share (1)	Conservative Share (2)	UKIP Share (3)	UKIP Share (4)	Eurosceptic Share (5)	Eurosceptic Share (6)
Asylum PC	-2.282 (3.088)	.222 (2.907)	-1.019 (2.113)	-1.445 (2.726)	-2.227 (2.395)	-3.658 (3.344)
Unemployment		-.027 (.088)		.108 (.067)		.122 (.069)*
Violent Crime		.021 (.036)		-.004 (.029)		.009 (.030)
N	2,117	1,338	1,710	1,343	1,710	1,343
$r^2$	.93	.95	.579	.611	.572	.602
Local authority fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$



Table A17: Non-linear Effects of Asylum Seeker Inflows on BNP vote share

	(1)	(2)
Asylum PC	24.463 (7.191)***	31.363 (9.184)***
Asylum PC Squared	-3790.955 (1350.964)***	-5233.101 (1680.336)***
N	1,710	1,343
$r^2$	.618	.705
Local authority fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Unemployment and Violent crime controls	No	Yes

Robust clustered standard errors in parentheses

\*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A18: Cragg hurdle model: BNP local authority selection (first stage) and BNP vote share (Second stage)

	Coefficients	Robust SEs	T Values	P Values
First Stage				
Intercept	-0.855	0.111	-7.714	0.000
Asylum PC	540.524	78.082	6.923	0.000
Unemployment	9.346	1.484	6.297	0.000
Violent Crime	2.377	2.380	0.999	0.318
Ethnic Fragmentation 2001	-0.559	0.266	-2.101	0.036
Second Stage				
Intercept	-0.520	0.167	-3.106	0.002
Asylum PC	350.429	50.432	6.949	0.000
Unemployment	-0.966	2.042	-0.473	0.636
Violent Crime	13.962	3.202	4.360	0.00001
Ethnic Fragmentation 2001	-1.288	0.395	-3.262	0.001

Table A19: Interaction Effects

	(1)	(2)	(3)	(4)	(5)
$\Delta$ Asylum PC	4.911 (4.653)	-59.079*** (18.099)	16.222*** (4.077)	10.817*** (3.560)	3.232 (2.011)
Population density	0.098 (0.282)				
$\Delta$ Asylum PC*Population density	-1,650.358 (3,473.239)				
White UK 2001		-0.005* (0.003)			
$\Delta$ Asylum PC*White UK 2001		73.295*** (21.298)			
Ethnic Fragmentation 2001			0.003* (0.002)		
$\Delta$ Asylum PC*Ethnic Fragmentation 2001			-49.766*** (13.480)		
Muslims 2001				0.0001 (0.0001)	
$\Delta$ Asylum PC*Muslim 2001				-1.628*** (0.509)	
Deprivation					-0.0001 (0.0001)
$\Delta$ Asylum PC*Deprivation					-1.785* (0.988)
Constant	-0.0001 (0.0002)	0.004** (0.002)	-0.0003 (0.0005)	0.0004 (0.001)	-0.0003 (0.0004)

We follow the method of Brambor *et al.* (2006), who recommend including all lower order interaction terms and graphing the interaction effect across all values of the mediating variable. These results are plotted in Figure 4. For this table, we calculated the standard errors for the interaction term using the ordinary robust method in R, shown in parentheses; \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Figure A1: Asylum Seeker Origins, 2000–2015

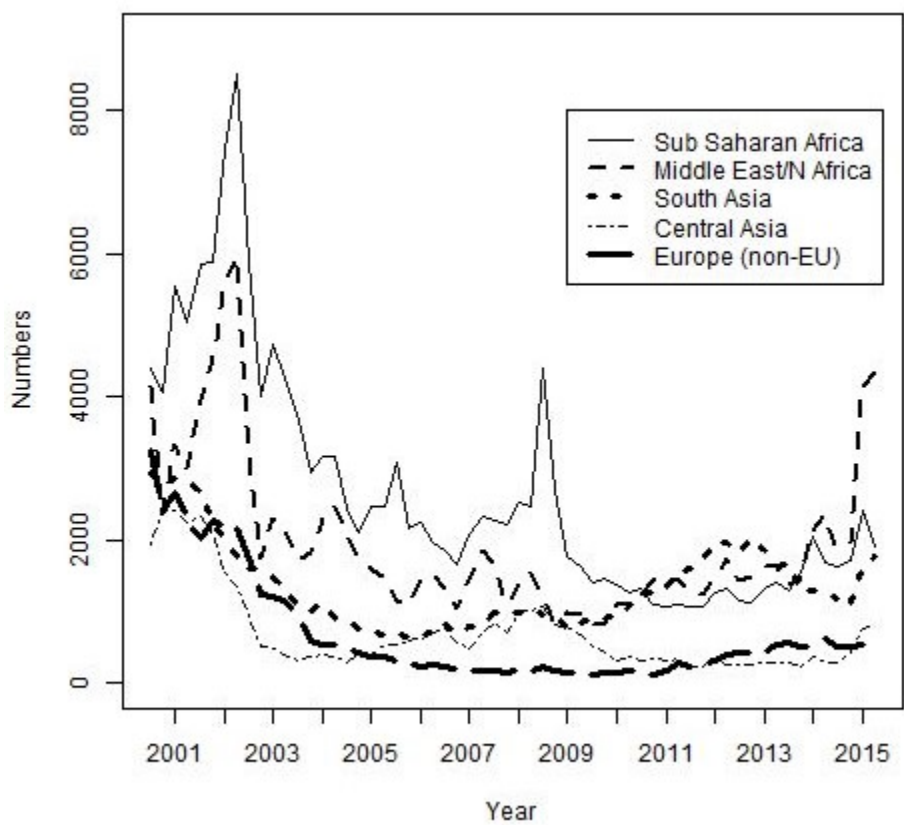
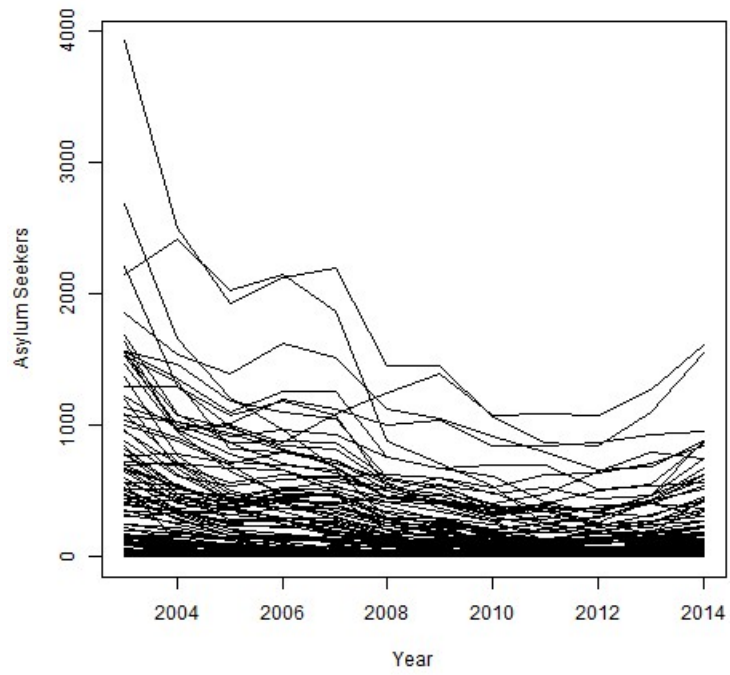


Figure A2: Numbers of Dispersed Asylum Seekers by Local Authority and Year



## Appendix B Empirical Models

The main model takes the form:

$$y_{it} = \alpha + \delta_{dd}Asylum PC_{it} + \sum_{k=Allerdale}^{York} \gamma_k Authority_{ki} + \sum_{j=2000}^{2015} \kappa_j Year_{jt} + \beta x_{it} + \epsilon_{it} \quad (1)$$

Where *Asylum PC* is asylum seekers in dispersed accomodation as a proportion of the working age population;  $y_{it}$  is the BNP's/ far right's vote share in local authority  $i$  in year  $t$ ;  $\gamma_k$  and  $\kappa_j$  are the coefficients on local authority and year dummies respectively;  $x_{it}$  is a vector of controls comprising lagged unemployment and lagged violent crime per capita; and the quantity of interest is the causal effect of dispersals on the vote share of the BNP, and far right parties  $\delta_{dd}$ .

The model for the Interaction Effects section takes the form:

$$\Delta BNPShare_{it} = \beta_1 \Delta AsylumPC_{it} + \beta_2 \Delta AsylumPC_{it} \times Context + Year \quad (2)$$

Where  $\Delta BNPShare_{it}$  is the difference between the BNP vote in year  $t$  and its vote in the last year in which local elections were held in authority  $i$ ,  $\Delta AsylumPC_{it}$  is the difference in the proportion/number of asylum seekers between year  $t$  and the levels in the last year in which local elections were held in authority  $i$ , *Context* is refers to a specified demographic or economic characteristic of all local authorities, and *Year* is a dummy variable for year.

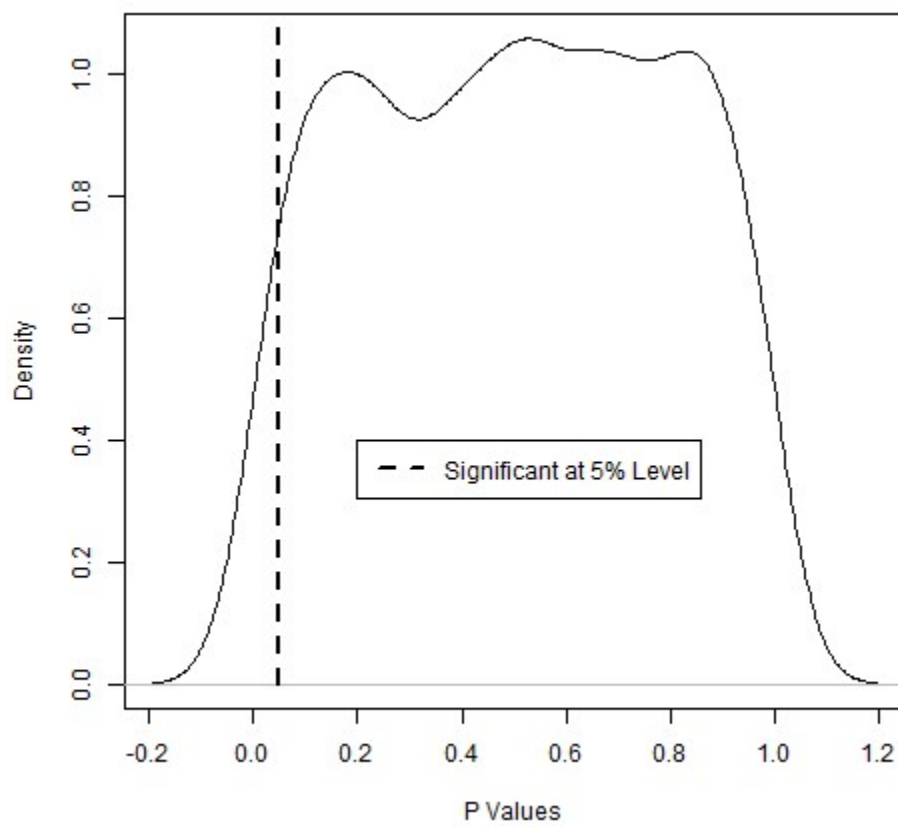
## Appendix C Placebo Regressions

To check against the possibility that difference-in-differences methods systematically under-reject the null hypothesis, we implemented a revised version of the Bertrand *et al.* (2004) suggested check. The p values for the placebo regressions are described and plotted below. Assuming our chosen difference in differences strategy to be a sufficiently conservative estimation strategy, the distribution of simulated p values should look approximately uniformly distributed over the interval (0,1), with no more than 5% of p values falling below the .05 level. As can be seen below, this is exactly what we observe.

Table C1: Placebo Regression P Values

Statistic	N	Mean	St. Dev.	Min	Max
4	1,000	0.505	0.286	0.002	1.000

Figure C1: Distribution of P Values for Placebo Regressions





## Appendix D Covariate Matching

Table D1: Covariate Balance Propensity Score Matching Model

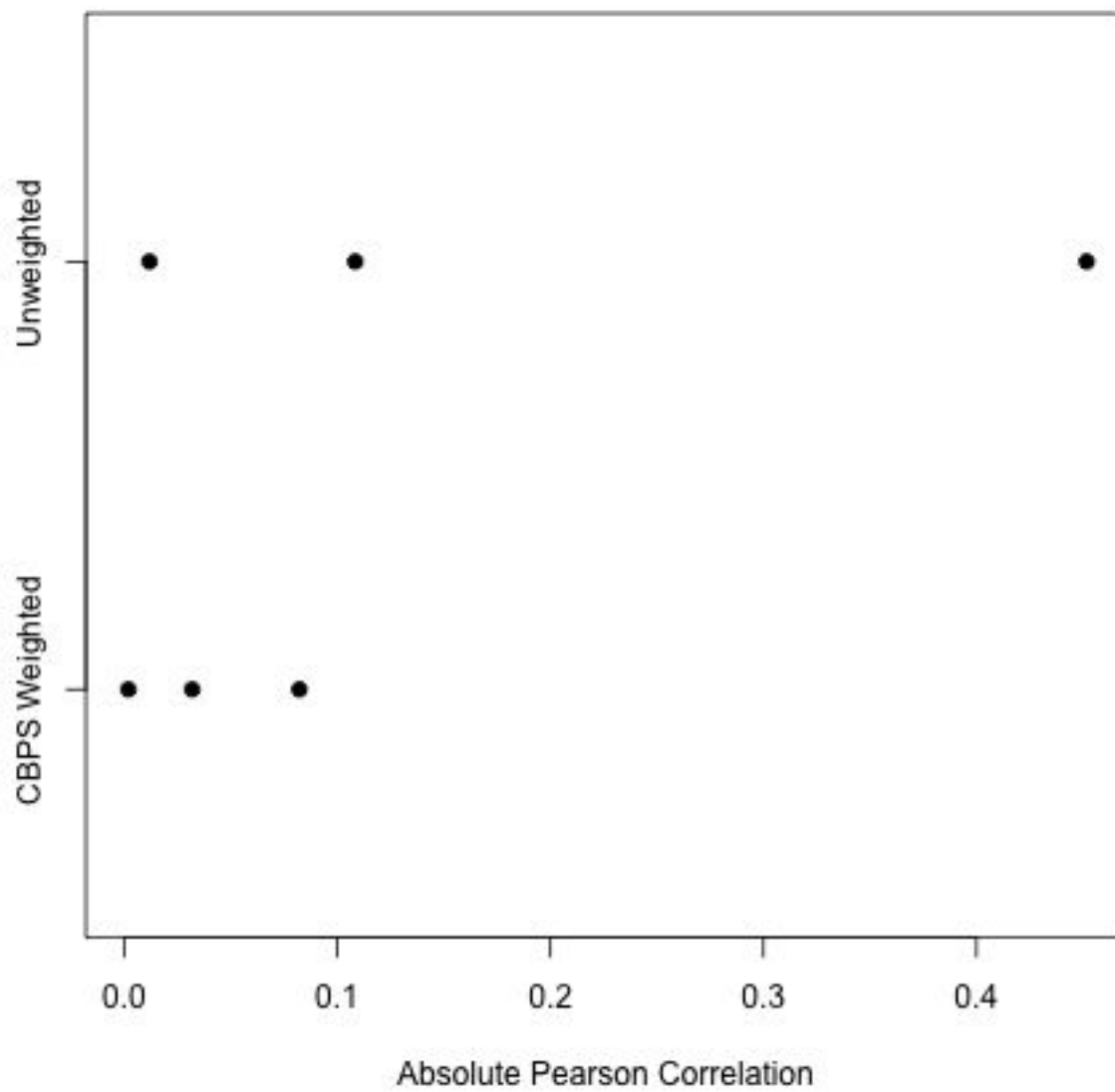
	(1)	(2)
Asylum PC	10.948*** (3.476)	9.101* (4.827)
Unemployment		-0.122** (0.048)
Violent Crime		0.060 (0.076)
Constant	-0.013*** (0.003)	-0.003 (0.005)
Local authority fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Unemployment and Violent Crime controls	No	Yes

We follow the method of Imai & Ratkovic (2014), matching on the *Max pre-2000 BNP Share*, (*White UK 2001*), and *Deprivation*; *Mean pre-2000 BNP Share* and *Ethnic Fragmentation* are excluded because of colinearity; *Unemployment* and *Violent Crime* are time-varying and included as control variables in Model 2 (excluding Scotland); \*  $p < 0.10$ ; \*\*  $p < 0.05$ ; \*\*\*  $p < 0.01$

Table D2: Improvement in balance with matching

Pearson Correlation	(1)	(2)
White UK 2001	-0.032	-0.108
Max pre-2000 BNP Share	-0.002	0.012
Deprivation	0.082	0.452

Figure D1: Covariate Balance Pre and Post Matching



## Appendix E Sensitivity Analysis

Following the approach of (Imbens, 2003), we began our sensitivity analysis by simulating a set of unobserved omitted variables which were set to have a given correlation with both our main independent variable and our main dependent variable. We did this by first solving the following set of equations, where  $\bar{x}$  and  $\bar{y}$  are the standardized versions of our main independent and dependent variables respectively,  $\delta$  is the correlation between them,  $\gamma$  is the desired correlation between the new variable and our dependent variable and  $\omega$  is the desired correlation between the new variable and our independent variable.

$$a1 + \delta \times a2 = \gamma$$

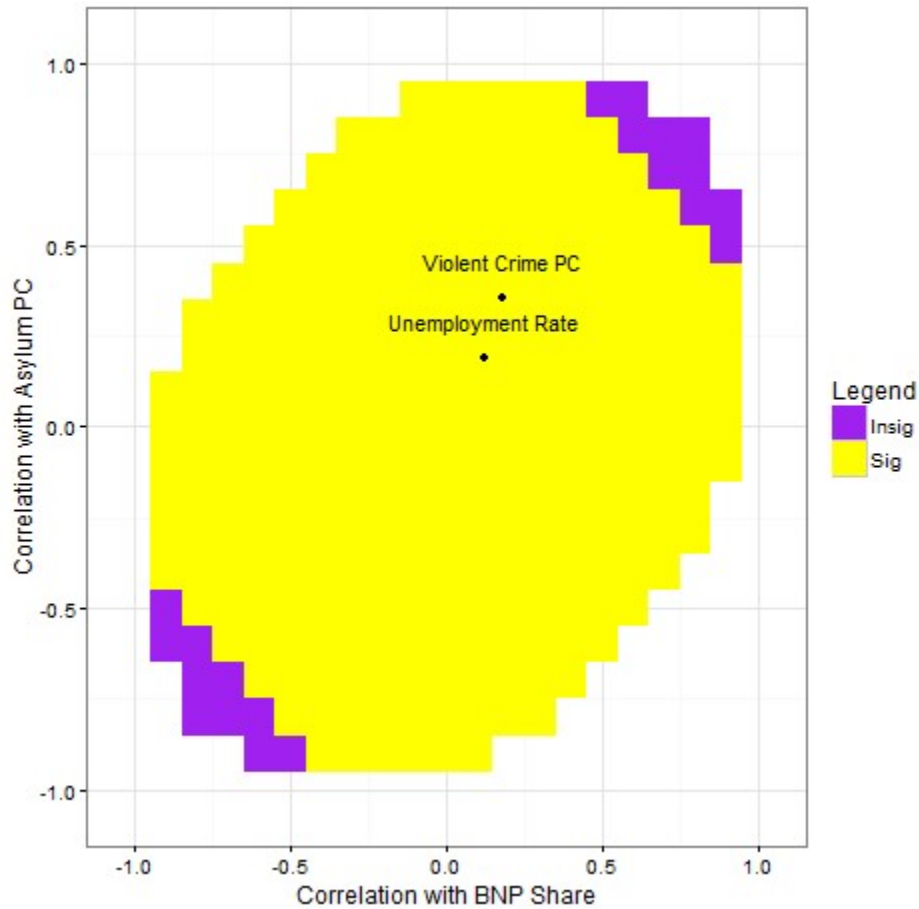
$$\delta \times a1 + a2 = \omega$$

$$a3 = \sqrt{(1 - a1^2 - a2^2) - (2 \times a1 \times a2 \times \delta)}$$

and

$$V = a1 \times \bar{x} + a2 \times \bar{y} + a3 \times e$$

Figure E1: Sensitivity plot



We repeated this process for all correlations between this omitted variable and the independent and outcome variables ranging from  $-1$  to  $1$ . We then re-ran our main model including

this simulated variable. Figure 3 plots the results as a function of the correlation between the independent and the dependent variables. The darker shaded (purple) areas represent those combinations of correlations between the independent and dependent variables and the confounder which resulted in an insignificant result for our main independent variable of interest. The lighter shaded (yellow) areas represent those combinations of correlations for which the results remained significant and correctly signed. We also plot the correlation between the main independent variable, the dependent variable and two of the observed control variables – (lagged) violent crime per capita and the (lagged) unemployment rate – to give some basis for comparison. As can be seen, to overturn our results, an omitted time-varying confounder would have to correlate much more highly with both the independent and dependent variable than any of the observed controls do.

## Appendix F Data Sources

- English local authorities <https://www.lgbce.org.uk/records-and-resources/local-authorities-in-england>
- Welsh local authorities <http://gov.wales/topics/localgovernment/unitary-authorities/?lang=en>
- Asylum data from December 2003 onwards <https://www.gov.uk/government/publications/immigration-statistics-april-to-june-2015/asylumdata--tables>
- Asylum data from 2000 to Q4 2003 - Home Office Information Request (Annex E IR 35866)
- Elections pre 2004 - UK Data Archive - SN 5319: British Local Elections Database 1889-2003
- Elections post 2004 (inclusive) - Local Elections Archive Project <http://www.andrewteale.me.uk/leap/>
- Unemployment data – from March 2005 onwards -<https://www.nomisweb.co.uk>; from 1993 onwards - UK Data Archive SNs 3512, 3516, 3520, 3824, 3722, 4059, 4063, 4521, 4522, 4652, 4654, 5384 (Quarterly Labour Force Survey)
- White UK Ethnicity - from the Quarterly Labour Force Survey <https://www.nomisweb.co.uk>
- Crime Data - from 2002 - Office of National Statistics "Notifiable Offenses recorded by the police" <http://www.neighbourhood.statistics.gov.uk>
- 2001 Census Data on Ethnicity from the Office of National Statistics <http://www.neighbourhood.statistics.gov.uk>
- Foreign born population from Nomis website <https://www.nomisweb.co.uk>

## References

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