Immigration and Social Capital *

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Abstract

Does immigration undermine social cohesion? We examine this question by leveraging the large immigration shock experienced by the United Kingdom following the mid-2000s EU enlargement. Using rich individual-level data spanning from 1998 to 2014 on neighborhood cohesion, community service, social life, interpersonal trust, and institutional trust—combined with a difference-in-differences approach—we find no evidence that social capital eroded in communities more exposed to immigration. On the contrary, our results indicate a positive impact on various dimensions of social capital. These positive effects are driven by more educated individuals at the individual level and by wealthier, more urbanized areas at the aggregate level, highlighting the interplay between economic and cultural factors in shaping native responses to immigration.

Keywords: immigration, social capital, EU enlargement, trust.
JEL Classification: A13, F22, J61, Z10.

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1 Introduction

The impact of immigration has been extensively studied in the economic literature, with a predominant focus on labor market outcomes such as wages, employment, and labor supply. However, public concerns about immigration often extend beyond purely economic considerations to encompass broader societal changes, including shifts in compositional amenities—that is, the demographic and cultural makeup of neighborhoods, schools, and workplaces (Card et al., 2012; Alesina and Tabellini, 2024).

One of the key dimensions of this debate concerns social capital, which encompasses the networks, norms, and trust that facilitate cooperation and collective action within a society. The impacts of social capital on economic, political, and health outcomes have been extensively demonstrated.[1] However, beyond these established effects, understanding how immigration affects social capital is crucial for unpacking the relationship between immigration, polarization, and the populist vote, as uncovered in recent literature (Dustmann et al., 2019; Steinmayr, 2021; Mayda et al., 2022). In fact, in contemporary discourse, immigration is frequently framed by politicians and other public figures as a potential threat to societal homogeneity and is often cited as a contributing factor to the perceived decline in social cohesion within modern societies. This narrative posits that immigration, along with the increased diversity it brings, may undermine the shared values and mutual trust that bind communities together, potentially fueling support for anti-immigration and populist parties.

In this paper, we present one of the very first pieces of causal evidence on the impact of immigration on social capital and social cohesion. To this end, we leverage variation from the 2004 and subsequent European Union (EU) enlargements, focusing on their impact on social capital in the UK. This setting offers several advantages for our analysis.

First, the fifth enlargement, which allowed the accession of eight Central and Eastern European countries (A8) to the EU, represented the largest expansion since the union's creation in 1957—not only in terms of the number of countries but also in the number of people who joined. Second, it triggered the most dynamic migration episode in the UK over the past 25 years. The New Member States quickly emerged as the largest immigrant-origin group in the UK, surpassing other countries such as India, Pakistan, and the entire South Asian region. Third, from a methodological perspective, the absence of transitory mobility restrictions in the UK allowed immigrants to enter almost immediately,

[1] Previous literature has documented links between social capital and economic performance (Knack and Keefer (1997); Grootaert and Narayan (2004); review by (Knack, 2002b)), financial development Guiso et al. (2004), governance quality Knack (2002a), health outcomes (Kawachi et al., 1999, 1997; Subramanian et al., 2002), and the mitigation of agency problems (Costa and Kahn, 2003), among other welfare dimensions.

in contrast to other European countries.[2] This provides us with a convenient quasi-experimental framework. Another advantage of our setting is that the UK has one of the most comprehensive individual-level datasets for assessing social capital. The British Household Panel Survey (BHPS) and its successor, the UK Household Longitudinal Study (UKHLS) span from 1998 to the present and contain over 30 questions, asked before and after the EU enlargement, that capture a wide range of attitudes and behaviors commonly used in the literature as proxies or manifestations of social capital.

Acknowledging the inherent multidimensionality of social capital (Engbers et al., 2017; Durante et al., 2024), we implement a Principal Component Analysis (PCA) to identify five key dimensions of social capital: Neighbourhood Cohesion, Community Service, Social Life, Collective Action and Generalised Trust, and Institutional Trust. Each dimension incorporates questions on beliefs, the frequency of certain activities, and participation in organizations of different types. Neighbourhood Cohesion integrates both attitudes toward and interactions with neighbors, the frequency of these interactions, levels of satisfaction, and willingness to improve the neighborhood, among other factors. Community Service refers to participation in voluntary organizations or similar community groups—often altruistic in nature—as well as the frequency of attending such groups. Social Life captures the frequency of participation in social activities along with satisfaction with this aspect of life. Collective Action and Generalised Trust pertains to the propensity to participate in professional organizations, trade unions, and parents' associations, among other groups that typically involve collective action for both mutual and individual benefits (Olson Jr, 1971). This dimension also includes measures of generalized trust toward other individuals. Finally, Institutional Trust integrates beliefs about government institutions and perceptions of democratic values.

Our empirical strategy to estimate the impact of immigration on social capital leverages variation in migration inflows before and after the EU enlargements and across locations in the UK within a difference-in-differences framework. To this end, we match local migration shares with individual social capital outcomes, which we construct from the PCA analysis at the Local Authority District (LAD) level, encompassing approximately 300 districts. This is made possible by a special license version of the BHPS data.[3] To address the potential endogeneity of immigrant location choices with respect to social capital outcomes, we employ a Bartik instrument based on the pre-EU enlargement distribution of migrants across LADs. Since we observe each outcome over multiple years, we further validate the causal interpretation derived from our baseline empirical strategy using a dynamic event-study framework. Additionally, by implementing a set of placebo

[2]See Section 2.

[3]For this paper, we were granted access to a special license version of the study containing the residence of each respondent at the Local Authority District level, rather than the public version, which only discloses Government Office Regions (GOR).

tests on the outcomes before the enlargements took place, we assess whether pre-trends could be driving our results.

We do not find empirical evidence supporting the conjecture that immigration erodes social capital. On the contrary, our findings suggest that migration has a positive impact on several dimensions of social capital, including neighborhood cohesion, generalized trust, and trust in institutions. Although we do not observe a significant effect on our indices of community service and social life, a closer examination of these dimensions reveals a potential crowding-out effect, where participation shifts from community groups to voluntary organizations. Similarly, we find suggestive evidence that young individuals reduce their frequency of going out for certain leisure activities. The positive effects on social capital are driven at the individual level by college graduates and at the aggregate level by wealthier and more urbanized locations. This aligns with the notion that the effects of immigration on social capital and labor markets are interconnected. More educated individuals are less exposed to direct competition from immigrants in the labor market and are more likely to benefit from potential complementarities between low- and high-skilled workers (Dustmann et al., 2013). We next examine the mechanisms that may explain the general increase in social capital. First, we rule out the possibility that our results are driven by compositional effects due to newly arrived immigrants exhibiting systematically lower or higher levels of social capital. Second, we assess the extent to which these effects are explained by compositional changes driven by native residential responses through internal mobility, as opposed to within-individual changes in social capital among non-movers. We find that both channels contribute to the observed effects. However, the positive effects persist even when we focus exclusively on within-individual changes in social capital, employing individual fixed-effects models. Finally, given that most migrants arriving from Eastern Europe were white and Christian, they were ethnically and religiously similar to many natives. We conjecture that a combination of their positive economic contributions and their cultural and religious proximity to the native population may explain the—perhaps unexpected—positive impact of this specific immigration shock on social capital and social cohesion.

This paper contributes to several strands of research. First, it speaks to the economics of migration literature by looking at a relevant[4] yet underexplored dimension. Previous literature has extensively focused on the impact of immigration on labour market outcomes.[5] Yet, there is little evidence –within or out of the UK– on how immigration directly

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[5]The UK is not the exception (Dustmann et al., 2010, 2013; Manacorda et al., 2012; Blanchflower and Shadforth, 2009). Manacorda et al. (2012) find little discernible effect on the wages of natives (1970s

affects social capital. Within the immigration literature, we also complement the research that has been looking at the impact of immigration on voting outcomes (Barone et al., 2016; Halla et al., 2017; Dustmann et al., 2019; Steinmayr, 2021; Mayda et al., 2022) and on the determinants of attitudes toward immigration (Mayda, 2006; Lebow et al., 2024). Studying the impact of immigration on social capital can help to unpack the relationship between immigration, polarization, and populist vote that has been uncovered in the recent literature.

Second, we contribute to the literature on the determinants of social capital. While most of the literature has often considered social capital as highly persistent over time and has thus focused mainly on uncovering the historical roots of geographical heterogeneity in social capital, more recently, we are gathering increasing evidence that salient shocks can affect trust and social cohesion (Attanasio et al., 2015; Agneman et al., 2023; Sequeira et al., 2024). We provide evidence of another determinant of social capital: the change in the composition of the population.

Third, the paper contributes to the literature on ethnic diversity. Most of the previous literature interested in social cohesion or neighborhood satisfaction has focused on their relationship with ethnic diversity in the local area, often finding a negative relationship between the two.[6] In particular, for the case of the UK, our paper is closely related to Langella and Manning (2019), who find that an increase in the white share raises overall neighborhood satisfaction but has no effect on other aspects of social capital, including generalized trust. Our contribution stems from the fact that, because most immigrants from the EU Enlargements are white, we are able to estimate the effect of immigration separately from that of ethnicity.

The remainder of the paper is organised as follows. Section 2 provides an overview of the last EU enlargements. Section 3 presents the data and the PCA used to measure social capital. Section 4 describes our empirical methodology and identification strategy. The main results are presented in Section 5, while heterogeneity analyses and additional results are discussed in Section 6. Section 7 concludes.

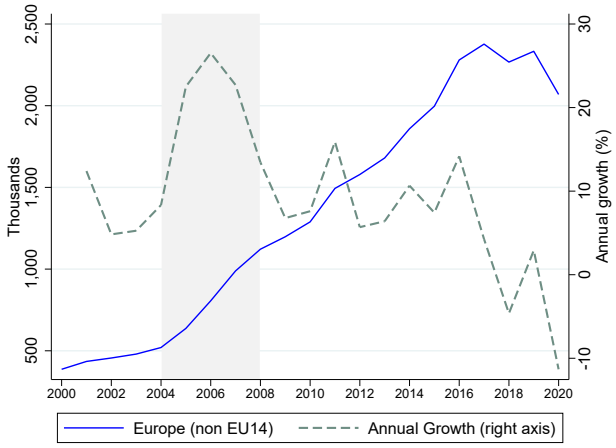
to mid-2000s). Dustmann et al. (2013) find a decline in wages at the lower part of the wage distribution but slight increases in the upper part. On average, they find a slight positive effect (1997–2005 period). Focusing on the EU enlargement, Becker and Fetzer (2018) find small yet negative effects on wages at the bottom end of the wage distribution (relative fall of around 1.5%). Blanchflower and Shadforth (2009) suggest that the enlargements made the labour market more flexible, reducing both inflationary pressures and the natural rate of unemployment. Other studies for the country have also looked at the effect of immigration on public finances (Dustmann and Frattini, 2014), housing prices (Sá, 2015), NHS waiting times (Giuntella et al., 2018), political outcomes (Shamsi, 2024), and crime (Bell et al., 2013).

[6]See, for example, (Putnam, 2007; Dinesen and Sønderskov, 2012) on trust, (Knack and Keefer, 1997) on social cohesion, and (Alesina and La Ferrara, 2000; Costa and Kahn, 2003) on participation in organisations.

2 Background: EU Enlargement

On May 1st 2004 the European Union (EU) underwent its most significant expansion since it was created in 1957 as the European Economic Community (EEC). Known as the fifth enlargement, it constituted the largest EU expansion not only in terms of the number of countries but also in the number of people that joined.[7] At the time, 10 countries became EU member states. Eight of these new accession nations (EU8) were former Soviet countries located in Central and Eastern Europe, namely: Czech Republic, Estonia Latvia, Lithuania, Hungary, Poland, Slovakia and Slovenia. In addition, the two Mediterranean island nations of Cyprus and Malta were granted membership. The expansion towards the East of Europe continued in the following years with Bulgaria and Romania joining the EU in 2007 (sixth enlargement) and Croatia in 2013 (seventh EU enlargement).

Figure 1: Central and Eastern European Immigration in the UK



Note: EU14 refers to the countries that were part of the EU as of 1995 up to the 5th enlargement: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain and Sweden. Source: Annual Population Survey.

For the UK, the accession of New Member States translated into one of its most dynamic migration episodes of the past 20 years.[8] Between 2000 and 2015, the number of Eastern European immigrants living in the country experienced a five-fold increase. These inflows reflected one of the most fundamental EU principles: free movement of people.[9] While most old Member States implemented transitional arrangements of up to seven years which imposed limitations on mobility,[10] the UK along with Sweden and Ireland was one of the few countries that allowed immediate access to their labour markets

[7] https://european-union.europa.eu/principles-countries-history/eu-enlargement_en

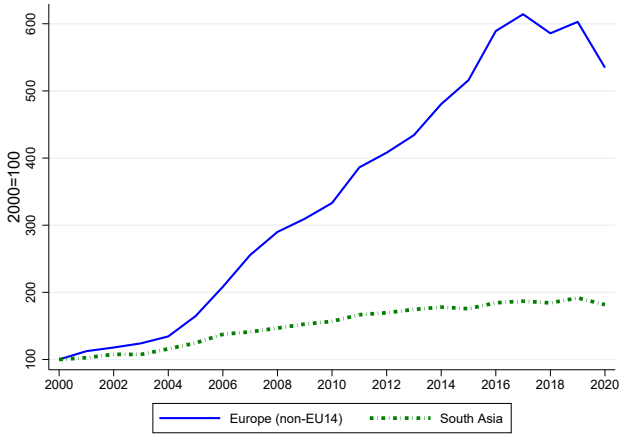
[8] See Appendix Figure A.1.1

[9] Article 39 of the Treaty establishing the European Community (TEC) European Community establishing Treaty / Article 48 of the Treaty of Rome. Currently Article 45 of the Treaty on the Functioning of the European Union.

[10] The aim of these measures was to prevent labor market disruptions from sudden worker inflows following EU membership by enabling Member States to gradually implement free movement. The 2003

during the fifth enlargement.[11] The absence of transitory policies may explain why the first years of these enlargements –between 2004 and 2008– marked a period of remarkable immigration growth in the UK, with annual growth rates peaking at nearly 25% by mid-period (Figure 1).

Figure 2: Eastern European and Asian Immigration in the UK



Note: European stocks exclude EU14 countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain and Sweden.
Source: Annual Population Survey.

Table 1: Economic Activity by Immigrant Group

	Employed (1)	Full-Time (2)	Inactive (3)	Unemployed (4)
EU14	63.74	83.58	31.60	4.66
Poland	83.48	82.61	12.76	3.76
Rest EU Accession Countries	76.04	78.57	19.11	4.85
Middle East	26.35	68.73	65.80	7.85
Bangladesh	45.40	43.10	48.12	6.49
India	63.74	80.39	31.09	5.16
Pakistan	41.98	62.42	51.74	6.28

Note: Sample restricted to individuals that arrived to the UK on or after 2004. Students excluded.
Source: Census 2011.

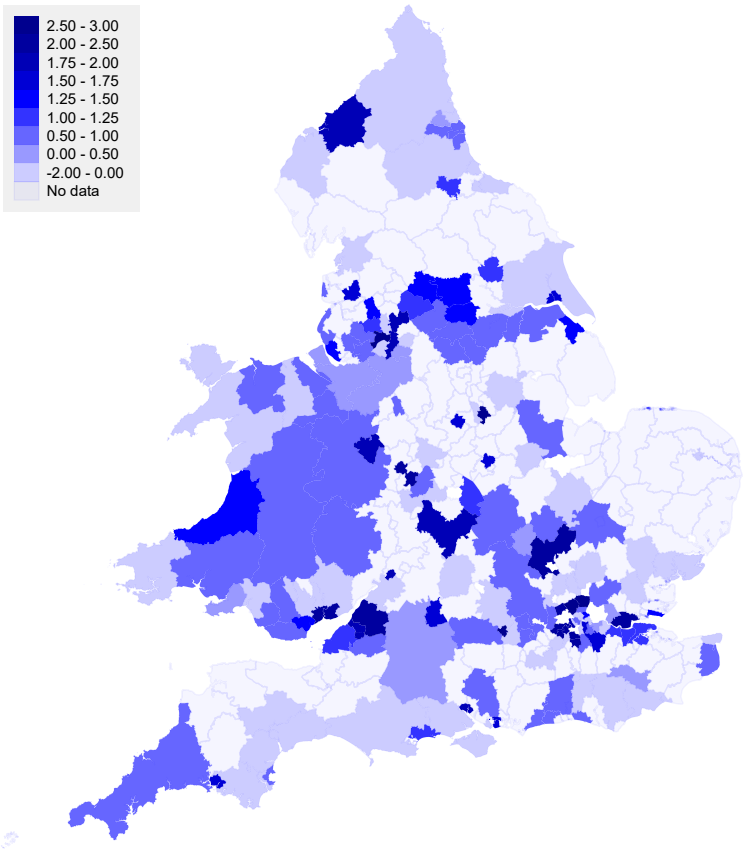
By 2015, the new accession countries became the largest origin group surpassing other traditionally important origins such as India, Pakistan, and other South Asian countries. In fact, the rapid rate at which people from Central and East Europe arrived was considerably higher than that of South Asia overall, the second-largest migration group until

transitional arrangements were divided into three phases (2+3+2 years), with progressively stronger guidelines for the conditions in which old Member States could limit access to the labor market. Nonetheless, Member States were free to expand their labor markets whenever they wanted. In most cases, countries implemented work permit schemes (European Commission, 2011).

[11] With no transitional measures at work, the UK only required immigrants from the EU8 to register in the Home Office Worker Registration Scheme if they were employed for a month or more (Kahanec and Zimmermann, 2010).

2019 (Figure 2).[12] Furthermore, essential for our empirical design the inflows were heterogeneous across Local Authority Districts, as shown in Figure 3. In this paper, we exploit the EU enlargement leveraging temporal and regional variation from the period of highest inflows' growth which took place between 2004-2008, the first years of expansion.

Figure 3: Central and Eastern European Immigration between 2004-2008



Note: Map for England and Wales. Distribution of the inflows of Central and Eastern European migrants between 2004 and 2008 normalised by population in 2004. Source: Annual Population Survey.

3 Data

3.1 Immigration

We measure immigration inflows at the Local Authority District (LAD) level using data from the *Annual Population Survey* (APS).[13] The APS comprises 12 months of survey data constructed from two waves of the Labour Force Survey (LFS) collected on a local sample boost. With a sample size of approximately 320,000 respondents, it aims to provide estimates between censuses of the main social and labour market variables at a

[12] See also Appendix Figure A.1.1 for a comparison of European inflows with all origin groups.
[13] We exploit information from England and Wales, from nearly 200 LADs.

local area level covering information on employment, housing, ethnicity, religion, health and education.

We define immigrants as foreign-born individuals. We exploit the 5th and 6th EU enlargements that took place in the 2000's by measuring the inflow of European immigrants that were *not* part of the European Union as of 2001 which we denote Non-EU14 henceforth following the APS classification.[14] Additionally, we exploit the *2001 Census* to recover the initial distribution of migrants from the 2004 and 2007 accession countries across LADs. Using publicly available information from NOMIS we use census data from 4 key origin groups to build our instrumental variable as explained in section 4.1: Poland, Czech Republic, Baltic Countries (Estonia, Latvia and Lithuania) and Romania.[15] Altogether, these countries account for about 86% of the share of the EU accession countries, excluding Malta and Cyprus, as shown in Table 3.

Finally, we homologate Local Authority Districts for each year of the APS and the census using the 2021 Office of National Statistics (ONS) classification.

3.2 Individual Characteristics and Social Capital

We measure several dimensions of social capital at the individual level leveraging information from the British Household Panel Survey (BHPS) and Understanding Society, also known as the UK Household Longitudinal Study (UKHLS). Covering a representative sample of British Households, these surveys contain individual information on several aspects of UK's households' life including a rich battery of questions on beliefs, opinions and attitudes; along with detailed demographic information for each participant. The studies cover the periods of 1991-2008 (BHPS) and 2009-2023 (UKHLS). The BHPS ran for 18 waves with a sample of nearly 5,500 households and around 10,000 individuals. Its successor, the UKHLS, started in 2009 with a new sample and incorporated around 8,000 individuals of the BHPS –around 80%–, from its second wave onwards. It currently counts with a sample of nearly 40,000 households and is still ongoing.

In addition to attitudes and behaviours, we observe a rich set of demographic characteristics at the individual level in all waves of the BHPS-UKHLS. These include age, gender, education, occupational status and country of birth. At the household level, we observe aggregate income, household tenure and household size. Moreover, given that we can track individuals locations over time we are able to tell which individuals have lived in the same LAD over the period studied, who has moved and when. We exploit this infor-

[14] Exluding the UK, EU-14 members by 2001 include Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain and Sweden.

[15] The census also provides information of former Yugoslavia of which Slovenia was part of. However, the inflows of this country are relatively small compared to other accession countries. Hungary, Slovakia and Bulgaria are not identified separately.

mation later on in our empirical implementation. Descriptive statistics for demographic variables are provided in Appendix Tables B.1.2.

To match individual attitudes with data on immigrant inflows, we were granted access to a Special Licence version which contains LADs for each household over time.[16] Combining both surveys we focus on the period 2000-2014. We omit the first wave of the UKHLS (2009) since the BHPS sample had not been yet incorporated, as previously mentioned. We choose 2015 as the final year to avoid confounding the effects of the Brexit referendum and subsequent decision of the UK to leave the European Union.[17]

The survey runs every year following the same individuals over time. However, not all questions are asked in each wave. To analyse the impact of the recent EU expansions, we restrict the analysis to those that appeared for the first time in the BHPS before the 5th enlargement took place (2004) and at least once after the enlargement. In total, we select 34 questions that cover several aspects of individual's social life, membership or activity in different organisations and attitudes towards the government and their peers. We provide a list of these variables and years when they are asked in Appendix B.6.1.

First, we consider a set of activities that report the frequency of attending cultural and social events such as attending public spectacles, going out, doing voluntary, work among others. The surveys also report information of more routine-type of activities and direct social interactions on a higher frequency. These include how often respondents meet with people or talk to their neighbours. Furthermore, the BHPS reports a series of attitudes related to the perception and interactions in the neighbourhood. Individuals are asked about whether they like their neighbourhood, or not. In addition, they are provided with a list of statements about their relationship with their neighbours. For instance, whether *local friends mean a lot*, whether they *are similar*, *can borrow things*, among others. The answers to such statements are presented in a 5 point scale ranging from *strongly disagree, disagree ... to strongly agree*. Using the same scale, individuals are asked about their opinion towards the government and public institutions. We select three questions. First, if the government reflects the will of people. Second, if ordinary people can influence government.[18] Third, if the government puts nation before party.

In addition, the BHPS and UKHLS report separately whether a person is member or active in a wide range of organisations. The former does not imply the latter and vice-versa. We thus consider either membership or participation as an affirmative re-

[16]University of Essex, Institute for Social and Economic Research (2014). Special Licence Access, Local Authority Districts. UK Data Service. SN: 6666. We combine this dataset with the UHKLS waves 1-13 and harmonised BHPS Waves 1-18. UK Data Service SN: SN6614

[17]After several negotiation rounds, the UK formally left the European Union on February 2020.

[18]Individuals are asked if ordinary people *can't* influence the government, we code this variable reversely for comparative purposes.

sponse which we code with indicator variables. Finally, individuals are asked about their trustworthiness of others.

3.2.1 Measuring Social Capital

Using the set of questions described in the previous section we employ a Principal Component Analysis (PCA). The exercise allows us to identify the key dimensions of social capital by grouping together the above-mentioned attitudes and behaviours into a few components. We employ an orthogonal varimax rotation which, as we will describe shortly, delivers a meaningful classification of the different features that integrate each component. Given that not all questions are asked in every year, we pool together information from 2002 and 2003. The latter has the largest overlap of questions before the 5th Enlargement. The former allows us to complete the remaining questions that were not covered in 2003.[19] To conduct the PCA we rescale all variables to a common 0 to 1 range. For originally dichotomous variables that can be reduced to a *yes/no* type of question such as membership or activity in an organisation we take a value of one for an affirmative answer. For those variables that have a different nature, we rescale the options to a 0-1 range with equidistant values for each response, preserving the relative intensity of each answer. For instance those that are answered in a 5 point scale reflecting whether a person *strongly disagrees, disagrees, [...] strongly agrees* with a statement would take values of 0, 0.25 [...] and 1. Based on the PCA outcome, we select the first 5 components which explain 35% of the overall variation among our original set of variables.

Table 2 summarises the PCA results. We present the factor loadings of each variable within components, highlighting those that are close to 0.15 or above. Given that *within* components questions are asked in different years, rather than employing a PCA-score we use the results for classification purposes. Specifically, we categorise each question based on the highest factor loading across components. As shown in Table 2, we identify arguably well-defined 5 dimensions: Neighbourhood Cohesion (NC), Community Service (CS), Social Life (SL), Trust & Collective Action (CA) and Institutional Trust (IT). While the PCA retains the intensity of each set of responses, after conducting it, we recover dichotomous responses to evaluate the impact of immigration. This allows for i) a more intuitive interpretation of the effect of immigration on social capital and ii) a straightforward method to build general indices within category via averages. We now turn to this.

We denominate the first component *Neighbourhood Cohesion* (NC) which relies on 10 questions associated to perceptions and interactions with neighbours, frequency of these, level of satisfaction as well as willingness to improve the neighbourhood. Using eight of these questions (NC1-NC8) which are asked on the same years and in the same scale, we construct a neighbourhood cohesion index. For this purpose, we recode the responses as

[19] If a question is asked both in 2002 and 2003, we take the response with the largest associated value for each individual.

binary variables which take a value of 1 if the individual *agrees or strongly agrees* with a given statement, and 0 otherwise. We then take an average among these to construct the index.

The second dimension, *Community Service* (CS) includes 8 questions associated with the participation in activities likely to be associated with altruistic actions and community welfare. We include questions such as participation in voluntary associations, local community groups, religious organisations, political groups, among others. We split this dimension into two subcategories: the first one refers to questions related to how often respondents attend local groups or do voluntary work. For the empirical analysis on the impact of immigration we recode the responses of these questions as 1 for *at least* monthly frequency, 0 if it is lower. The second one which we use as our main *community service* index captures information on membership or activity in 6 organisations, which we code as 1 for an affirmative response in either situation, 0 otherwise. Finally, we take the average of each subcategory.

Table 2: PCA Results: Social Capital Classification

	Neighbourhood Cohesion	Community Service	Social Life	Collective Action	Institutional Trust	Unexplained
NC1: Belong to neighbourhood	**0.374**	-0.020	-0.024	0.046	0.067	0.404
NC2: Local friends mean a lot	**0.377**	0.024	-0.012	-0.080	-0.018	0.364
NC3: Advice obtainable locally	**0.344**	0.019	0.019	-0.088	-0.019	0.472
NC4: Can borrow things from neighbours	**0.283**	0.013	0.122	0.010	-0.111	0.628
NC5: Willing to improve neighbourhood	**0.224**	0.026	0.095	0.135	-0.083	0.744
NC6: Plan to stay in neighbourhood	**0.319**	-0.046	-0.126	0.162	0.041	0.520
NC7: Am similar to others in neighbourhood	**0.349**	-0.062	-0.081	0.032	0.069	0.465
NC8: Talk regularly to neighbours	**0.357**	0.020	-0.020	-0.100	-0.062	0.418
NC9: Frequency of talking to neighbours	**0.212**	0.056	-0.032	-0.247	-0.095	0.664
NC10: Likes present neighbourhood	**0.204**	-0.074	0.087	0.133	0.110	0.781
CS1: How often: Attend local groups	0.026	**0.350**	-0.116	0.027	0.028	0.661
CS2: How often: Do voluntary work	-0.017	**0.352**	-0.017	-0.031	0.009	0.703
CS3: A/M Religious/church org.	-0.005	**0.223**	-0.017	0.007	0.002	0.877
CS4: A/M Voluntary services group	0.010	**0.158**	-0.022	0.075	0.131	0.887
CS5: A/M Other community group	0.005	**0.155**	-0.095	-0.122	0.085	0.899
CS6: A/M Political party	0.041	**0.149**	-0.028	0.127	-0.067	0.898
CS7: A/M pensioners groups/organisation	0.001	**0.504**	0.004	-0.016	-0.001	0.372
CS8: A/M Tenants/Residents group	-0.018	**0.496**	0.021	-0.026	-0.036	0.401
SL1: How often: Go to cinema	-0.063	0.022	**0.458**	0.052	-0.021	0.483
SL2: How often: Go to theatre/concert	-0.011	0.193	**0.352**	0.030	0.023	0.585
SL3: How often: Eat out	0.004	0.043	**0.413**	-0.097	0.009	0.608
SL4: How often: Go out for a drink	-0.004	-0.143	**0.472**	-0.075	-0.020	0.475
SL5: Satisfied with social life	0.096	0.058	**0.184**	-0.311	0.185	0.696
SL6: Frequency of meeting people	0.027	0.065	**0.160**	-0.478	-0.014	0.627
SL6: A/M Sports Club	0.028	-0.025	**0.271**	0.134	0.023	0.796
SL7: A/M Social/Working men group	0.059	-0.057	0.100	-0.099	-0.002	0.946
CA1: A/M Professional organisation	0.026	0.071	0.116	**0.411**	0.004	0.664
CA2: A/M Trade union	0.038	-0.063	0.128	**0.328**	-0.062	0.796
CA3: A/M Environmental group	0.016	0.121	0.015	**0.248**	0.012	0.847
CA4: A/M Parents/School's Association	0.038	0.122	0.043	**0.167**	-0.161	0.868
CA5: Trustworthiness of others	0.082	0.077	0.105	**0.209**	**0.180**	0.782
IT1: Government reflects will of the people	0.005	-0.001	-0.001	0.011	**0.591**	0.477
IT2: People can influence govt. policy*	-0.009	0.005	0.054	0.140	**0.432**	0.665
IT3: Government puts nation's interests first	-0.006	-0.021	-0.046	-0.103	**0.528**	0.579

Notes: (*) Original question asks if *people can't influence government policy*. For comparison with other questions we invert the responses of this question framing it in a positive way: *people can influence government policy*.

The third component, *Social Life* (SL) reflects individuals social activities and satis-

faction with this aspect of their life. We also split this dimension into two main groups based on the years when these questions are asked. The first one constitutes our social life index and refers to the frequency of social events such as going to public spectacles, eating out and going out for drinks. Again, for the analysis we conduct later, we use an indicator for at least monthly frequency of each one of these activities, and then take the average among these dichotomous variables. The second subcategory refers to two organisations: sports club and social working men group. We proceed as with the other organisations' subcategories. In addition, we look separately at two questions that are asked on different years compared with the ones of these subcategories. One on life satisfaction (we recode a 7 scale score as 1 if the response is above 4 and 0 otherwise) and another one on the frequency of meeting people for which we use an *at least monthly* indicator.

The fourth component which we call *Collective Action & Trust* encompasses two main subcategories. The first one regards individuals trustworthiness in others. We code this variable as 1 if individuals believe that *most people can be trusted*, and 0 of if they believe that *it depends* or that one *cannot be too careful*.[20] The second one relates to a set of aspects that reflect individuals' involvement in organisations that would allow them to enhance their professional and personal conditions within a network. It includes membership or participation in professional associations, trade unions, environmental groups and parents associations. For the empirical analysis of the impact of immigration on social capital, we construct an indicator for membership or participation and then take the average of these responses.

Finally, the fifth component *Institutional Trust* integrates three questions associated with the opinion towards the government and perception of people's influence on it described earlier. As mentioned before, the questions are presented in a 5 point scale ranging from *strongly disagree, disagree... strongly agree*. For the empirical analysis we code the responses as 1 if individuals agree or strongly agree and 0 otherwise. We then take the average among all responses to generate an institutional trust index.

Descriptive statistics for all variables are provided in Tables B.1.1. Notice that the rate of missing responses among eligible individuals is very low, with the estimation sample representing around 98%-99% of all relevant observations for the purpose of this study. Section B.2 provides further details on the sample composition in this regard and the way we deal with missing observations.

[20] Question developed by Rosenberg (1956).

3.3 District-level Data

In addition to the individual-level data, we collect a series of characteristics at the LAD level. Depending on the specification, we use either time varying or constant LAD controls. Specifically, we recover from NOMIS information on jobs seekers' allowance rate as proxy for unemployment at the LAD level, LAD gross value added (GVA), jobs density and the median price of purchased houses.[21] In addition, we construct the following time-constant LAD controls: ethnic group share obtained from the 1991 census, industry composition from the 2001 census, LAD area (size) and a dummy for urban districts.[22]

4 Empirical Strategy

To assess the causal effect of the EU enlargement on social capital, we propose a difference-in-differences strategy. We exploit differences in local exposure to immigrants inflows from Europe across LADs over time. Taking advantage of the longitudinal dimension of the BHPS-UKHLS, we restrict our attention to those outcomes stemming from questions that were introduced *before* the 5th enlargement took place, and that were asked again at least once *after* the enlargement. Since we measure our outcomes with binary variables, we estimate linear probability models using the following baseline specification:

$$SC_{idt} = \alpha + \beta D_{04} \cdot \Delta M_{d(i,2004)} + \Gamma X_{it} + \lambda_t + \theta_d + e_{idt}, \tag{1}$$

where SC_{idt} denotes each dimension of social capital that we listed before as well as averages among categories for each individual i, in year t living in a LAD d. $\Delta M_{d(i,2004)}$ denotes the change in the number of immigrants I in each LAD, as share of the total population Pop in the baseline period, 2004.[23] Specifically:

$$\Delta M_d = \frac{I_{d,2008} - I_{d,2004}}{Pop_{d,2004}}$$

ΔM_d thus, measures the largest immigrant growth rate during the enlargement. The shock is matched to each individual based on their residence in 2004 regardless of their district of residence at the moment of the interview. Furthermore, we interact this variable with a *post* dummy variable D_{04} which takes a value of 0 before the 5th enlargement took place (*pre-period*) and a value of 1 from the first enlargement onwwards (*post-period*).

[21] Obtained from ONS House Price Statistics for Small Areas.
[22] We exploit information of urban and rural districts for England.
[23] Descriptive statistics for the shock are available in Appendix Table B.1.3.

Specifically:

$$D_{04} = \mathbb{1}\{t \geq 2004\}$$

All regressions include controls for age, gender, education and occupational status (employed, retired, student). Moreover, we control for the log of household income, household tenure (owned/mortgage or not) and household size. In all regressions errors are clustered at the LAD level.

4.1 Identification

Although our main specification strategy relies on a difference-in-differences framework, the *intensity* of treatment in each region might not be fully exogenous. Namely, the change in immigrants' shares derived from the EU enlargements, need not be randomly assigned across LADs. The direction of a potential selection bias in this setting is not straightforward. For instance, we could expect OLS estimates to be upward biased if migrants were to choose places were social capital is higher since these places are likely to be more attractive.However, it could also be the case that these places, which are also more demanded by natives, are less attractive to newly arrived immigrants due to housing availability constraints or financial constraints associated with the former (higher rent prices). Under this scenario, OLS could be biased downwards. To address potential endogeneity issues stemming from migrants' location choices, we apply a shift-share instrumental variable. Exploiting information on the past distribution of the key origin groups from the Accession countries we employ the following past-settlement (Card, 2001) type of instrument:

$$\tilde{M}_d = \sum_o \frac{I_{odt_0}}{I_{ot_0}} \frac{I_{o2008} - I_{o2004}}{Pop_{d2004}} \tag{2}$$

Where o denotes origin group, d denotes district, I migrant stocks and Pop total native and migrant population. We leverage information from the 2001 census to recover the initial distribution of each immigrant origin group (at t_0) across LADs. The 2001 census contains detailed information for the following EU-2004 accession countries or group of countries: Poland, Czechia, Baltic countries (Estonia, Latvia, Lithuania) and former Yugoslavia (of which Slovenia was part of). Hungary and Slovakia cannot be identified separately. In addition, it has detailed information for Romania, which entered the EU in 2007, jointly with Bulgaria. The latter however, cannot be identified individually.

We construct our instrument using the information from Poland, Czechia, Baltic countries and Romania. We could also match the shares of former Yugoslavia with the national shift from Slovenia, however the aggregate inflows of this country between 2004-2008 are

close to zero, as shown in Table 3. Appendix Table B.3.1 reports first stage regression results.[24]

Table 3: Stocks of EU Accession Countries (2004 and 2007 enlargements)
2008 values

	Stocks (Thousands)	Share(%)	$\Delta_{2004-2008}$ (Thousands)
Poland	447	63.77	354
Lithuania	56	7.99	35
Slovakia	42	5.99	35
Romania	41	5.85	28
Bulgaria	32	4.56	22
Czech Republic	28	3.99	10
Latvia	25	3.57	19
Hungary	24	3.42	12
Estonia	5	0.71	3
Slovenia	1	0.14	0

Notes: The table shows the number of persons from the Eastern European accession countries living in the UK as of 2008, measured in thousands (column (1)) and as share of the total (column (2)). Column (3) displays the difference in absolute numbers between 2004 and 2008.

Furthermore, we corroborate the causal interpretation derived from our baseline identification strategy in a dynamic event-study type of framework. Since we observe each outcome for several years before the enlargement, we implement a set of placebo test on the lagged-outcomes i.e., outcomes *before* the enlargements took place, which allows us to evaluate whether previous ongoing trends are driving our results. Such falsification test support the exogeneity assumption of our instrument. Section 5.3 provides the details and main findings of this approach.

[24]In Appendix B.3 we assess two instruments: the first one, (IV-A) exploits the information from Poland, Czechia and Baltic countries. In a second one, which we use in our main analysis incorporates Romania (IV-B).

5 Results

This section evaluates the impact of immigration on social capital. We begin by analysing the effect of the recent EU enlargements by looking at the results from model (1) on the 5 key dimensions of social capital obtained from the PCA (Section 5.1). We then unravel these effects. In section 5.2 we look at how immigration affected each aspect that contributes to each social capital main component. Finally, in section 5.3 we provide a dynamic framework to further assess the robustness of a causal interpretation of our estimates.

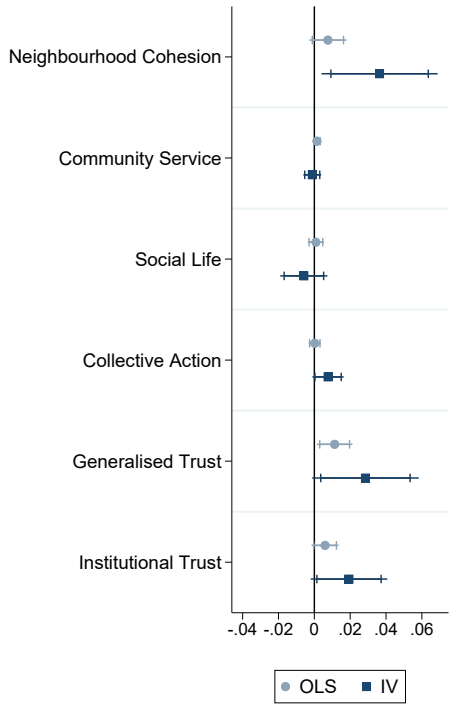
5.1 Immigration and Social Capital: Key Dimensions

Figure 4 summarises OLS and IV estimates for each category: neighbourhood cohesion, community service, social life, collective action and the two levels of trust: trustworthiness of others (which we call generalised trust) and institutional trust. Table 4 reports the magnitudes of these results across different specifications. Column (1) reports OLS estimates based on model 1. Column (2) reports our baseline difference-in-differences specification where we estimate model 1 instrumenting the immigrant shock via the shift-share approach described in Section 4.1. In columns 3-5 we consider alternatives to our difference-in-differences strategy where we gradually control for area characteristics. Column (3) reports estimates without using LAD fixed-effects nor area controls. Column (4) incorporates constant LAD controls, namely: industry composition as of 2001, LAD size (inland area) and ethnic group composition measured as the share of white population as of 1991. Column (5) includes area fixed-effects instead of time-constant controls plus a set of time varying area controls including job seekers' allowance rate, gross value added, jobs density and the median price of purchased houses. While the last specification has a richer set of LAD covariates some of these could be considered potential *bad controls*, (Angrist and Pischke, 2009)[25] thus we use the second specification (column (2)) as our preferred baseline for the remainder of the paper.

Focusing on the IV estimates, we observe that those individuals from regions with higher exposure to Eastern European migrants inflows, experienced a positive effect on social capital on four dimensions: *neighbourhood cohesion*, *collective action*, *generalised trust* and *institutional trust*. Albeit of smaller magnitude, the effect on the first category achieves the highest significance level. According to our baseline IV specification (Column (2)), one percentage point increase in the immigrant share from the New Member States is associated with a 3.6 percentage point rise of the neighbourhood cohesion index. Relative to the average score, this translates into a 5% increase. While the effects might

[25] House prices and local economic conditions might be directly impacted by immigrants inflows.

Figure 4: Impact of Immigration on Social Capital



Notes: The figure displays coefficients for the main social capital dimensions estimated from model 1. Horizontal bars represent 95% confidence intervals and vertical lines indicate 90% confidence level.

be considered surprising, Langella and Manning (2019) find in one of their specifications a suggestive positive response of immigration on the prevalence of respondents that *like the neighbourhood*. Although their estimated effect is not statistically significant, as mentioned in Section 1 the scope of their analysis is different from ours which also means that they use a different empirical strategy compared to our quasi-experimental based design. As noticed by the authors, albeit Brexit revealed strong negative attitudes towards migrants, most of these were concentrated in *low* migration areas. Moreover, the results are consistent with Akay et al. (2017) who finds a positive effect of higher immigrant exposure on subjective well-being in Germany.

In addition, we observe that individuals are more likely to engage in *collective action* organisations. As mentioned in section 3, the survey reports information on whether individuals are *active* or *members* of a given organisation. We consider either of these responses as a participation behaviour, given that not all self-declared members claim being active and the other way around. In particular, we find that one percentage point increase in European immigration exposure is associated with a 0.8 percentage point increase in the likelihood of participating in this type of groups, nearly 9% of the average. The positive effect on this dimension is interesting considering that a large strand of the literature has focused on organisation membership as proxy to measure social capital, arguing that it reflects individuals' willingness to contribute to the public good. For instance, Geraci

et al. (2022) distinguishes between Olson and Putnam type of organisations present in the BHPS-UKHLS data.[26] Our collective action component uncovered from the PCA reflects rather Olson-type of organisations (Olson Jr, 1971). Individuals seem thus more likely to engage in groups with redistributive goals where their contribution results in a public good that benefits all members –including themselves–. One motivation for such response may stem from individuals perception of possible changes in the labour market or school environment driven by the EU enlargements, and their willingness to address potential challenges.[27] Another driving force, perhaps alternative or complementary, might be associated with individuals interest in seizing professional opportunities arising from the new local conditions. The effects remain stable once we control for a set of local characteristics (column (5)) in addition to the baseline individual controls (column (2)).

Furthermore, the IV estimates suggest a positive effect on different levels of trust. One percentage point increase in the share of East European immigrants is associated with a 2.9 percentage point increase in the likelihood to trust others.[28] The effect translates to a 7.8% increase in the average outcome. Moreover, the estimates suggest a 10% increase in the average institutional trust index. The latter captures the perception towards the reliance on government's democratic values, integrating beliefs on the extent to which the government reflects the will of people, the influence people have on it and whether it puts nation's interests first. While our baseline estimates include all respondents of the BHPS-UKHLS, Appendix Table B.5.1 shows that in general, these effects are robust to restricting the sample to natives only.

In contrast, we do not find a significant response in the likelihood of participating in *community service* organisations, nor a significant change in *social life activities*. Certainly, it is possible that the inflow of European immigrants following the EU enlargement did not affect these dimensions. However, there could also be counteracting forces in each subcomponent that explain these results. In the next section we address this possibililty by unpacking the effects on each social capital dimension.

[26] Unlike our PCA analysis, the authors categorisation responds to their criteria based on the nature of a subset of six organisations.

[27] As mentioned in Section 2 the UK was among the few countries that did not implement transitional policies to limited mobility on the first years.

[28] Individuals believe that *most people can be trusted.*

Table 4: Impact of Immigration on Social Capital

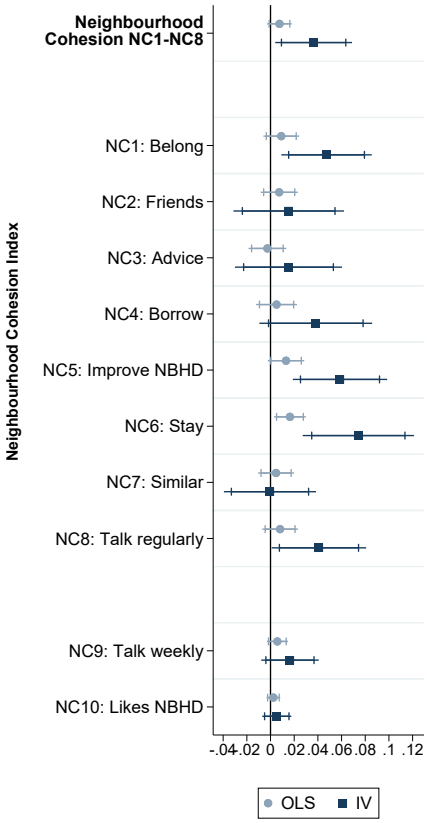
	(1) OLS	(2)	(3)	(4) IV	(5)
Neighbourhood Cohesion	0.008	0.036**	0.048*	0.055*	0.026**
	(0.005)	(0.016)	(0.028)	(0.030)	(0.013)
N	20,628	20,628	20,630	20,630	20,628
Mean Dep.	0.668	0.668	0.668	0.668	0.668
F-KP		24.265	22.856	25.569	43.315
Community Service	0.001	-0.001	0.002	0.003	-0.000
Organisations	(0.001)	(0.003)	(0.004)	(0.004)	(0.003)
N	35,433	35,433	35,434	35,434	35,433
Mean Dep.	0.052	0.052	0.052	0.052	0.052
F-KP		22.999	22.365	23.286	31.772
Social Life	0.001	-0.006	-0.003	0.004	-0.000
Monthly Activities	(0.002)	(0.007)	(0.011)	(0.011)	(0.006)
N	33,827	33,827	33,827	33,827	33,827
Mean Dep.	0.323	0.323	0.323	0.323	0.323
F-KP		22.077	20.650	20.406	31.069
Collective Action	0.000	0.008*	-0.001	0.001	0.008*
	(0.002)	(0.004)	(0.007)	(0.007)	(0.005)
N	35,433	35,433	35,434	35,434	35,433
Mean Dep.	0.086	0.086	0.086	0.086	0.086
F-KP		22.999	22.365	23.286	31.772
Generalised Trust	0.011**	0.029*	0.032*	0.035*	0.030**
	(0.005)	(0.015)	(0.018)	(0.019)	(0.014)
N	32,883	32,883	32,883	32,883	32,883
Mean Dep.	0.373	0.373	0.373	0.373	0.373
F-KP		23.445	22.494	22.827	31.497
Institutional Trust	0.006	0.019*	0.009	0.008	0.012
	(0.004)	(0.011)	(0.012)	(0.012)	(0.011)
N	20,898	20,898	20,899	20,899	20,898
Mean Dep.	0.178	0.178	0.178	0.178	0.178
F-KP		21.642	22.443	23.371	32.387
Controls	✓	✓	✓	✓	✓
LAD FE	✓	✓	No	No	✓
LAD Time varying C.	No	No	No	✓	✓
LAD Constant C.	No	No	✓	✓	No

Notes: Column (1) displays OLS estimates. Columns (2)-(5) display IV estimates. The sample size changes by social capital dimensions because not all questions are asked in the same years nor with the same frequency. More details on the sample construction are available in Section 3.2. Survey years for each category: Neighbourhood Cohesion 2003, 2008, 2011, 2014. Community Service 2001, 2003, 2005, 2007, 2011, 2014. Social Life 2000, 2002, 2004, 2006, 2008. Collective Action 2001, 2003, 2005, 2007, 2011, 2014. Generalised Trust 2000, 2003, 2005, 2007, 2008. Institutional Trust 2001, 2003, 2006. Appendix Table B.6.1 displays the timeline of the survey by question. All regressions include the following individual controls: age, sex, education, employment status, household income, house tenure, household size. Time constant LAD controls include: (ln) median house prices, (ln) GVA, job seekers' allowance rate.Time varying LAD controls include: white share and black share (1991) (ln) area, industrial composition (shares agriculture, fishery, mining, construction, manufacturing, finance as of 2001). Robust standard errors clustered at the LAD level in parentheses. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

5.2 Unravelling the Effects

In this section we unravel the effects of the EU enlargement on social capital by looking at how the elements of each dimension are affected by the local immigration shock. To better understand the forces behind the responses, we regress separately each question that integrates our social capital key components on the instrumented migration shock following the specification described in equation 1.

Figure 5: Immigration and Neighbourhood Cohesion



Notes: The figure displays coefficients for the neighbourhood cohesion index and sub-components estimated from model 1. Horizontal bars represent 95% confidence intervals and vertical lines indicate 90% confidence level.

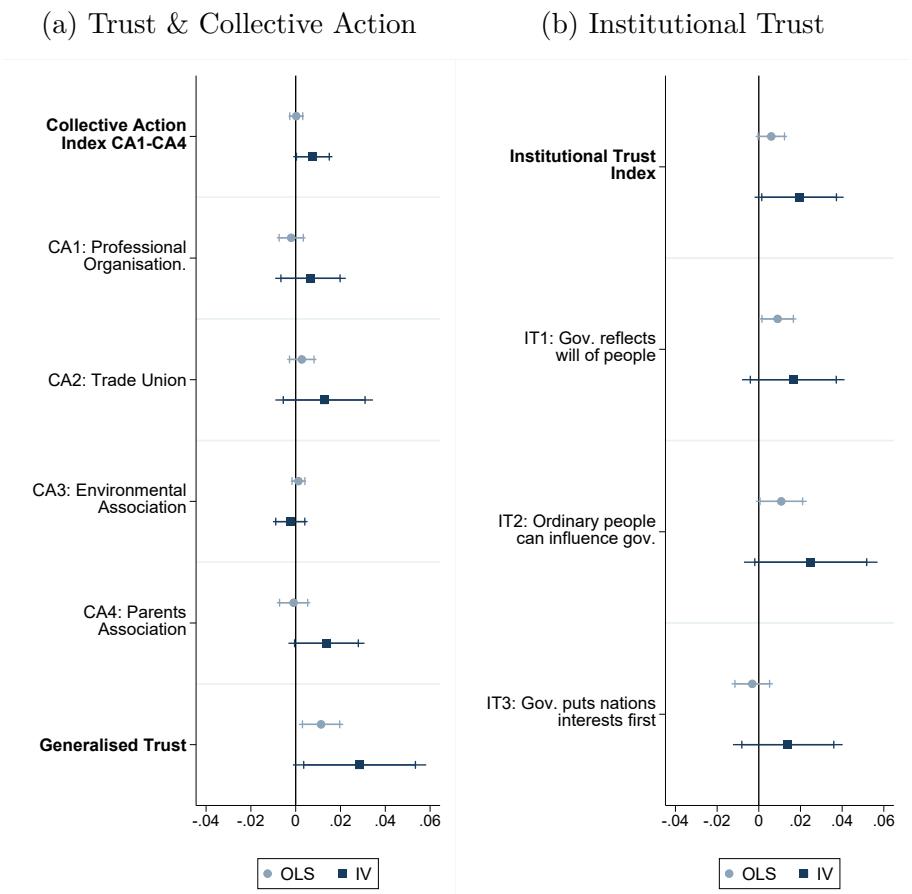
Figure 5 displays the effects of European immigration on neighbourhood cohesion. We can observe that the positive impact on this dimension's index is driven by four key elements: i) people's sense of belonging in the neighbourhood ii) their willingness to improve or iii) to stay in the neighbourhood and iv) talking regularly to their peers. The latter is reinforced by a suggestive positive effect on the element NC9: *Talk at least weekly with neighbours*,[29] although not statistically significant at conventional levels. Likewise, we observe a positive effect on residents feeling that they can *borrow things from their neighbours* (NC4). The responses on these dimensions suggest a strengthening of local

[29]Element NC9 and NC10 are excluded from the main neighbourhood cohesion index because they are asked in different years than the rest of questions.

networks.

Furthermore, having a nearly zero coefficient on the component NC7: *Am similar to others in the neighbourhood* is not only in line with our expectations but also reassuring. A positive effect would be somewhat unforeseen in this setting. The effect thus strengthens to some extent the causal interpretation of our findings by suggesting that we are actually recovering an immigration effect.

Figure 6: Impact of Immigration on Trust and Collective Action Groups



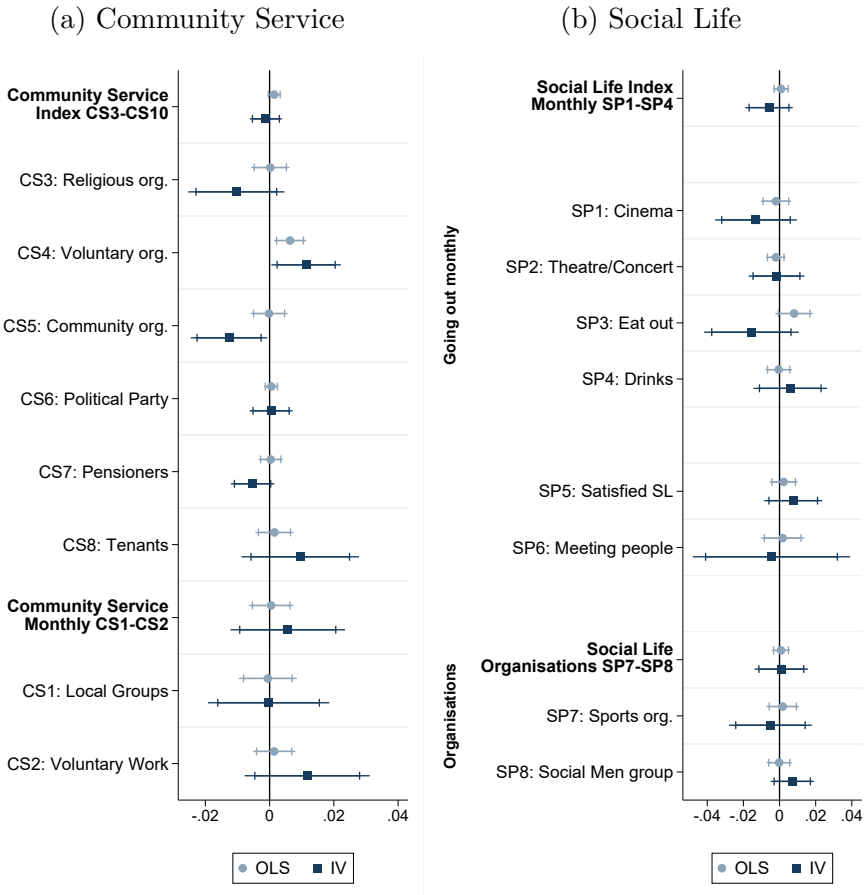
Notes: Panel (a) displays coefficients for the collective action index and its subcomponents along with generalised trust. Panel (b) displays coefficients for the institutional trust index and its subcomponents. All coefficients are estimated from model 1. Horizontal bars represent 95% confidence intervals and vertical lines indicate 90% confidence level.

Figure 6a unpacks the impact of immigration on *collective action* organisations. We observe that individuals with higher immigration exposure are more likely to join parents associations organisations and a suggestive increased probability to participate in a trade union, albeit not statistically significant. Amid incoming demographic changes, parents might involve more actively to ensure that any required adjustments align with their interests regarding their children, as well as meet their educational and school-environment standards. Regardless of the motivation, –*responsibility* or *fear* driven–, these interactions still translate into a social capital uplift. Along with a potential enhancement of local ties, there seems to be a positive association between East European immigration and all

subcomponents of trust. Both individual (Figure 6a) and institutional aspects (Figure 6b).

Finally, Figure 7 displays the effect of immigration on *community service* and *social life*. As discussed in Section 5.1 we found no effects on the aggregate indices. However, once we disaggregate these outcomes, two key aspects arise. On the first outcome, we observe an increase on the likelihood of participating in a voluntary organisation. The effect however seems to be counterbalanced by a decline on the probability of joining *"other community organisation"* of approximately the same magnitude. Given the similar nature of these organisations, it is possible that we are recovering a *crowding-out* effect where individuals likely to choose *any* community group before the shock, decide to spend their time in more specific voluntary organisations. One reason could be the willingness to contribute to an effective integration of the newly arrived. Another one could be that exposure to different realities and cultures increases the desirability to help others in a more tailored way.

Figure 7: Impact of Immigration on Community Service and Social Life



Notes: Panel (a) displays coefficients for the community service index and its subcomponents. Panel (b) displays coefficients for the social life index and its subcomponents. All coefficients are estimated from model 1. Horizontal bars represent 95% confidence intervals and vertical lines indicate 90% confidence level.

Second, we find no evident statistically significant effect on any of the social life ele-

ments. It is possible that the arrival of European immigrants indeed did not affect this dimension. However, the results might also be influenced by the *frequency* at which we measure these outcomes relative to customary behaviours. In Appendix A.2.1 we test this hypohtesis. We find that when measured at the annual rather than monthly frequency, the probability of going to the cinema and attending public spectacles such as concerts and the theatre declines. Given its costs, these are activities that in fact tend to be conducted with less frequency. In addition, it is interesting to notice the cultural nature of these activities. Our results connect directly with Card et al. (2012) findings on *compositional amenities* concerns of immigration. In fact, one of the *two* main questions from the European Value Survey that the authors use to measure this concept is culture: *"IC4. Would you say that a country's cultural life is undermined or enriched by the presence of immigrants?"*.[30] An alternative explanation could be a soar in prices driven by migration-induced demand changes. However, the evidence on the UK on this regard suggests limited price effects (Frattini, 2014). Finally, another possibility for the absence of effects in our baseline measure could be that these behaviours are highly heterogeneous among individuals. In section 6 we turn to this analysis.

5.3 Dynamic Framework

To corroborate the causal interpretation of the previous findings, in this section we analyse the effect of immigration on social capital in a dynamic framework. Focusing on the dimensions for which we found a meaningful non-zero response, we estimate the following regression:

$$SC_{idt} = \alpha + \sum_{s \neq -1} \beta_s \Delta M_{d(i,2004)} \cdot \mathbb{1}\{s = t\} + \Gamma X_{it} + \lambda_t + \theta_d + e_{idt}, \tag{3}$$

for individual i from district d at year t. The exercise serves two purposes. First, as placebo tests. If our estimates were recovering the effects of the migration due to EU enlargement we would expect $\beta_s = 0$ for $s < 2004$. Second, a visual inspection allows us to determine whether we are recovering pre-existing trends. For each outcome, we use the last available year of data before the 5th enlargement as reference period. As mentioned earlier, while all selected questions are asked before and after the enlargement, they are not asked all nor the same years. Some questions are asked less frequently than others and the gaps between waves when the questions are asked also vary. This is also one of the reasons why we do not use the dynamic framework as our baseline strategy. Still, we

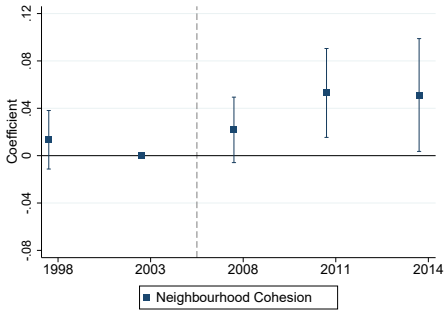
[30] From a pool of five questions, Card et al. (2012) select two that they find to be the clearest indicators of compositional concerns. The one cited above which directly involves immigration and the following: *"IC1: Do you agree or disagree that it is better for a country if everyone shares the same customs and traditions?"*.

are able to recover some valuable insights.

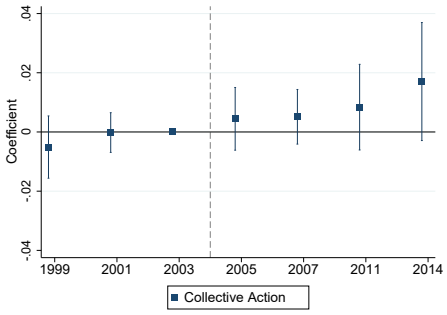
Figure 8 summarises the results. In general, our findings suggest that the effects that we observed employing model 1 are not reflecting *past* ongoing dynamics. The change in pattern *post* enlargement seems quite robust for: *neighbourhood cohesion* (panel a), *collective action organisations* (panel b) and *institutional trust* (panel f). Furthermore, for the *community service* dimension, rather than looking at the aggregate index for which we found no effect, we focus on the two types of organisations with significant responses, namely, *voluntary* (panel c) and *other community groups* (panel d). We seem a similar behaviour as with the other dimensions: No evident pattern *before* the enlargement and responses triggering *after*. We take this as reassuring evidence for a causal interpretation of our previous findings. Finally, we also observe a positive association between immigration and *generalised trust* (panel e) towards other individuals. The former set of results however are the most robust to our dynamic framework. We interpret this as suggestive evidence of a positive response to immigration on the other dimensions being subject to baseline levels of trust.

Figure 8: Dynamic Responses

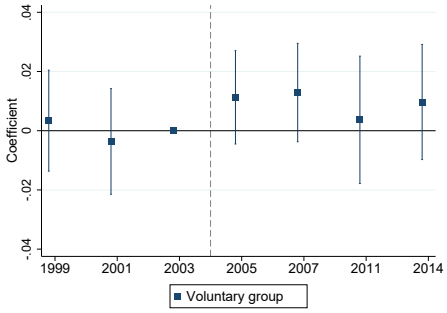
(a) Neighbourhood Cohesion



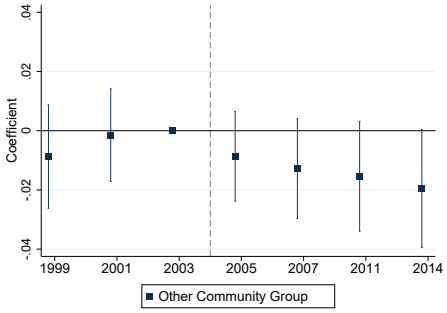
(b) Collective Action



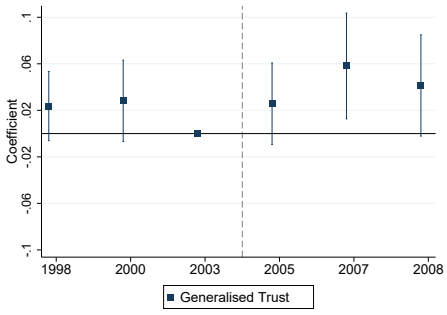
(c) Voluntary Services



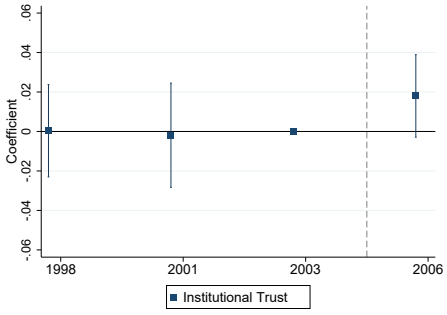
(d) Other Community Group



(e) Generalised Trust



(f) Institutional Trust



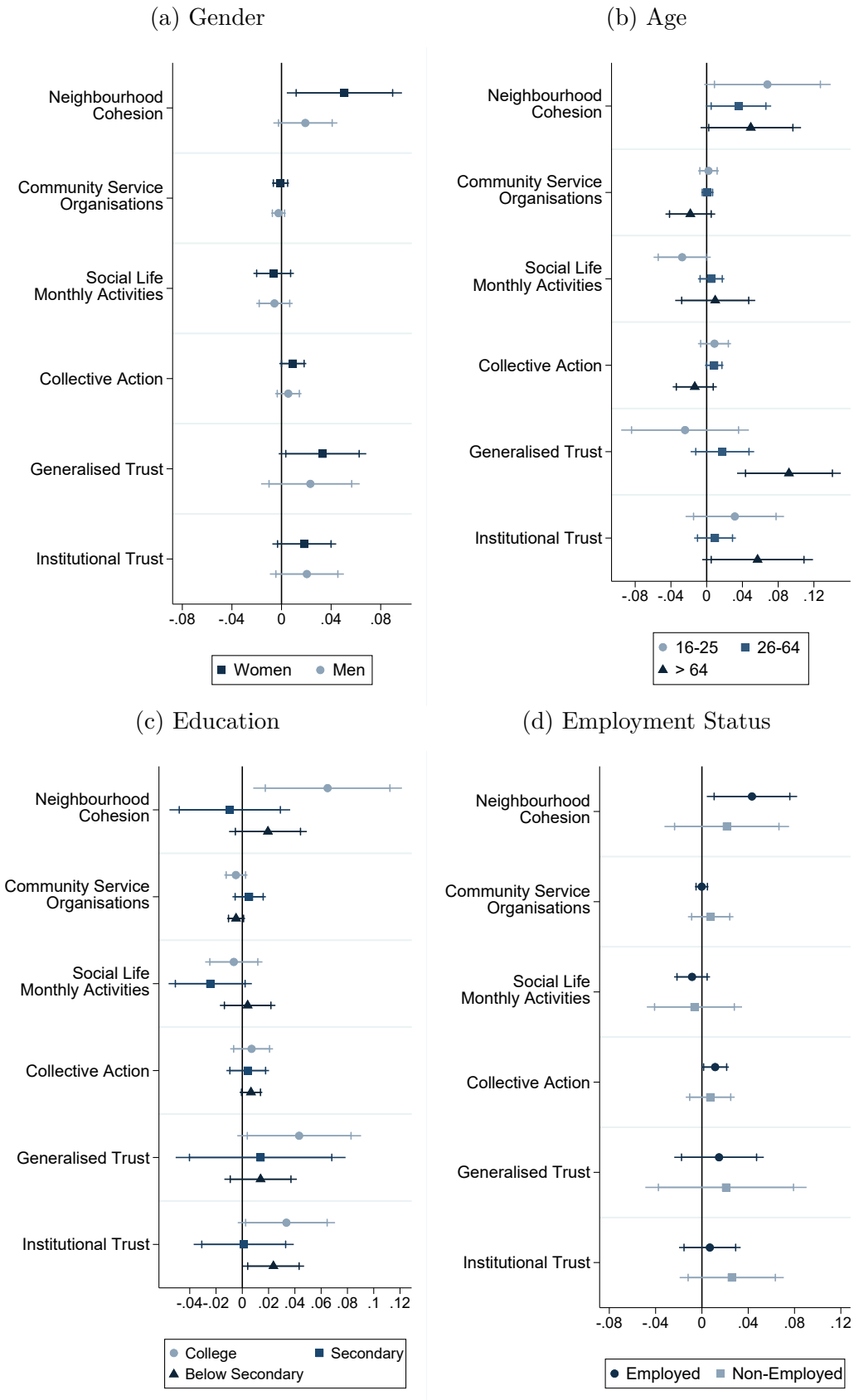
Notes: The figure displays the estimated coefficients and 95% confidence intervals from model 3 for different social capital dimensions and subcomponents.

6 Heterogeneity and Further Results

Given the nature of social capital and its different dimensions we could expect the impact of immigration to be highly heterogeneous. In this section we assess to what extent the effects differ across demographic groups and regional characteristics.

We begin by analysing individual heterogeneity in Figure 9. First, we can observe that there are no substantial gender differential responses (panel a). In terms of age (panel b), education (panel c), and employment (panel d) the responses are rather heterogeneous for some dimensions. The positive effect on *neighbourhood cohesion* is stronger and to a large extent seems to be driven by college-educated and employed people. The effects however, are similar across age groups. For *community service* organisations we do not observe evident statistical differences, except for older people aged over 64 reducing their likelihood of joining these groups. In the case of the *social life* dimension, for which we had not found aggregate responses before (Section 5.1), we can observe a clear negative response for the youngest people and those with at most secondary education (for which we could expect a strong overlap with those aged 16-25). The responses are worth highlighting considering that younger people have typically a more active social life. Turning to *collective action* organisations, we observe that the effect is positive and more precisely estimated for people below-secondary, employed and of working age (26-64 years old). The results are intuitive if we consider that these people might have stronger incentives to join trade unions for instance. In the case of *generalised trust*, we notice that the positive effects found before are more evident and statistically significant for college-educated people and those of older age (above 64 years old). One potential reason could be that that these groups were less exposed to labour market competition from migrants. Finally, we find that positive immigration effects on *institutional trust* attitudes are more evident for college-educated and individuals below-secondary education, as well as for older citizens.

Figure 9: Heterogeneity: Individual Characteristics



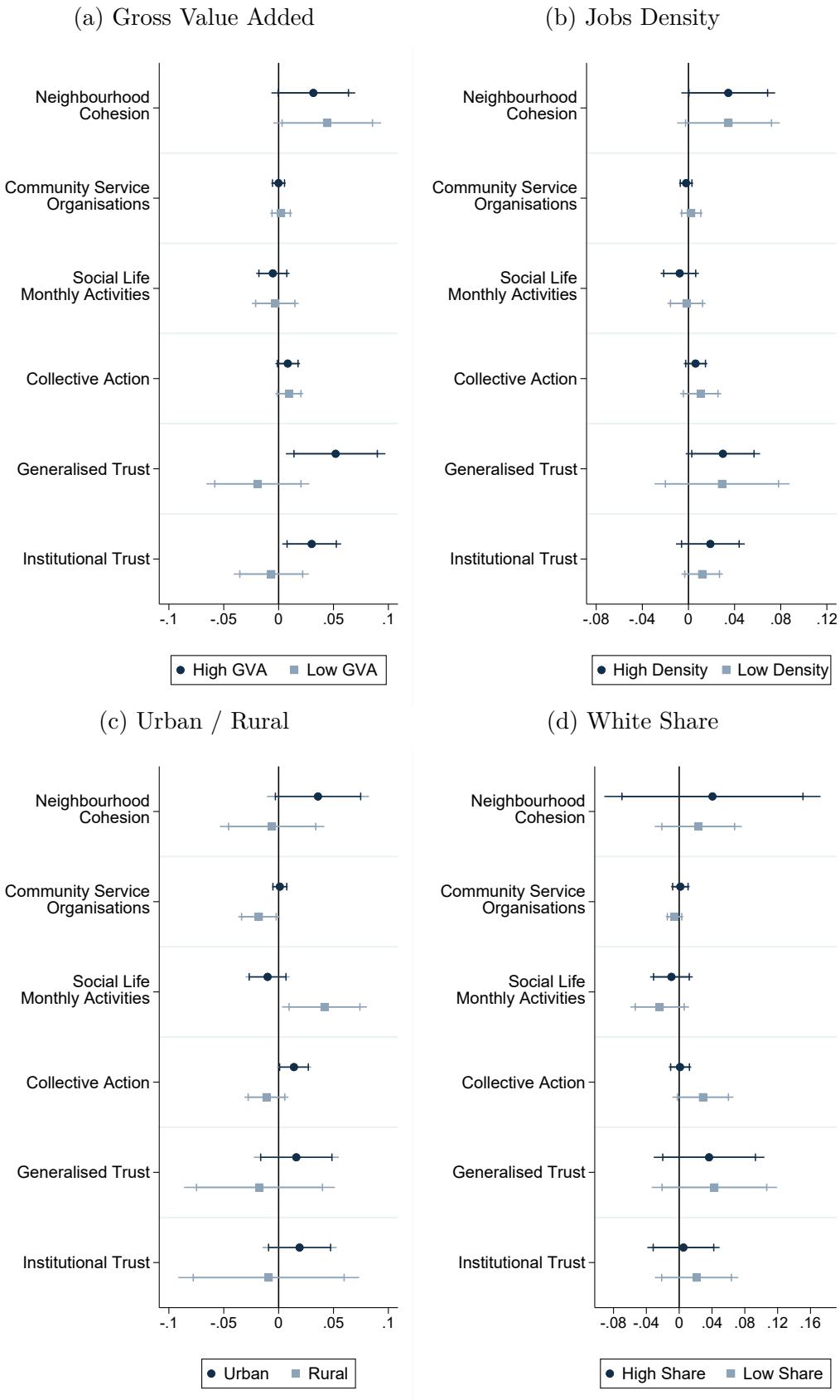
Notes: The figure displays estimated coefficients from model 1 for different demographic groups. Horizontal bars represent 95% confidence level intervals and vertical lines indicate 90% level.

Figure 10 assesses heterogeneous responses based on regional characteristics. Regarding economic conditions, we classify Local Authority Districts in terms of median values of gross value added (GVA) and jobs density.[31] For most dimensions the effects seem rather homogeneous except for trust. In particular, we find that a positive effect both in terms of *generalised* as well as for *institutional trust* only for wealthier districts in terms of GVA. Finally, we look at differences between urban and rural districts.[32] In this case the effects do vary across dimensions. In urban districts we observe a positive effect of immigration on neighbourhood cohesion and collective action organisations. The point estimates for trust also suggest that the positive effect is only evident on these types of districts, although the standard errors are quite large turning the effect not statistically significant. In contrast, we find a negative effect on community service organisations for rural districts -with close to zero effect for urban- and interstingly, a positive response in the *social life* dimension. Finally, we evaluate heterogeneous responses based on historical ethnic composition, namely the share of white population as of 1991. We find that more evident differences arise in two dimensions: i) a suggestive negative effect on social life for those areas were the white-share was historically below the average and ii) that the positive response on collective action organisations was only noticeable for this group, potentially driving the aggregate effects.

[31] The number of jobs in an area divided by the resident population aged 16-64 in that area. For example, a job density of 1.0 would mean that there is one job for every resident aged 16-64. The total number of jobs is a workplace-based measure and comprises employee jobs, self-employed, government-supported trainees and HM Forces. Indicator released by the Office of National Statistics (ONS).

[32] We focus on the ONS classification for England.

Figure 10: Heterogeneity: LAD Characteristics



Notes: The figure displays estimated coefficients from model 1 based on different Local Authority District characteristics. Horizontal bars represent 95% confidence level intervals and vertical lines indicate 90% level. The urban/rural analysis in panel (c) is restricted to England. GVA panel (a), Jobs Density panel (b) and Urban/Rural panel (c) are based on Office of National Statistics (ONS) indicators as of 2003. The average white share is calculated from the 1991 census.

6.1 Mobility and Individual Dynamics

In this section we take advantage of the longitudinal dimension of our dataset to explore further to what extent the responses that we measured earlier may vary across people based on i) mobility dynamics and ii) inherent individual heterogeneity.

In Table 5 we estimate model 1 imposing different sample restrictions related to mobility patterns. For reference, column (1) presents the baseline estimates including all individuals regardless of mobility dynamics. Column (2) restricts the sample to those that live in the same LAD as in 2004. Column (3) looks at those that changed LAD with respect to their 2004 LAD.[33] Column (4) instead restricts the sample to people that moved at some point *after* 2004.[34] Comparing the first two columns, we can observe that the impact of immigration on the *neighbourhood cohesion* index, *collective action* organisations and *generalised trust* remains positive and statistically significant when we restrict the sample to those that never moved (column (2)). However, three aspects are worth highlighting. First, we observe a decline in the point estimates of non-movers for neighbourhood and generalised trust effects. Albeit not statistically different from the baseline estimates, the differences in the point-estimates magnitudes for neighbourhood effects is not negligible. Second, we find that post-2004 movers displayed a strong positive response for these two categories, as well as in the likelihood of joining *collective action* groups. Yet, only the last two are statistically significant. Finally, we find that the effects on participating in *collective action* organisations and *generalised trust* are quite similar magnitude for the full sample and the non-movers restricted one.

[33] In this case we restrict the sample to those that either *have* moved before 2004 or that *will* move after 2004 (but no later than 2014).

[34] If for instance an individual moves in 2005, we keep all their history including observations pre-move year.

Table 5: Mobility Dynamics and the Impact of Immigration

	(1) All	(2) Non-movers	(3) Location different from 2004	(4) Post-2004 movers
Neigbourhood Cohesion	0.036**	0.021*	0.110	0.066
	(0.016)	(0.012)	(0.122)	(0.048)
N	20,628	19,055	1,562	2,672
Mean Dep.	0.668	0.675	0.583	0.571
F-KP	24.265	27.407	1.746	5.632
Community Service	-0.001	0.001	-0.031	0.003
Organisations	(0.003)	(0.003)	(0.026)	(0.007)
N	35,433	33,152	2,272	4,347
Mean Dep.	0.052	0.053	0.050	0.050
F-KP	22.999	24.500	3.519	7.310
Social Life	-0.006	0.001	-0.031	-0.011
Monthly Activities	(0.007)	(0.007)	(0.030)	(0.019)
N	33,827	32,012	1,803	3,947
Mean Dep.	0.323	0.317	0.430	0.427
F-KP	22.077	22.882	7.567	7.761
Collective Action	0.008*	0.007*	0.028	0.029*
	(0.004)	(0.004)	(0.031)	(0.017)
N	35,433	33,152	2,272	4,347
Mean Dep.	0.086	0.085	0.098	0.094
F-KP	22.999	24.500	3.519	7.310
Generalised Trust	0.029*	0.029**	0.027	0.044
	(0.015)	(0.014)	(0.062)	(0.042)
N	32,883	30,968	1,904	3,896
Mean Dep.	0.373	0.371	0.396	0.397
F-KP	23.445	24.320	5.275	5.876
Institutional Trust	0.019*	0.013	0.041	0.068*
	(0.011)	(0.010)	(0.070)	(0.040)
N	20,898	19,848	1,031	2,380
Mean Dep.	0.178	0.174	0.247	0.217
F-KP	21.642	22.802	4.938	9.147
Controls	✓	✓	✓	✓
LAD FE	✓	✓	✓	✓
Year FE	✓	✓	✓	✓

Notes: IV estimates. Survey years for each category: Neighbourhood Cohesion 2003, 2008, 2011, 2014. Community Service 2001, 2003, 2005, 2007, 2011, 2014. Social Life 2000, 2002, 2004, 2006, 2008. Collective Action 2001, 2003, 2005, 2007, 2011, 2014. Generalised Trust 2000, 2003, 2005, 2007, 2008. Institutional Trust 2001, 2003, 2006. All regressions include the following individual controls: age, sex, education, employment status, household income, house tenure, household size. Robust standard errors clustered at the LAD level in parentheses. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

As mentioned in section 3.2.1 most eligible individuals enter our sample, with very few cases of missing values and non-response rate (See also Appendix Section B.2). However, not all individuals entered the BHPS sample in the same wave. While our design requires that individuals are observed at the beginning of the EU enlargement since we match the migration shock to their LAD residence in 2004, we do not impose further restrictions on this regard. In Table 6, we assess the impact of the EU immigration shock by restricting the sample to those individuals that are observed at least once *before* the EU enlargement (2003 or earlier) and at least once *after* the enlargement began (2005 or later). Between 85-90 percent of the initial number of observations for each dimension satisfies this condition.[35] Columns (1) and (2) provide the baseline and restricted-sample IV estimates, respectively. In general, estimates are robust to this restriction. We can observe that the effects on neighbourhood cohesion, collective action, generalised and institutional trust remain positive and of a similar magnitude. Finally, we can observe that the small negative impact on social life is unchanged, remaining non statistically significant.

Finally, we provide an alternative specification to account for unobserved individual heterogeneity. As proposed in equation 4, for this analysis we allow the share of new EU migrants to vary year-by-year –thus we do not account explicitly for the legal timing of the enlargement as we do in model 1. We denote the annual migrant share in the LAD by $M_{dt(i,2004)}$, and incorporate individual fixed-effects ϕ_i.

$$SC_{idt} = \alpha + \beta M_{dt(i,2004)} + \Gamma X_{it} + \lambda_t + \phi_i + e_{idt}, \tag{4}$$

Table 7 provides IV estimates based of this model. Column (1) does not control for area nor individual fixed-effects. Column (2) adds area fixed-effects (based on 2004 residence) whereas column (3) controls for individual fixed-effects following equation 4. Looking at the individual fixed-effects specification, we can observe that the responses are qualitatively similar to the ones that we found in our baseline estimated model. First, we observe a positive and statistically significant effect on collective action and the two levels of trust that we explore. Second, the impact on neighbourhood cohesion remains positive, although of smaller magnitude and not statistically significant. Third, in line with our previous findings, the effect on the aggregate community service index remains null. Finally, the individual fixed effects regression suggests a negative effect on social life, therefore the same direction we reported before, which now becomes statistically significant and of a larger magnitude.

[35] The sample size changes by social capital dimensions because not all questions are asked in the same years nor with the same frequency. More details on the sample construction are available in Section 3.2. Appendix Table B.6.1 displays the timeline of the survey by question.

Table 6: Sample Restrictions based on Participation Waves

	(1) All	(2) Restricted
Neighbourhood Cohesion	0.036**	0.024*
	(0.016)	(0.014)
N	20,628	17,817
Mean Dep.	0.668	0.676
F-KP	24.265	24.384
Community Service	-0.001	0.000
	(0.003)	(0.003)
N	35,433	32,580
Mean Dep.	0.052	0.054
F-KP	22.999	22.375
Social Life	-0.006	-0.008
	(0.007)	(0.006)
N	33,827	29,228
Mean Dep.	0.323	0.316
F-KP	22.077	22.342
Collective Action	0.008*	0.010**
	(0.004)	(0.005)
N	35,433	32,580
Mean Dep.	0.086	0.088
F-KP	22.999	22.375
Generalised Trust	0.029*	0.027*
	(0.015)	(0.015)
N	32,883	30,074
Mean Dep.	0.373	0.375
F-KP	23.445	23.163
Institutional Trust	0.019*	0.020**
	(0.011)	(0.009)
N	20,898	17,849
Mean Dep.	0.178	0.175
F-KP	21.642	21.803
Year FE	✓	✓
LAD FE	✓	✓
Controls	✓	✓

Notes: IV estimates. Column (1) presents our baseline specification with all individuals. Column (2) restricts the sample to those that are observed at least once before *and* after the 2004 Enlargement. Survey years for each category are available in Appendix Table B.6.1. All regressions include the following individual controls: age, sex, education, employment status, household income, house tenure, household size. Robust standard errors clustered at the LAD level in parentheses. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table 7: Time Varying Shock and Individual Fixed Effects Model

	(1) No Fixed-Effects	(2) LAD FE	(3) Individual FE
Neighbourhood Cohesion	-0.005	0.014*	0.011
	(0.003)	(0.007)	(0.007)
N	18,796	18,796	18,796
Mean Dep.	0.672	0.672	0.672
F-KP	113.339	51.189	48.720
Community Service	0.004***	-0.000	0.000
	(0.001)	(0.002)	(0.002)
N	32,920	32,920	32,920
Mean Dep.	0.053	0.053	0.053
F-KP	135.400	48.358	47.889
Social Life	0.001	-0.017**	-0.018**
	(0.004)	(0.007)	(0.007)
N	29,630	29,630	29,630
Mean Dep.	0.325	0.325	0.325
F-KP	71.784	31.442	32.178
Collective Action	-0.002	0.006**	0.006**
	(0.002)	(0.003)	(0.003)
N	32,920	32,920	32,920
Mean Dep.	0.087	0.087	0.087
F-KP	135.400	48.358	47.889
Generalised Trust	0.002	0.038**	0.034*
	(0.006)	(0.017)	(0.019)
N	27,591	27,591	27,591
Mean Dep.	0.376	0.376	0.376
F-KP	70.971	22.522	21.960
Institutional Trust	0.010***	0.034**	0.031*
	(0.004)	(0.017)	(0.016)
N	17,604	17,604	17,604
Mean Dep.	0.176	0.176	0.176
F-KP	59.238	7.465	7.222
Year FE	✓	✓	✓
LAD FE	No	✓	No
Ind FE	No	No	✓
Controls	✓	✓	✓

Notes: IV estimates. Column (2) includes Local Authority District (LAD) fixed effects based on 2004 residence. Column (3) includes Individual fixed effects. We do not combine both individual and LAD fixed effects given that 2004-LADs are constant across individuals. We remove singleton observations in all regressions for comparability (when individuals only appear once). Survey years for each category are available in Appendix Table B.6.1. All regressions include the following individual controls: age, sex, education, employment status, household income, house tenure, household size. Robust standard errors clustered at the LAD level in parentheses. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$

7 Conclusions

Views towards immigration have increasingly driven polarised attitudes worldwide. With conventional economic outcomes being overrepresented both in the economic literature and political debate, less is known about whether and to what extent migration might be changing other intangible amenities that can drive such confronting views. This paper shows that immigration has a non-negligible effect on social capital. Depending on the dimension analysed, the impact seems more often positive than not.

Focusing on the accession of Eastern and Central European countries to the EU, we evaluate the causal effect of immigration on social capital in the UK. First, taking advantage of the rich individual-level data on attitudes, behaviours and social activities provided by the British Household Panel Survey and the UK Household Longitudinal Study, we are able to identify five key components of social capital: neighbourhood cohesion, community service, social life, collective action organisation & trust, and institutional trust.

Then we evaluate the impact of immigration taking advantage of the quasi-experimental setting of the EU enlargements. We leverage temporal and geographical variation in a difference-in-differences framework to analyse how each social capital dimension and its subcomponents are affected by the inflow of immigrants from the New Member States. On one hand, we find that immigration had a positive impact on neighbourhood cohesion, participation in collective action organisations and institutional trust. The results remain positive if we restrict our attention to natives as well as to residents that never relocate. These positive responses might be a consequence of the cultural and ethnical proximity of the EU immigrants, considering a large majority was Christian and white. For other dimensions the effects are heterogeneous and vary across subcomponents. We find a negative effect on social life driven by a reduction of attending public spectacles measured at low frequency levels. At the same time, we document an increase in the likelihood of joining voluntary groups.

As one of the first empirical studies to evaluate quantitatively how immigration impacts social capital, our work contributes to both the economic literature and the policy debate. Given immigration's pivotal role in the Brexit vote and its recent dominance in European political discourse, our evidence challenges the surging hostility towards migrants. Acknowledging the heterogeneity of the effects and the potential role of cultural components, our study narrows the gap between public perception and empirical evidence. Alongside the multidimensional measure of social capital we develop, we expect our work to serve as input for an informed debate and future research.

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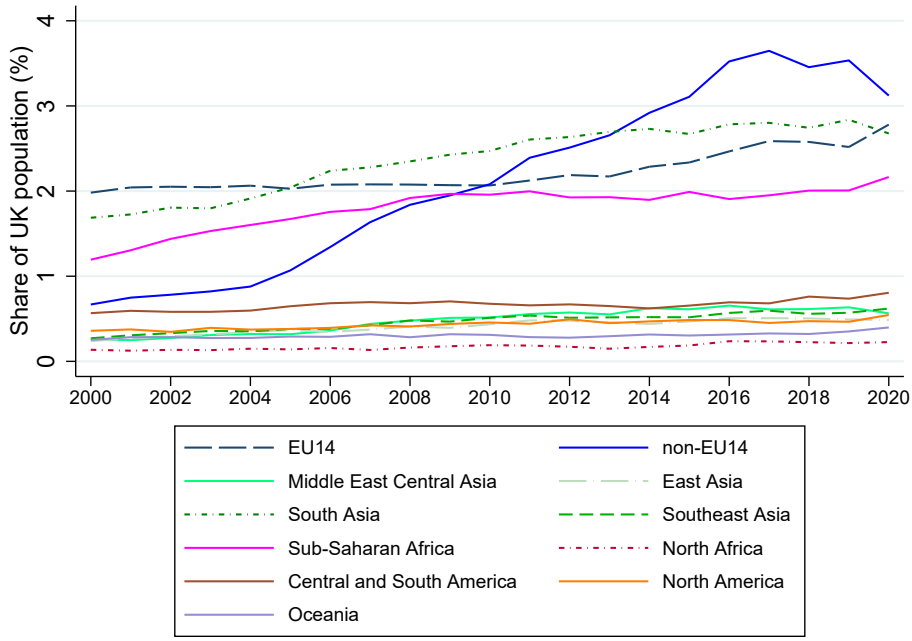
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Appendix

A Supplementary Figures

A.1 Immigration

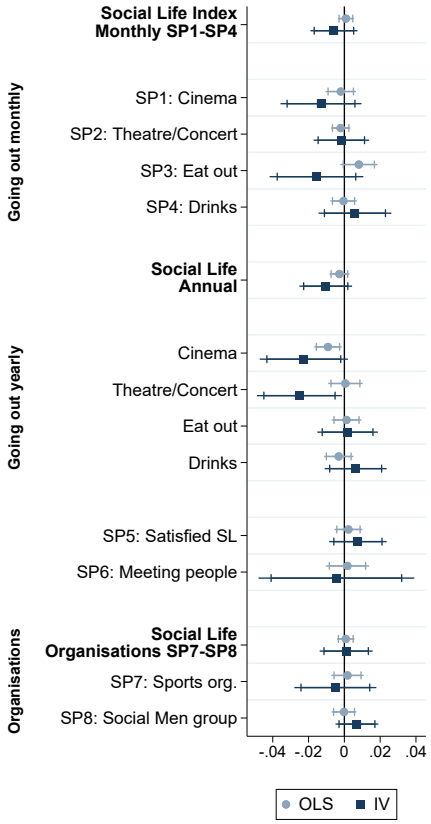
Figure A.1.1: Share of immigrants by origin group



Notes: EU14: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Luxembourg, Netherlands, Portugal, Republic of Ireland, Spain and Sweden. Non-EU14 refers to all the other European countries. Source: Annual Population Survey.

A.2 Impact of Immigration on Social Capital: Additional Results

Figure A.2.1: Impact of Immigration on Social Life II

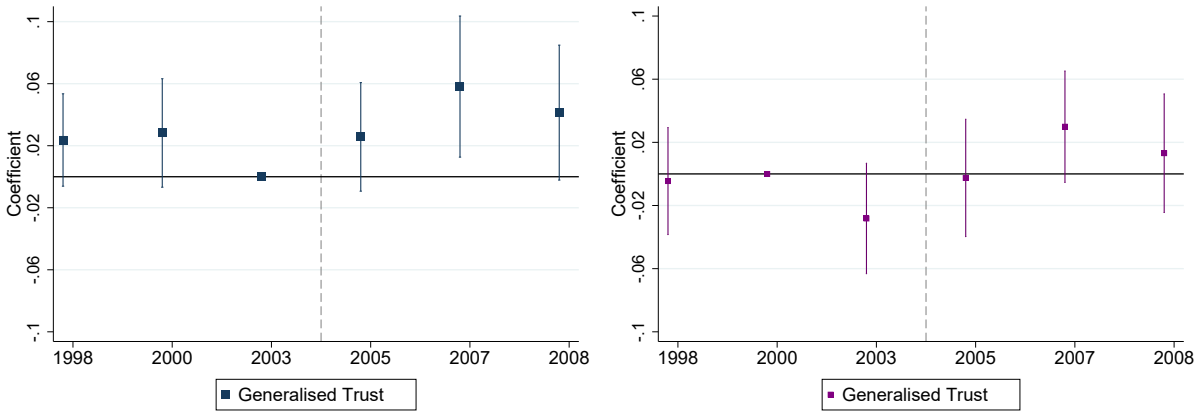


Notes: The figure displays coefficients for the impact of immigration on social capital subcomponents at the monthly and annual frequency. It also shows the effects of participating in social organisations. All coefficients are estimated from model 1. Horizontal bars represent 95% confidence intervals and vertical lines indicate 90% confidence level.

Figure A.2.2: Trust: Using different base years.

(a) Trust: baseline

(b) Changing base year



Notes: The figure displays the estimated coefficients and 95% confidence intervals from model 3 for generalised trust.

B Supplementary Tables

B.1 Descriptive Statistics

Table B.1.1: Descriptive Statistics: Dependent Variables

	N	Mean	SD	Min	Max
NC1: Belong to neighbourhood	21,107	0.720	0.449	0.00	1.00
NC2: Local friends mean a lot	21,098	0.654	0.476	0.00	1.00
NC3: Advice obtainable locally	21,077	0.630	0.483	0.00	1.00
NC4: Can borrow things from neighbours	21,088	0.462	0.499	0.00	1.00
NC5: Willing to improve neighbourhood	21,081	0.779	0.415	0.00	1.00
NC6: Plan to stay in neighbourhood	20,986	0.734	0.442	0.00	1.00
NC7: Am similar to others in neighbourhood	21,041	0.636	0.481	0.00	1.00
NC8: Talk regularly to neighbours	21,113	0.724	0.447	0.00	1.00
NC9: Frequency of talking to neighbours	62,996	0.394	0.489	0.00	1.00
NC10: Likes present neighbourhood	72,142	0.934	0.248	0.00	1.00
CS1: How often: Attend local groups	36,301	0.127	0.333	0.00	1.00
CS2: How often: Do voluntary work	36,301	0.051	0.221	0.00	1.00
CS3: A/M Religious/church org.	36,301	0.035	0.184	0.00	1.00
CS4: A/M Voluntary services group	36,301	0.022	0.147	0.00	1.00
CS5: A/M Other community group	36,301	0.023	0.151	0.00	1.00
CS6: A/M Political party	36,301	0.055	0.228	0.00	1.00
CS7: A/M pensioners groups/organisation	34,686	0.139	0.346	0.00	1.00
CS8: A/M Tenants/Residents group	34,677	0.105	0.307	0.00	1.00
SL1: How often: Go to cinema	34,679	0.143	0.350	0.00	1.00
SL2: How often: Go to theatre/concert	34,683	0.056	0.229	0.00	1.00
SL3: How often: Eat out	34,702	0.570	0.495	0.00	1.00
SL4: How often: Go out for a drink	34,688	0.526	0.499	0.00	1.00
SL5: Satisfied with social life	56,163	0.648	0.477	0.00	1.00
SL6: Frequency of meeting people	63,000	0.461	0.498	0.00	1.00
SL6: A/M Sports Club	36,301	0.205	0.404	0.00	1.00
SL7: A/M Social/Working men group	36,301	0.111	0.314	0.00	1.00
CA1: A/M Professional organisation	36,301	0.098	0.298	0.00	1.00
CA2: A/M Trade union	36,301	0.153	0.360	0.00	1.00
CA3: A/M Environmental group	36,301	0.030	0.171	0.00	1.00
CA4: A/M Parents/School's Association	36,301	0.060	0.237	0.00	1.00
CA5: Trustworthiness of others	33,770	0.372	0.483	0.00	1.00
IT1: Government reflects will of the people	21,221	0.200	0.400	0.00	1.00
IT2: People can influence govt. policy*	21,409	0.200	0.400	0.00	1.00
IT3: Government puts nation's interests first	21,237	0.133	0.340	0.00	1.00

Notes: Statistics calculated with data for the 2000-2014 period. (*) Original question asks if *people can't influence government policy*. For comparison with other questions we invert the responses and the question.

Table B.1.2: Descriptive Statistics: Individual Characteristics

	N	Mean	SD	Min	Max
Age	88,449	48.347	18.246	15.00	101.00
Female	87,325	0.544	0.498	0.00	1.00
College education	86,202	0.243	0.429	0.00	1.00
Secondary education	86,202	0.214	0.410	0.00	1.00
Primary education	86,202	0.348	0.476	0.00	1.00
No education	86,202	0.193	0.395	0.00	1.00
(Log) Real household income	85,627	7.563	0.807	-2.79	12.72
House owned or on mortgage	86,717	0.776	0.417	0.00	1.00
Household size	88,425	2.794	1.362	1.00	16.00
Employed	87,968	0.583	0.493	0.00	1.00
Student	87,968	0.036	0.185	0.00	1.00
Retired	87,968	0.243	0.429	0.00	1.00
Born in the UK	86,420	0.949	0.221	0.00	1.00

Notes: Statistics calculated with data for the 2000-2014 period. Gross household income in 2015 prices.

Table B.1.3: Descriptive Statistics: Shares of European Immigrants between 2004 and 2008 at the Local Authority District level

	N	Mean	SD	p10	p25	p50	p75	p90	Min	Max
$\Delta NonEU14^{2004-2008}/Pop_{2004}$	197	1.01	1.46	0.00	0.00	0.72	1.58	2.81	-2.92	8.77
$\Delta EU8^{2004-2008}/Pop_{2004}$	84	1.21	1.53	0.00	0.20	0.86	1.60	3.16	-1.46	7.02

Notes: Shares at the Local Authority District (LAD) level measured as percentages, calculated as the difference in stocks between 2004 and 2008 divided by the population of the LAD in 2004. The first row, NonEU14 refers to European countries that were not part of the EU as of 2001. EU8 refers to the 8 countries from continental Europe that entered the European Union in the 2004 enlargement Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia. Source: Annual Population Survey.

B.2 Responses and Missing Values

Table B.2.1 shows the distribution of the sample in terms of responsiveness. For all eligible individuals[36] the table splits the potential respondents into those that enter our estimation sample (columns (1)-(3)) and those that do not (columns (4)-(7)). Column (1) *complete*, shows the number of people that fully replied to all questions that integrate a given dimension providing a meaningful quantifiable response –e.g. they do not refuse to reply nor answer "*don't know*"–. Column (2) reports those individuals that entered the sample but replied *don't know* to at least one question that integrates the dimension. In

[36]By eligible we refer to those that are actually asked the questions that we analyse, have a complete set of controls and an identified Local Authority District that can be merged with the immigration shock.

that case we compute the social capital outcome as the average among the quantifiable responses.[37] Column (3) reports those individuals that entered the sample but had a missing value in at least one question that integrates the dimension, but provided valid responses to others. Given the small number of cases, we compute the dimension based on the remaining valid responses.

Turning to those observations that do not enter the sample, we have the following categories: *proxy*, reported in column (4) refers to cases in which the interviewee was not available at the interview. In some cases a family member replies on their behalf, in this case the variable will be missing for them. Notice that for individuals coded as proxy, their responses will be missing –under the *proxy* category– for all questions that integrate each dimension. As shown in the Table, this situation accounts for the majority of missing cases in for all dimensions. Column (5) refers to the very few cases in which an individual refused to respond all questions within a category, column (6) reports those individuals that answered *"don't know"* to all questions within a dimension and finally column (7) constitutes a combination of different missing values' categories across questions.[38] If we were to exclude the proxy category, the percent rate of fully complete answers is close to 98% for all dimensions, and exceeds the 99% when we include the cases in columns (2) and (3) which also enter the sample.

[37] (Section 3.2.1 provides further details on the construction of each dimension.)

[38] More information about coding of missing values in the BHPS and UKHLS can be found at: https://www.understandingsociety.ac.uk/documentation/mainstage/user-guides/main-survey-user-guide/missing-values/.

Table B.2.1: Responses by Category

	In sample			Not in sample				Total
	Complete	Don't know	Missing	Proxy	Refusal	Don't know	Missing	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Neighbourhood Cohesion								
Frequency	20,304	319	5	407	-	7	3	21,045
Percent	96.48	1.52	0.02	1.93	-	0.03	0.01	100.00
Community Service								
Frequency	35,433	-	-	527	3	29	4	35,996
Percent	98.44	-	-	1.46	0.01	0.08	0.01	100.00
Social Life								
Frequency	33,788	39	-	276	-	5	3	34,111
Percent	99.05	0.11	-	0.81	-	0.01	0.01	100.00
Collective Action								
Frequency	35,433	-	-	527	3	29	4	35,996
Percent	98.44	-	-	1.46	0.01	0.08	0.01	100.00
Generalised Trust								
Frequency	32,883	-	-	270	-	221	100	33,474
Percent	98.23	-	-	0.81	-	0.66	0.30	100.00
Institutional Trust								
Frequency	20,590	200	108	178	-	109	65	21,250
Percent	96.89	0.94	0.51	0.84	-	0.51	0.31	100.00

Notes: Number of observations by social capital dimension vary since questions are asked in different years and with a different frequency. Table B.6.1 reports the waves in which each question was asked.

B.3 First Stage

Table B.3.1: First Stage: NonEU14 and EU8
2004-2008

	(1) ΔM_{EU8}	(2) $\Delta M_{NonEU14}$	(3) ΔM_{EU8}	(4) $\Delta M_{NonEU14}$
$Shift - Share_A$	0.348^{***}	0.515^{***}		
	(0.104)	(0.124)		
$Shift - Share_B$			0.320^{***}	0.482^{***}
			(0.105)	(0.123)
LADs	84	197	84	197
$\bar{R}^2$	0.058	0.090	0.053	0.087
F	11.124	17.136	9.350	15.423

Notes: First stage regressions at the regional level. Shift-Share A includes Poland, Czechia and Baltic group. Shift-Share B includes Poland, Czechia, Baltic group and Romania. EU8, refers to the eight countries from continental Europe that entered the European Union in the 2004: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia. Non-EU14 includes the countries that joined in the subsequent enlargements. Robust standard errors in parentheses. Robust standard errors in parentheses. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

Table B.3.2: First Stage: NonEU14 and EU8
2004-2014

	(1) ΔM_{EU8}	(2) $\Delta M_{NonEU14}$	(3) ΔM_{EU8}	(4) $\Delta M_{NonEU14}$
$Shift - Share_A$	0.276^{**}	0.648^{***}		
	(0.109)	(0.132)		
$Shift - Share_B$			0.216^{**}	0.560^{***}
			(0.101)	(0.111)
LADs	81	210	81	210
$\bar{R}^2$	0.047	0.172	0.036	0.174
F	6.354	24.039	4.543	25.614

Notes: First stage regressions at the regional level. Shift-Share A includes Poland, Czechia and Baltic group. Shift-Share B includes Poland, Czechia, Baltic group and Romania. EU8, refers to the eight countries from continental Europe that entered the European Union in the 2004: Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia, Slovenia. Non-EU14 includes the countries that joined in the subsequent enlargements. Robust standard errors in parentheses. Robust standard errors in parentheses. $^{*}p < 0.10, ^{**}p < 0.05, ^{***}p < 0.01$.

B.4 Switching locations

Table B.4.1: Probability of living in a different location before and after 2004

	Moving Out			Moving In		
	(1)	(2)	(3)	(4)	(5)	(6)
ΔM	0.066***	0.022	0.002	0.027*	0.027	-0.005
	(0.021)	(0.036)	(0.026)	(0.015)	(0.042)	(0.029)
N	47,071	47,071	47,071	28,767	28,767	28,767
Mean Dep.	0.082	0.082	0.082	0.061	0.061	0.061
F-KP	26.437	4.828	8.729	22.486	4.301	5.951
Individual Controls	✓	✓	✓	✓	✓	✓
LAD Time varying C	No	✓	✓	No	✓	✓
LAD Constant C.	No	No	✓	No	No	✓
Period	2005-2014	2005-2014	2005-2014	2000-2003	2000-2003	2000-2003

Notes: IV estimates. The dependent variable in columns (1)-(3) is an indicator that takes a value of one if, after 2004, the individual was living in a different LAD with respect to her 2004 residence *after* the Enlargement. The dependent variable in columns (4)-(6) is an indicator that takes a value of one if the individual was living in a different LAD with respect to her 2004 residence *before* the Enlargement began. The main explanatory variable ΔM is constant in all regressions and measures the inflows between 2004-2008 of European immigrants normalised by the LAD population as of 2004. Individual, constant and time varying controls are the same reported in Table 4.

B.5 Restricting to Native Individuals

Table B.5.1: Impact of Immigration on Social Capital: Natives

	(1) All	(3) Natives
Neighbourhood Cohesion	0.036**	0.040**
	(0.016)	(0.019)
N	20,628	19,238
Mean Dep.	0.668	0.668
F-KP	24.265	24.975
Community Service	-0.001	0.000
	(0.003)	(0.003)
N	35,433	33,014
Mean Dep.	0.052	0.052
F-KP	22.999	24.100
Social Life	-0.006	-0.006
	(0.007)	(0.007)
N	33,827	31,574
Mean Dep.	0.323	0.326
F-KP	22.077	24.581
Collective Action	0.008*	0.005
	(0.004)	(0.004)
N	35,433	33,014
Mean Dep.	0.086	0.086
F-KP	22.999	24.100
Generalised Trust	0.029*	0.031*
	(0.015)	(0.017)
N	32,883	30,696
Mean Dep.	0.373	0.373
F-KP	23.445	24.715
Institutional Trust	0.019*	0.022*
	(0.011)	(0.012)
N	20,898	19,499
Mean Dep.	0.178	0.174
F-KP	21.642	23.339
Year FE	✓	✓
LAD FE	✓	✓
Controls	✓	✓

Notes: Column (2) and (4) restricts the sample to those individuals that are observed at least once before *and* after the 2004 Enlargement.

B.6 BHPS - UKHLS Social Capital Questions

Table B.6.1: Social Capital Questions

Year	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
BHPS Wave	8	9	10	11	12	13	14	15	16	17	18						
UKHLS Wave												1	2	3	4	5	6
NC1: Belong to neighbourhood	●					●					●	●		●			●
NC2: Local friends mean a lot	●					●					●	●		●			●
NC3: Advice obtainable locally	●					●					●	●		●			●
NC4: Can borrow things from neighbours	●					●					●	●		●			●
NC5: Willing to improve neighbourhood	●					●					●	●		●			●
NC6: Plan to stay in neighbourhood	●					●					●	●		●			●
NC7: Am similar to others in neighbourhood	●					●					●	●		●			●
NC8: Talk regularly to neighbours	●					●					●	●		●			●
NC9: Frequency of talking to neighbours	●	●	●	●	●	●	●	●	●	●	●						
NC10: Likes present neighbourhood	●	●	●	●	●	●	●	●	●	●	●			●			●
CS1: How often: Attend local groups	●		●		●		●		●		●						
CS2: How often: Do voluntary work	●		●		●		●		●		●						
CS3: A/M Religious/church org.		●		●		●		●		●				●			●
CS4: A/M Voluntary services group		●		●		●		●		●				●			●
CS5: A/M Other community group		●		●		●		●		●				●			●
CS6: A/M Political party		●		●		●		●		●				●			●
CS7: A/M pensioners groups/organisation		●		●		●		●		●				●			●
CS8: A/M Tenants/Residents group		●		●		●		●		●				●			●
SL1: How often: Go to cinema	●		●		●		●		●		●						
SL2: How often: Go to theatre/concert	●		●		●		●		●		●						
SL3: How often: Eat out	●		●		●		●		●		●						
SL4: How often: Go out for a drink	●		●		●		●		●		●						
SL5: Satisfied with social life	●	●	●		●	●	●	●	●	●	●						
SL6: Frequency of meeting people	●	●	●	●	●	●	●	●	●	●	●						
SL6: A/M Sports Club		●		●		●		●		●				●			●
SL7: A/M Social/Working men group		●		●		●		●		●				●			●
CA1: A/M Professional organisation		●		●		●		●		●				●			●
CA2: A/M Trade union		●		●		●		●		●				●			●
CA3: A/M Environmental group		●		●		●		●		●				●			●
CA4: A/M Parents/School's Association		●		●		●		●		●				●			●
CA5: Trustworthiness of others	●		●			●		●		●	●	●					
IT1: Government reflects will of the people	●			●		●			●								
IT2: People can influence govt. policy*	●			●		●			●								
IT3: Government puts nation's interests first	●			●		●			●								

Notes: (*) Original question asks if *people can't influence government policy*. For comparison with other questions we invert the responses and the question. Even if some questions are asked in 2009 we do not consider that wave since the sample is entirely new (first UKHLS wave). BHPS individuals joined the UKHLS sample from its second wave onwards.