Northumbria Research Link

www.northumbria.ac.uk/nrl

northumbria
UNIVERSITY NEWCASTLE

Patterns in inter-EU migrant crime in England: exploring the available data for indicators of knowledge requirements

Derek Johnson*.
Senior Lecturer,
Northumbria University, Newcastle upon Tyne, England.
Email: derek.johnson@northumbria.ac.uk

Gill Davidson.
Senior Research Assistant,
Northumbria University, Newcastle upon Tyne, England.
Email: Gill.Davidson@Northumbria.ac.uk

Bethany Younger
Research Assistant
Northumbria University, Newcastle upon Tyne, England.

*Corresponding author.

Gill Davidson BSc. MSc.

Gill is a social researcher who has worked across various disciplines including crime, regeneration, housing, health, climate change and sustainability. Connecting themes within her research include community involvement and fostering the participation of ordinary people in the research process. She has worked at Northumbria University for fifteen years and previously worked as a researcher in the voluntary sector.

Derek Johnson BSc. MSc.

Derek has worked at Northumbria University as a lecturer and programme leader in Crime Science since 2008. He was the Principal Investigator for an EU-funded project in partnership with 6 European agencies and government bodies concerning transnational offending and the exchange of bioinformatics across EU state borders.

Prior to joining academia Derek was a serving UK Police Officer for 30 years during which time he received 8 commendations for investigatory work, working in general localised criminal investigation, vice & drug investigations, national and international investigations and major crime operations.

Bethany Younger BSc. MSc.

Bethany has worked on an EU-funded project in partnership with 6 European agencies and government bodies concerning transnational offending and the exchange of bioinformatics across EU state borders. Her research interests include transnational crime and environmental sustainability, and she is planning to undertake a doctorate which links these subjects.

Abstract

This paper presents information about patterns of crime among EU migrants in England during 2011-2013. Based on data provided by English police forces about individuals charged with crimes during this period, it reports developments in EU migrant crime relating to prevalence, age, gender, nationalities, crime types, and geographical areas, making comparisons to crime data for England where appropriate. It discusses the possibility of profiling migrant crime, and highlights the complexity involved and interplay between different factors. It recommends the need for further study and analysis of migrant crime data, and considers policy implications.

Introduction

Increasing migration of nationals from European Union (EU) Member States to the UK over the last decade has led to concern over possible impacts on diverse sectors of society, both locally and nationally. Some media sources have reported a link between immigration and crime, a message conveyed by headlines such as: '*Immigrant crime wave warning: foreign nationals were accused of a quarter of all crimes in London'* (Daily Mail, 18th February 2012). Such reports may be sensationalised, but the reality is not fully understood. Moreover, immigration is dynamic in its scale and patterns, and subject to constant change as a result of continually developing issues. Taken together, these factors build a case for more comprehensive analysis of crime data than has previously been carried out, to assess the scale of criminal activity by immigrants, explore the nature of offending among different nationalities, and track changes over time.

This paper seeks to undertake exploratory analysis of the inter-EU migration-crime nexus in England, and as such examines high level data on EU migratory nationalities and the crime that they commit. By studying the characteristics of migrant offenders, where they operate, and what offences they commit, we seek to enhance the current knowledge base, highlight any interactions or links between these factors, identify knowledge gaps and provide preliminary direction for the research community. The inter-EU migrant crime nexus in the UK receives little attention beyond the fact that migrants enter the country and may be responsible for (some) crime. Here we sought to explore such offending to identify the potential of such crime being 'different' in nature (type/age/gender/volume) to that of the 'normal' offending population and so potentially direct areas and topics of future research.

Neither inter-EU migration nor third country migration is a UK phenomenon but it is a topic to which attention is often partly directed by media - often only until the next crisis becomes newsworthy. Migration and its motivations, patterns, impacts and societal issues are matters experienced on a global basis, and whilst here we focus solely on the European Union the research directions established are far more expansive in nature.

Literature review

The accession of ten Central and Eastern European nations to the EU in 2004 and 2007 (labelled the A8 and A2 accessions respectively) led to mass migration to the UK (Anderson, 2010), on a scale that far exceeded predictions (Barrell et al., 2010) and has been described as the largest ever wave of migration to the UK (Salt and Rees, 2006).

Ford (2011) describes a shift in UK public opinion towards European immigrants during these years, from a historical tolerance towards increasing hostility. A possible reason for this hostility surrounds perceptions of a link between immigration and crime (De Giorgi, 2010; Zatz and Smith, 2012; Canton and Hammond, 2012; Knepper, 2007; Solivetti, 2010).

Some researchers have found a relationship between immigration and high crime rates (e.g. Alonso-Borrego et al., 2011), but others have found that the amount of crime committed by immigrants is lower than public perceptions suggest (Sampson, 2008; Sohoni and Sohoni, 2014). Bell et al. (2013) and Jaitman and Machin (2013) found no evidence that an increase in the intra-EU migrant population in the UK following the 2004 expansion caused increased crime, and Bianchi et al. (2008) found similar results in Italy. At a neighbourhood level, there is evidence that a high immigrant population in specific locations may actually reduce crime rates (Stowell et al., 2009; Wadsworth, 2010). Such conflicting evidence indicates that the true picture is complex and influenced by more than just immigrant status.

However, more detailed scrutiny of crime among inter-EU migrants since EU expansion has been very limited. The idea that different nationalities may be likely to commit crime in distinct ways has received little attention in Europe (Blom and Jennissen, 2014). Research in the UK has tended to aggregate crime committed by foreign nationals, ignoring differences between nationalities and in the types of crimes committed (Canton and Hammond, 2012). Bell and Machin (2011) suggest that different migrant groups may differ from natives in certain ways; for example, with regard to their demographic characteristics, perceptions about justice, culture and motivations to commit crime. DiPietro and Bursik (2012) argue that differences in offending behaviour should be studied in a more detailed way than simply identifying

differences between natives and non-natives, citing social, cultural and historical differences between nationalities and other sub-groups which may influence propensities to commit crime. If this is the case, we may observe distinct patterns in offending among and between such groups.

Little published work considers whether different migrant populations may have distinct demographic characteristics compared to the native population. Various studies report potential links between offenders' characteristics when analysing immigration and crime or offence specialisation (Piquero, 2000). However, more detailed research into the links between age, gender and crime type among migrant sub-groups remains very limited. Crime researchers have long observed patterns regarding the perpetrators' age (Farrington, 1986; Hirschi and Gottfredson , 1983), gender (Heimer, 2000), types of crime committed (Merton, 1938; Cloward and Ohlin, 1961; Wortley, 2009) and geography (Chainey & Ratcliffe, 2013;.Evans & Herbert, 1989) strongly suggesting these are demographics worthy of attention when considering offending populations.

Age

The traditional 'age-crime curve' suggests that criminal activity among individuals starts at a young age, and peaks in late adolescence before quickly declining with age (Farrington, 1986; Tremblay et al., 2005; Sweeten et al., 2013). Loeber (2012) describes the age-crime curve as universal in all Western populations, but stresses the need for further analysis which takes account of other factors, such as geographic location and level of deprivation. While we may expect to observe the typical age-crime curve among EU nationals, we cannot be sure that the situation they find themselves in as migrants – in a new location, potentially facing employment and economic uncertainties, lacking family and social support structures - may not influence patterns of offending in an unusual way.

In addition the migrant population is unlikely to reflect a typical national population in its demographic characteristics. Henty et al. (2006) reported that the majority of migrants to the UK were young and single, with 44% being aged 18-24 years, and a further 39% aged 25-34 years. Jaitman and Machin (2013) reported that the age profile amongst accession migrants in England and Wales was different to that of the native

population. Belmonte et al. (2008), exploring links between immigration and crime in Spain, found that immigrants made a relatively high contribution to an observed increase in the crime rate, partly explained by the fact that a large proportion of immigrants were males aged 20-50 years, a sub-group of the population more likely to commit offences.

Gender

The 'gender crime gap' is well established in criminology: *'Men commit crime at higher rates than women, are involved in more serious and violent offending, and are more prone to recidivism'* (Heidensohn and Silvestri, 2012, p336). More detailed study of gender differences reveals that males and females are likely to commit different types of crime (Steffensmeier & Allan, 1996) for different reasons. Broidy and Agnew (1997) reported that gender differences are less pronounced for property crime than other offences, while Sheehan et al. (2013) suggest that women are more likely to be motivated to commit crime in order to provide for their children.

Research related to Agnew's (1992) general strain theory – which states that people may turn to crime as a result of negative experiences, or strain, that they have suffered - identifies women from ethnic minority groups on low incomes as being most likely to suffer from strain, and therefore to potentially become offenders (Campbell, 1984; Carlen, 1988; Chapman, 1980). This implies that female immigrants may be more likely to be involved in crime than their indigenous counterparts. It also raises the question of strain amongst the immigrant population: migrants of both genders are likely to suffer strain in terms of the negative effects of marginalisation, which may increase their likelihood of committing crimes (Wortley, 2009). Alonso-Borrego et al (2012) and Solivetti (2012) both confirm that in situations where immigrant integration into the host nation is successful, immigrant crime is reduced.

It has long been established that female victims of crime are more likely to commit crime than non-victims (Daly, 1992; Gilfus, 1993). This could be linked to cultural differences with, for instance, nationalities or groups with high rates of domestic violence against women, or victims of racially motivated crimes, having higher rates of female offending. As with age, therefore, there are several potential reasons why

gender patterns of crime among migrants may be distinct from those of the native population.

Crime type

There is evidence that migrants of different nationalities favour specific types of crime. Researchers in Greece found that the proportion of non-Greek offenders varied by crime type, indicating that foreign nationals may have a propensity for committing certain offences (Antonopoulou and Pitsela, 2013). Looking at specific types of crime, Bianchi et al (2008) found that robbery rates in a small area of Italy were significantly and positively affected by immigration levels, although other crime types were not. Alonso-Borrego et al. (2008) reported that rates of property crimes in Spain were higher among non-nationals, especially Algerians and Romanians, than nationals. The authors also concluded that Romanians appeared to favour specialising in property offences, and Moroccans in drug trafficking. A Dutch study established national differences in crime types, with Eastern Europeans being more likely to commit property crimes than other types of crime, and Latin Americans having a greater propensity for drug-related crime (Blom & Jennissen, 2014). Stansfield (2014) identified that local authorities in the UK with the highest proportions of Polish nationals in the population had higher rates of robbery and sexual offences, although there were no direct links between Polish nationals and the crimes in question, and the correlations disappeared when structural disadvantage was controlled for. Such results indicate the potential interaction between offenders' nationality and characteristics of the host country, with geographical and other factors playing a part; for instance, the Northern European market for drugs sourced in Morocco can help explain the prevalence of drug crime among Moroccans in Spain.

Anecdotal evidence from the Association of Chief Police Officers (ACPO) and Cambridgeshire Police, among others, suggests that UK criminal justice professionals have developed certain perceptions about the particular types of crime that EU migrants tend to commit (Baker et al, 2012; Kreft and Ritchie, 2009). Media coverage of an unpublished 2008 ACPO report on this issue listed crime types including trafficking and exploitation, drink driving among Polish nationals, robberies committed by Romanian minors, public order offences, violence and alcohol-related offences

(Dodd, 2008). Without robust analysis of crime data it is not certain whether such perceptions are accurate, and if so, whether they apply equally across different parts of the country.

Geography

Inter-EU migrant crime follows distinct geographical patterns, predominantly linked to patterns of settlement and employment in England. The published knowledge base on the spatial diversity of crime by inter-EU migrants in England or other EU member states is very limited. Wilson (2009) proposed that transnational crime in Europe is likely to follow spatial patterns marking core economic and logistical corridors. Most inter-EU migrants enter the UK via the Channel ports, and cluster in the South and South East of England. Crime could therefore be expected to be more concentrated in these areas, and spread out towards adjacent areas with particular employment opportunities; clustering in the north of the country would be more limited. In 2014, Johnson published work using similar crime count data to that presented in this paper to provide a picture of spatial diversity of offending by national groups across England which broadly confirmed Wilson's (2009) hypothesis; however, the data used was temporally limited to 2011, and further research is needed to investigate links between spatial clustering, nationality and other characteristics of migrants (Johnson, 2014).

Other factors

Motivations to offend can be strongly influenced by migrants' economic and employment status (Anderson, 2012; Mastrobuoni and Pinotti, 2011), as well as the reception they receive upon arrival and access to resources such as housing (Bell and Machin, 2013). Length of residency in the host country may also be an important issue, impacting on levels of integration and therefore influencing crime rates, as well as spatial concentration of crime and crime type. Engbersen et al (2010) identified the concept of 'liquid migration' to denote new patterns of movement including migrants moving between multiple countries, as well as going back and forth to their home nation. It has been suggested that the relaxation of external border controls may have led to an increase in transnational crime by giving Eastern European criminals opportunities to move between countries (Leerkes et al, 2013). If this is the case then

crime may be concentrated around borders, and acquisitive crimes may be more prevalent in such areas.

It is important to note that individuals are complex and influenced by many different factors, and that interplay between these factors can produce unexpected results. Blumenstein et al. (1988) highlighted this in their assertion that it was difficult to prove that age had a direct effect on crime, as suggested by Gottfredson and Hirschi (1986). Their research revealed high levels of variance in the age-crime curve when different variables such as gender, time and location of offence were factored in. The findings supported the existence of distinct career paths for different crime types, with the authors reasoning that individuals' opportunity to commit different types of crime may vary at different ages. Extending this, the opportunities presented to migrants can be distinctive, and potentially lead to different offending behaviours from those of either the indigenous population or that of their home nation. The idea that particular types of people may be attracted to migration, or that by migrating individuals are likely to be exposed to certain situations, and that such factors may be linked to the propensity to commit crime, is also worthy of further exploration.

The evidence supports the need for greater scrutiny of crime data in order to improve our understanding of migrants who offend and how this impacts on diverse areas of criminal justice and other state provision. In this paper we explore inter-EU migrant crime in England by different nationalities with reference to both the population of each national group in the UK, and general crime patterns in England. We examine the age and gender of offenders, the types of crimes committed, and the geographical concentration of crimes across the country. The aim here is to expand the knowledge base on the nature and extent of inter-EU migrant crime and identify areas requiring further study.

Methodology

Data was sought from all 39 English police forces on the number of persons charged with a criminal offence, their age, gender, and the type of offence committed, for the following nationalities: Polish, Portuguese, Romanian, Latvian, Lithuanian, Czech,

Italian, Irish and Slovakian. Nationalities in the study sample were selected by identifying those displaying high counts of inter-EU migrant offending and providing a cross section of accession countries. Data collection involved submitting Freedom of Information Act (FOI) (2000) requests to each police force. Three specific requests were made, relating to: the number of foreign nationals charged with an offence and the crime type charged with, for the calendar years 2011, 2012 and 2013; and the age and gender of offenders of each of the nationalities studied, for the calendar years 2011 and 2012. The specific term 'charged' relates to a step forward in the crime investigatory process from (typically) arrest and evidence gathering to formal court appearance following the evidence being assessed by a Crown Prosecutor. It is therefore a step beyond suspicion but remains short of the conviction status of an offender. Actual conviction data was not available to researchers with a suitable geo-reference and detailed offender demographics.

Seven forces did not provide data, and a further five provided data that was not suitable for analysis[1], and therefore not used. The data presented therefore relates to 27 English police forces (figure 1).

---

[1] Examples included merging of male and female data, lack of age specifications, and crime types not being stipulated.

Figure 1: Police force areas in England that provided data

Police Force Areas in England
☐ Areas with data   (27)
■ Areas with no data (11)
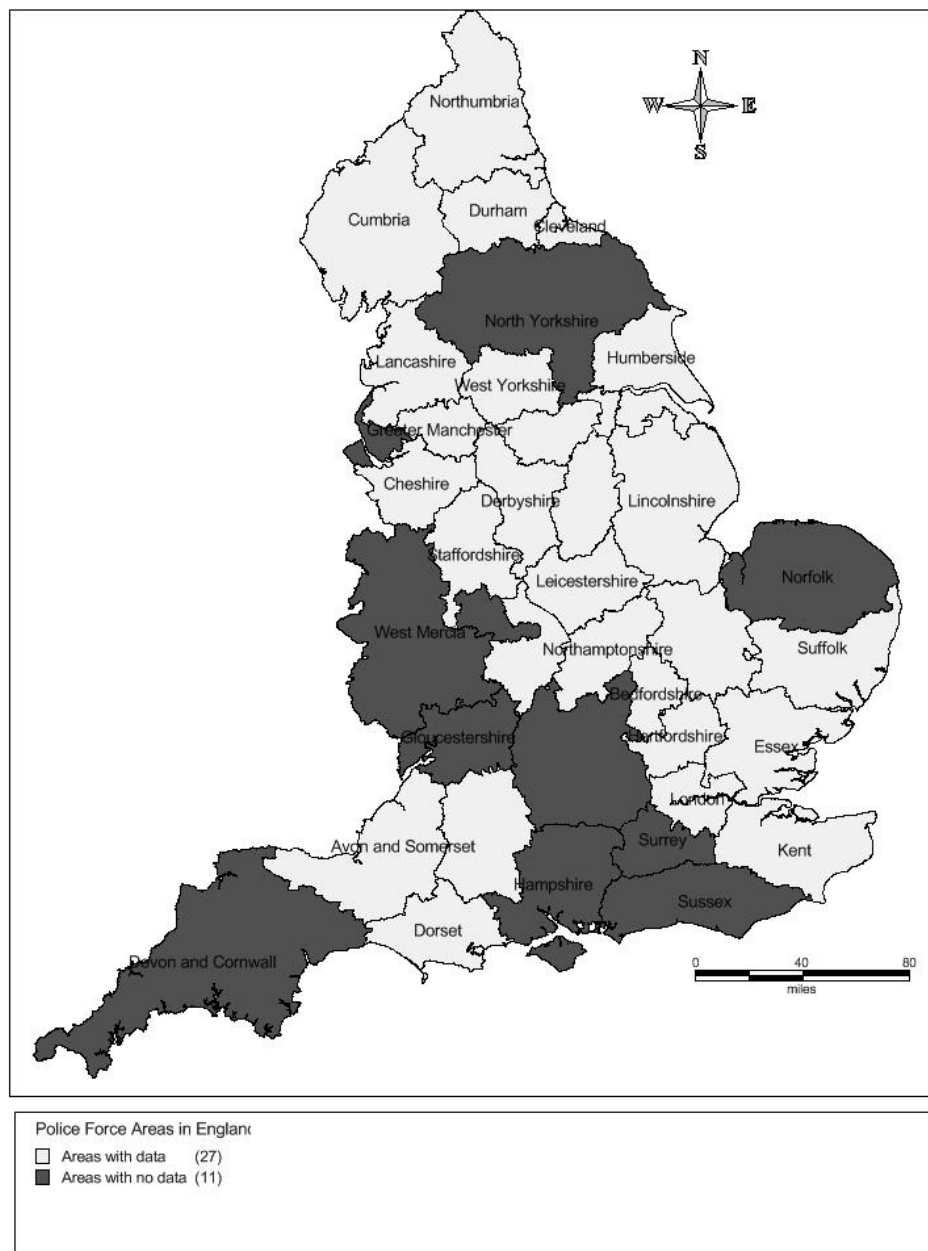
Information was also sought on total offending rates in England to provide a baseline for comparison, as well as Office of National Statistics (ONS) data on the estimated number of immigrants in the UK from each nation being studied (figure 2). Simple

quantitative and comparative analysis was performed on the data, and the results form the basis of this section.

Figure 2: Estimated number of foreign nationals living in the UK, 2011-2013

Nation of birth	2011	2012	2013
Czech Republic	33,000	40,000	46,000
Republic of Ireland	397,000	403,000	376,000
Italy	124,000	133,000	142,000
Latvia	61,000	69,000	81,000
Lithuania	125,000	130,000	140,000
Poland	643,000	646,000	679,000
Portugal	84,000	90,000	107,000
Romania	94,000	101,000	130,000
Slovakia	60,000	61,000	51,000

Source: ONS Migration Statistics Quarterly Reports

ONS estimates of the immigrant population by nationality during these years provide estimated numbers of people living in the UK who were born in the countries being studied, drawn from a diverse number of indicators. Comparing the UK population of different nationalities with crimes in England limits the reliability of the findings, as the areal units being compared do not coincide due to the inclusion of Wales, Scotland and Northern Ireland within ONS aggregated data. More precisely matching alternative datasets were not available. However, data from the Migration Observatory at Oxford University indicates that the majority of non-British residents in the UK live in England with counts of 4.3 million, compared to 285,000 in Scotland, and less than 100,000 in both Wales and Northern Ireland.

The degree of spatial concentration within datasets can be evaluated using a Lorenz curve and Gini coefficient. The Lorenz curve is a graphical representation which can be used to describe difference or inequality relating to a specific factor. As Moskowitz et al. (2008) state, it plots cumulative datasets in order to provide information about the concentration of related characteristics, such as identifying the proportion of crime that is committed by a specific sector of a population within given spatial areas (in this

case, police force areas). The Gini coefficient (G) summarises the total amount of inequality apparent in the sample, ranging from a value of 0 (complete equality) to 1. The smaller the Gini coefficient, the less concentrated the factor being assessed within the overall area under examination (in this case England).

Spatial analysis focuses on Location Quotients (LQs), an indicator traditionally and widely employed in the field of economics since the 1940s (Mack & Jacobson, 1996; Isserman, 2007; Marcouiller, Prey & Scott, 2009; Leigh, 1970; Tohmo, 2004) as a measure of regional and planning economics relative to local economic activity. A relatively simple measure, LQs maintain geographic relevance, placing a chosen geographic area into context through comparison with the wider area (Miller et al., 1991). Used in the measurement of crime it provides a useful alternative view, providing information on a particular region in relation to its wider region (Andresen, 2007) and has been successfully utilised as a valuable indicator of the spatial fluctuations of crime (Bryant & Miller, 1997; Brantingham & Brantingham, 1998; Hirschfield and Bowers, 1997; Andresen, 2007; McCord and Ratcliffe, 2007; Andresen *et al.,* 2009).

Typically a density measurement tool, it provides a measure of over or under representation relative to surrounding areas (Andresen et al., 2009). In this research we sought to identify spatial diversity and through the density measurement nature of LQs, establish polygons (Police force areas) displaying significantly high densities of inter EU offending relative to the wider spatial context of England. Location Quotients provide a spatially relative measure and were formulated to examine counts of such offending in the context of all offending.

Following Heanue's (2008) methodological refinement we report the *z* values of the LQs to the 5%, two tailed level of significance, transforming the LQs into a Standardised Location Quotient (SLQ).

The Location Quotient is readily calculated and visualisation via cartographic representation provides an intuitive image identifying areal units significant in value yet maintaining the dual scale context of neighbouring areal units and macro spatial context of the issue under examination.

Results

This section presents key findings relating to crimes the EU nationalities in question were charged with. The data includes the number of crimes charged and charge rates associated with each national group, age and gender patterns, crime types, and geographical trends.

Total number of crimes and charge rates by nationality

Figure 3 reports the counts of charges relating to the study sample nationalities by year and the 3-year mean. Corresponding confidence intervals (ci) of the mean are helpful given the lack of data from 7 Police force areas.

Figure 3: Counts of charges by nationality, 2011-2013 and corresponding 3 year mean with confidence intervals

Nationality	2011	2012	2013	Mean	Confidence interval
Polish	6964	6632	4142	5912.67	1745.36
Romanian	5303	6131	6053	5829.00	517.36
Lithuanian	3909	3956	4066	3977.00	91.18
Eire	2175	2809	2964	2649.33	473.04
Latvian	1858	1609	1797	1754.67	146.86
Portuguese	1544	1493	1354	1463.67	111.28
Czech	785	746	811	780.67	37.02
Italian	1179	552	545	758.67	411.94
Slovakian	701	620	767	696.00	83.32

From figure 4 (mean counts with ci) it becomes apparent that the two groups associated with the largest number of crimes were Polish and Romanian nationals; together accounting for 44% of all crime involving EU nationals in 2011, 46% in 2012 and 36% in 2013. Poles were charged with the highest average number of crimes per year overall but Romanians retain the highest mean relative to ci. They also show an overall increase in crimes over time, from 5,303 in 2011, peaking at 6,131 in 2012, then falling slightly in 2013.

The England and Wales Crime Survey, a national victimisation survey, indicates that the total number of reported crimes recorded during these years fell from 4.2 million to 3.7 million (Neighbourhood Statistics, 2015). Crime by EU nationals made up only a very small proportion – less than 1% - of the total number of reported crimes. However, the pattern of change during this period for the EU nationalities, with the exceptions of Portugal, Poland Latvia and Italy, did not follow that of England and Wales. All other nationalities, and EU nationals as a whole, showed an increase in the number of charges of crime over this 3 year period although in all cases the rises and falls remain within one standard deviation of the mean.

Figure 4: Mean counts and confidence intervals for counts of charges by nationality
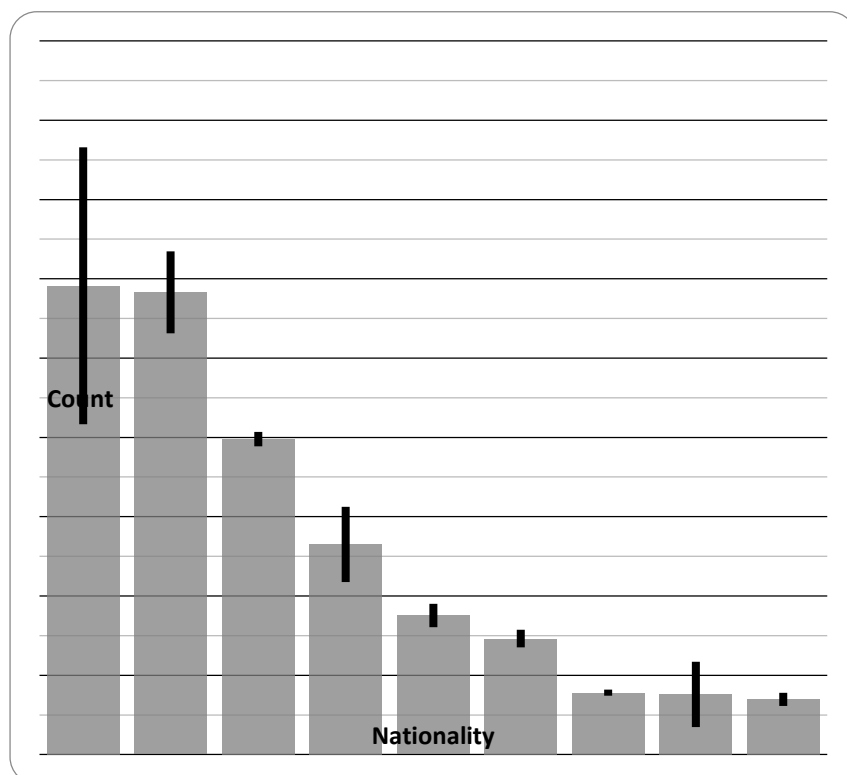
For each nationality, a charge rate per 1,000 population was estimated by calculating the number of charges per year (figure 3) as a proportion of the estimated population of that nationality living in the UK that year (figure 2). The resulting values (figure 5) provide a contextual indication of the proportion of members of different nationalities charged with crimes.

Figure 5: Charge rate per 1,000 population for EU nationals, 2011-2013

Nationality	2011	2012	2013	Mean rate	Confidence interval
Romanian (RO)	56.4	60.7	46.6	54.6	4.3
Lithuanian (LT)	31.3	30.4	29.0	30.3	1.2
Latvian (LV)	30.5	23.3	22.2	25.3	0.5
Czech (CZ)	23.8	18.7	17.6	20.0	1.2
Portuguese (PT)	18.4	16.6	12.7	15.9	1.4
Slovakian (SK)	11.7	10.2	15.0	12.3	4.1
Polish (PO)	10.8	10.3	6.1	9.1	5.7
Irish (IR)	5.5	7.0	7.9	6.8	0.7
Italian (IT)	9.5	4.2	3.8	5.8	3.4

Different EU nationalities had very different charge rates during these years. Italian and Irish populations had particularly low rates, at consistently less than 10 per 1,000. At the other end of the scale, rates for Latvians and Lithuanians were rather higher, but the highest by a considerable margin was among the Romanian population.

Figure 3 indicates charges of crime involving EU migrants as being concentrated among Polish, Romanian, and to a lesser extent, Lithuanian nationals. When the population size of each national group in England is taken into account, charge rates among the (large) Polish population were actually very low at between 6 and 10.8 crimes per 1,000 population, with only the Irish and Italian rates falling below that.

Most EU nationality charge rates display a falling trend over the three years; the exceptions being Irish nationals, with a small but steady rise, and Slovakians, whose charge rate fell during 2012 but reached its highest in 2013. The Romanian charge rate rose in 2012 and then fell sharply in 2013 to its lowest point over the three years. For nationalities examined ONS population estimates increase across the study period with the exception of Slovakian and Irish nationals. It is noteworthy that 2013 charge

rates record falls compared with previous years except for Slovakian and Irish nationals, with the Slovakian rate increase being particularly high.

Age and gender patterns of crime

Figure 6 reports the gender split of crimes across the 3 year sample, indicating that for all EU nationalities examined, the majority of offenders were male. There is national variation in male dominance ranging from a low of 81% of offenders among Czechs and Romanians, to a high of almost 94% of Lithuanian offenders.

Figure 6: Gender split of EU nationals charged with a crime, 2011-2012

Nationality	Males	Females
Czech (CZ)	81%	19%
Republic of Ireland (IR)	85.7%	14.35
Italian (IT)	90.5%	9.5%
Latvian (LV)	90.1%	9.9%
Lithuanian (LT)	93.6%	6.4%
Polish (PO)	92.4%	7.6%
Romanian (RO)	81.1%	18.9%
Slovakian (SK)	88.4%	11.6%

Distinct patterns emerge regarding the mean age at which different nationalities were charged with crimes. The age profile was higher than the England benchmark – 26 years for men and 25 years for women - for all nationalities studied, with the exception of Romanians and Czech men. Both male and female Romanians had a mean age one year below the English average, at 25 and 24 respectively. The mean age for Czech men was the same as that of England.

Italian nationals had the highest mean age, at 38 years for men and 37 years for women. Portuguese females had the highest mean age among the women at 38 years, although the mean age for Portuguese males was considerably lower at 32

years. Irish nationals were the only other group with a mean age over 30, at 32 years for men and 31 years for women. Polish women had a mean age of 30 years, while their male counterparts were on average 29 years of age. Italian, Portuguese, Irish and Polish age-crime profiles therefore recorded a considerable shift away from the typically accepted age-crime curve of adolescent peaks and also that of the background English offending.

Focusing on gender, men charged from the following countries had a higher mean age, compared to women: Ireland, Italy, Latvia, Romania, and Slovakia, and this was the same as England as a whole. Other nationalities showed the opposite trend, with women having a higher mean age than men.

Crime types

Every offence was allocated to one of nine crime type categories: all theft; all violence; sexual offences; burglary; drugs; criminal damage and arson; fraud; robbery; and other crimes. Sexual offences (1-3% of crimes), criminal damage and arson (0-7% of crimes), drugs (0-13% of crimes), and fraud (1-6% of crimes) each represented only a small proportion of crime charges. 'Other crimes' (12-21% of crimes) was not explored further as it included a number of diverse crime types including those related to motoring offences.

This leaves two broad crime types: acquisitive crime (theft and burglary) and violent crime (violence and robbery). Robbery is categorised as violent rather than acquisitive because it is by nature a deliberate confrontational event using force, or the threat of force; the Crime Survey for England and Wales classifies it as part of the violent crime count (ONS, undated). Together these crime types accounted for 61-76% of crimes for each nationality.

<u>Acquisitive crime</u>

Acquisitive crimes accounted for 29% of all charged crime in England overall, but made up a considerably higher proportion for the EU nationalities studied, with the exception of the Italians (26%) and Portuguese (27%). 72% of charges for Romanians were acquisitive, and at least half of those among Lithuanians, Slovakians, Latvians and Czechs.

Figure 7: Percentage of total crimes that were acquisitive by nationality, 2011-2013
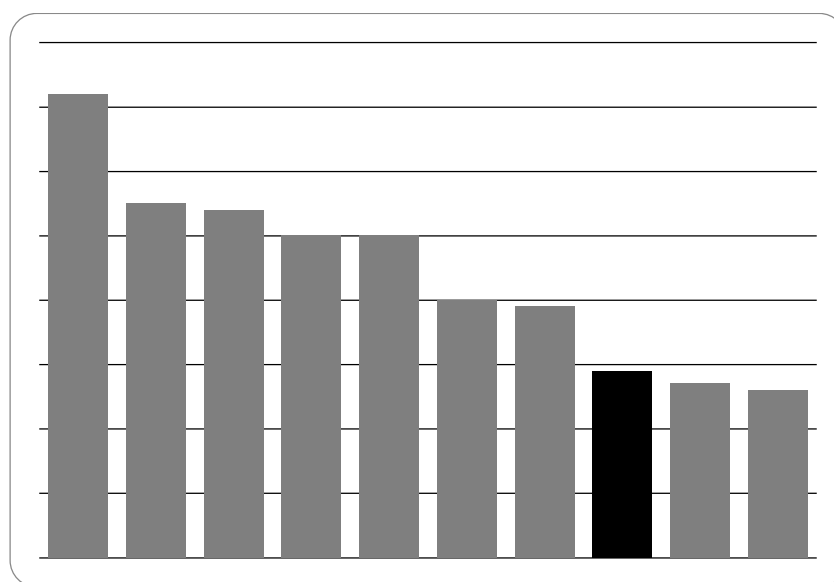
Violent crime

Violent crimes accounted for a low proportion of crimes for most EU nationalities studied, compared to England at 32%. Only two nationalities - Portuguese and Italians - had higher rates of violent crime than acquisitive, at 37% and 36% respectively, while Irish and Polish rates were slightly lower. Of particular note is that just 4% of crimes among Romanians were violent, and 13% among Czechs.

Figure 8: Percentage of total violent crimes by nationality, 2011-2013
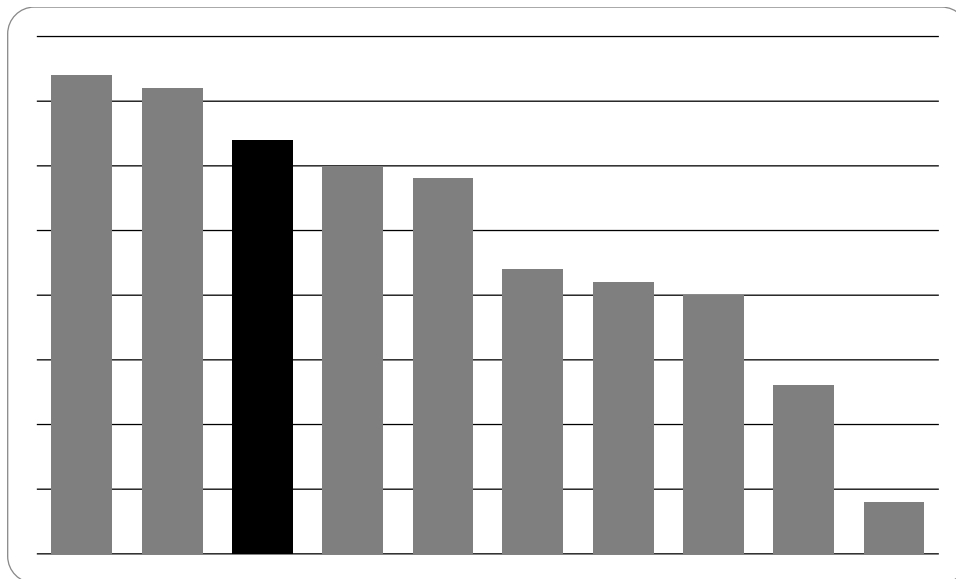
Geographical trends

Spatial patterns of offending using similar data have been reported elsewhere by Johnson (2014). This section reports on the use of Lorenz curve and Gini coefficient analysis to focus on the regional issues Johnson reported. In order to determine comparable data sets 2011 data was excluded, as fewer police forces provided data, and counts for the City of London Police (inner London) and Metropolitan Police (outer London) Forces were aggregated into a single spatial unit: the Metropolitan Police Force area.

Gini coefficients for 2012 and 2013 were found to reduce for all nationalities except Romanian and Portuguese; a smaller coefficient indicating increased spatial spread of the data across force areas by 2013. This increased spatial spread is also reflected in Lorenz curve analysis, with the eight most impacted upon police forces dealing with 47.29% of all A8 offending in 2012, but 45.81% in 2013.

Mining Lorenz Curve data provides quartiles of the spatial elements (Police Force areas) and the proportion of offending each quartile experienced. In this case 8 forces are associated within the top quartile, ranked order signifying their individual position and context within such grouping.

Figure 9 reports percentages of offending by year within Lorenz curve top quartiles (eight most impacted upon police force areas), indicating that offending by Romanian and Portuguese nationals became more spatially concentrated in 2013. Czech,

Slovakian and Italian nationalities are not compared due to the relatively low counts of charged crimes recorded. The eight police forces dealing with over 51% of all Romanian offending in 2013 were Thames Valley, Essex, Leicestershire, Cheshire, Northamptonshire, Hertfordshire, London (aggregated data) and West Midlands, generally centrally based in England with six displaying co-terminous boundaries. In contrast Portuguese offending was far less spatially clustered, instead showing separated and smaller South coast and East coast clustering.

Figure 9: Percentage of offending within Lorenz Curve top quartiles, 2012-2013

Nationality	2012	2013
Irish (IR)	57.49%	52.9%
Latvian (LV)	61.51%	60.31%
Lithuanian (LT)	59.72%	56.25%
Polish (PO)	43.88%	40.86%
Portuguese (PT)	53.6%	58.09%
Romanian (RO)	49%	51.28%

Thematic maps at figures 10 to 15 (incl.) display the spatial concentration of a nationalities offending by reporting Police force areas with significant SLQ values and the areas position within Lorenz Curve quartiles.

Six nationalities are exampled and diverse patterns of spatial concentration can be seen with an East coast regional focus being especially apparent for Polish, Lithuanian, Latvian and Portuguese offending.

Figure 10: Lorenz curve quartiles and significant
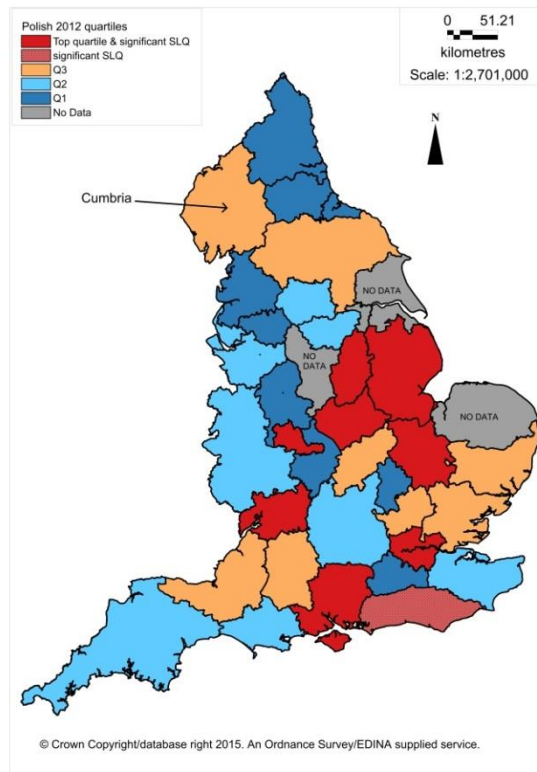SLQs for Polish offending - 2013

Figure 11: Lorenz curve quartiles and significant
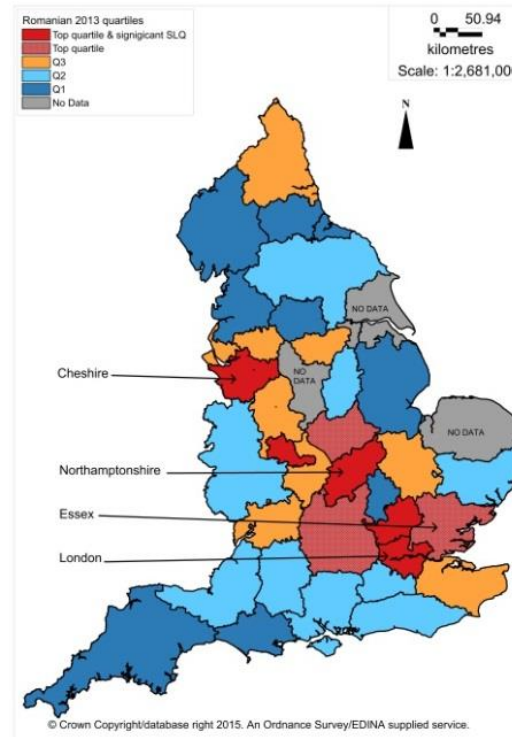SLQs for Romanian offending - 2013

Figure 12: Lorenz curve quartiles and significant
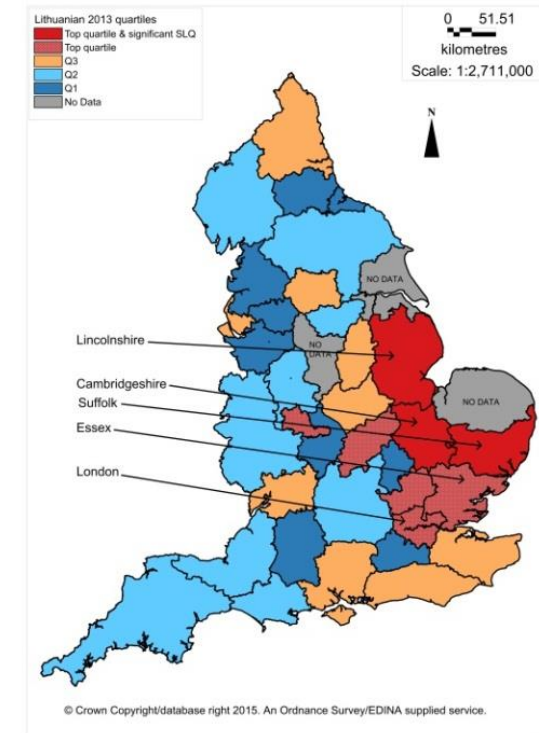SLQs for Lithuanian offending - 2013

Figure 13: Lorenz curve quartiles and significant
SLQs for Latvian offending - 2013
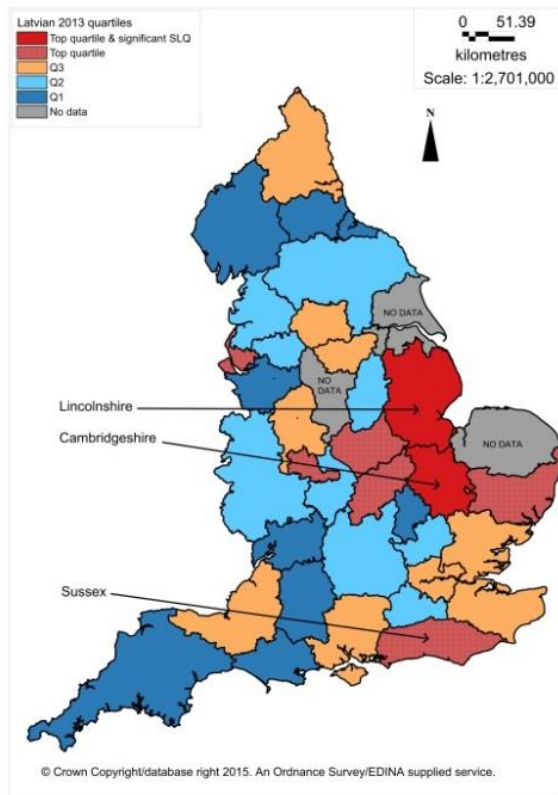
Figure 14: Lorenz curve quartiles and significant
SLQs for Irish offending - 2013
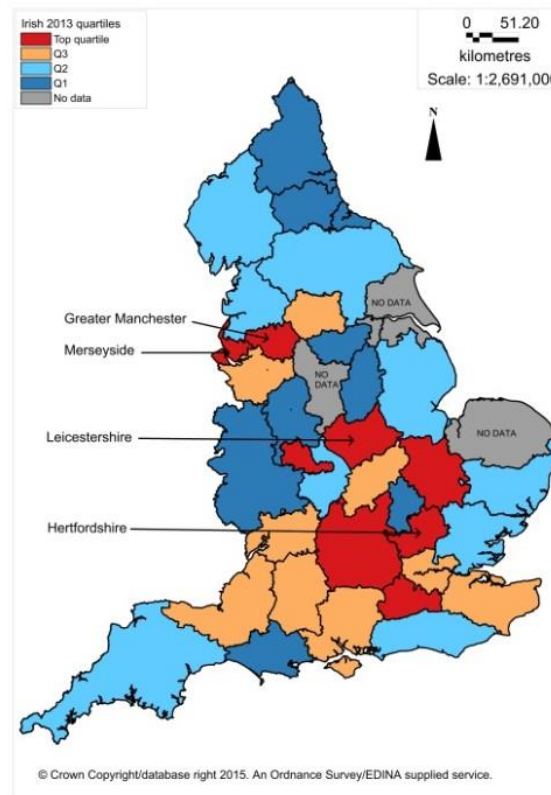
Figure 15: Lorenz curve quartiles and significant
SLQs for Portuguese offending - 2013

Portuguese 2013 quartiles

- Top quartile and significant SLQ
- Top quartile
- Q3
- Q2
- Q1
- No Data

0   51.32
kilometres
Scale: 1:2,701,000

N

NO DATA

NO
DATA

NO DATA

Cambridgeshire

Suffolk

London

© Crown Copyright/database right 2015. An Ordnance Survey/EDINA supplied service.
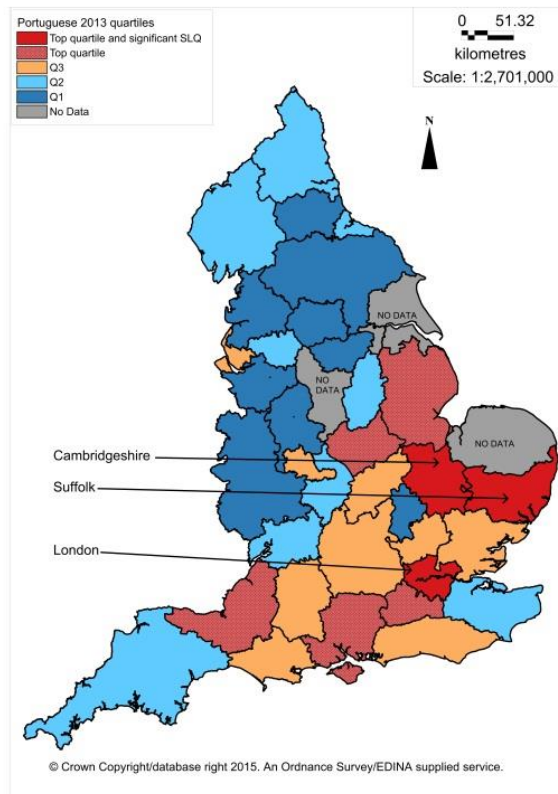
See Johnson (2014) for more detailed analysis and discussion of geographical distribution of offending by nationality across police force areas.

Discussion

A more detailed picture of offending among EU nationals emerges when age, gender, crime type and geographical location are synthesised. Whilst the target nations in this research accounted for the majority of crime detected to EU nationals in England during the years studied, they made up only a very small proportion – less than 1% - of the total number of crimes committed in England. The Romanian charge rate was the highest, although it fell significantly over the three years. Only Irish and Slovakian rates, which were much smaller, rose during the study period. The rises and falls in crime rates contrasts with the corresponding changes in ONS population estimates. With populations rising it can be envisaged that a charge rate may be maintained if a similar proportion of that 'new' population are motivated to offend or reduced if they are not. Whilst there will be diverse variables impacting upon the decision to commit crime it is perhaps of particular note that Slovakian and Irish charge rates increase whilst their estimated populations decrease. Slovakian charge rates increased significantly from a low of 10.16 per 1000 head of population in 2012 to 15.04 in 2013 whilst estimated populations reduced by approximately 16%. Actual counts of Slovakian charges are relatively low but such an anomaly seeks further enquiry.

The largest volume of crimes involved Polish and Romanian offenders; followed by Lithuanians, potentially reflective of the high population size for these groups. While the number of charges reduced over the three years amongst Poles, they increased for Romanians and Lithuanians, although rates reduced.

Most EU nationalities were older than the England average when charged with crimes, notably Italians and Portuguese women; only Romanians were younger. Peak ages for the commission of crime may be a mirror of the age profile of the nationality population set in question, although this cannot be confirmed without further investigation. Jaitman and Machin (2013) found differing demographic structures between UK and non-UK nationals in London, particularly with respect to age. They

discuss that this may be due to the differing age distribution of the population for UK and non-UK nationals with most of the non-UK nationals being in their mid-20s to 30s, the age at which arrests are higher. However, given the spatial concentration of intra-EU offending discussed in this paper and that of Johnson (2014), it becomes apparent that a London focused study may not hold for certain nationalities such as Latvian and Lithuanian which are predominantly East coast focused.

This range of diverse peak offending ages could impact upon criminal justice functions such as the development of crime prevention which requires accurate understanding of any selected target audiences, as a core role is the delivery of a preventative/safety message. Such messages (and associated actions) need to be delivered in the most appealing manner to the target age group and it is suggested that appropriate methods will be dependent upon age. In those areas where concentration of nationalities, and in turn offending by them, is highest, it is important to note the potential demographic differences from the English 'norm' that may exist and are detected in this research.

Understanding these demographic variations in terms of age, geography and crime type can play an important part in the intelligence-led policing methodology of the UK and elsewhere in the Westernised world. Here we identify the distinct differences in the balance of acquisitive and violent offending displayed by nationalities, especially noting the higher rates of acquisitive crime than the background default pattern of all offending. Romanian violent crime at only 4% raises questions, and further work is required in the research community in order to contextualise and understand such significant disparity. Johnson (2014) makes the point that Police forces in England gather and have access to a wealth of relevant data and that such research at that localised operational level may prove invaluable to inform general policing activity. As this research only considers those crimes which have been detected, a further avenue of exploration when considering results disclosed in this paper may be to consider the performance of Police detection strategies, which may not be appropriate given the apparent diversities.

The differences between nationalities in terms of the division of male and female offending also suggest further research is needed to explore whether this is a factor

of the gender split of different national populations resident in England, or is alternatively linked to cultural, historical or other factors.

Striking geographical patterns emerged, clarifying that a high proportion of crime is concentrated in specific regions of England, and that this varies by nationality. Echoing the previous findings of Johnson (2014), but extending that work by exploring three years of data during which concentration is maintained, it also strengthens Wilson's (2009) emphasis on routes of entry to England and subsequent patterns of movement and settlement within the country (Wilson, 2009). The patterns observed provide further evidence that crime by EU nationals is more prevalent in areas where the population of EU nationals is greater, suggesting that such crimes are committed by regular migrants rather than by mobile offenders.

The data has limitations; it does not represent a true record of all crimes, being based on charges of crime rather than convictions. By definition it only includes those crimes brought to the attention of the police. Attrition in the criminal justice system is fully acknowledged and only 17% of crimes recorded by the police resulted in a charge/summons between 2012 and 2013 (McKee, 2014), so the data actually represents a small percentage of all crime. Some police forces did not provide any data, or provided data of questionable integrity. There may be contextual differences in the way police forces operate, which could account for some of the findings. East coast forces are envisaged to have a higher level of familiarity with certain national or cultural groups, or languages, which facilitates detection rates. As previously stated, this paper compared English crime data with ONS statistics for the whole of the UK. The authors used this approach because of the lack of more precise alternative information; however, data from the Migration Observatory at Oxford University indicating the absolute majority of the UK non-British population being concentrated in England indicates that such data comparisons may yield results of higher accuracy than initially appears.

The data contains some indications of emerging types of offender, which raises the possibility of profiling inter-EU migrant crime through further research to enhance the development of well-informed policy. For instance, a picture emerged of Romanian males in their mid-20s being likely to commit almost solely acquisitive crimes in the

South East of England. The findings also suggest a link between age and crime type, with those nations with an older mean age of offending displaying a greater tendency to commit violent crimes. However, caution must be exercised. Here we are dealing with relatively small numbers of each population, who may not be acting in a typical or predictable way and whose experiences may be very different. The complexity of the situations and choices faced by immigrants have been discussed elsewhere (e.g. Mastrobuoni and Pinotti, 2011; Anderson and Ruhs, 2012; McDonald et al., 2013) and are reiterated here, along with previously described research by Blumenstein et al. (1988) that taking different variables into account made it harder to predict relationships between age and crime.

More detailed research and analysis into crime by EU nationals must be undertaken to further investigate and understand patterns of age, gender, and crime type, as well as other factors such as length of residency, level of integration into the host country and the existence of support networks. It may be expected that established settlers would exhibit different crime behaviours compared to newly arrived migrants, for instance, and this may account for observed differences in levels of violent and acquisitive crime and the prevalence of female offenders. It is recommended that factors are studied both in isolation and with regard to possible interactions between factors, as well as taking spatial patterns into account. The effects of recent policy changes such as the lifting of transitional restrictions for Bulgaria and Romania in 2014, and financial crises such as that in Greece, could also play a part.

However, data availability or actual non-collection must be taken into account. Here the UK National Census of 2011 is used as a provider of data on the resident population of nationalities entering due to the 2007 EU accessions (Bulgaria and Romania). These two groups were subject to a number of restrictions (mainly employment) until 2014 and one proviso of the National Census was that respondents must have been resident for the previous 12 months, taking no account of mobile/short term residents. Johnson (2014 pp 57) discusses issues with data regarding inter-EU migrants and the limitations to use that apply. He tests the use of the census data as a provider of a suitable contextual measure of rates by sub population size and finds it to be poor in that respect, it is however the only residential data collected. Delineation between established and either newly arrived or mobile migrants is not possible with

data currently available. the International Passenger Survey provides only (limited) estimates of movement on a national scale whilst in terms of employment the National Insurance (NI) data can state how many NI numbers (required for employment) were issued but once issued they remain live regardless of the recipients movement, there is no requirement to notify that the number is no longer required (perhaps because of leaving the country).

The findings contain potential policy implications both for individual police forces and for tackling crime at a national level; and may also be useful in reviewing immigration policy. Access to data about local offending patterns among different EU nationalities can assist police forces in planning and deploying resources more effectively, and may also provide supporting evidence to develop targeted reduction and detection strategies across the Criminal Justice sector. It can also help with the development of appropriate community safety activities. Nationally, resources and crime prevention programmes aimed at tackling immigrant crime can be targeted towards geographical areas where its occurrence is greater, taking into account observed trends in age, gender and crime types.

Conclusion

This paper offers an insight into the intricacies of researching both migration and crime, and has sought to provide indicators of issues that require further research and may impact upon a range of academic disciplines and professional areas when fully understood.

It is fully acknowledged that the data used has limitations but also that the macro (England) and meso (Police force areas) scales of enquiry can only take this research so far given the corresponding evidence of spatial concentrations being apparent at a more micro or localised scale.

Undertaken as an exploratory analysis of the crime-migration nexus the results strongly indicate that the age-crime issue needs greater clarification through a mixed methods approach synthesising with the crime type patterns that emerge.

It is suggested that this exploration of data at a scale not reported upon elsewhere provides valuable new knowledge even though limited in contextual argument and

indicates new directions for academic research. Literature from many aspects of inter-EU migration suggests that the sub-populations within England may diversify from that of the general population. Here we are able to strongly suggest that such diversification is apparent in the offending behaviours of such populations but that there is a lack of related explanatory research activity. Equally, whilst indicating new areas of research the lack of useable data is raised, particularly concerning size of sub populations by nationality, their permanence or mobility. Johnson (2014) in terms of spatial analysis and the use of public data and Johnson & Hampson (2015) in relation to Police collected offending data by nationality highlight problematic data uncertainty issues with secondary and/or meso and macro level collection. The subject explorations discussed in this paper provide potential direction to researchers and suggest that multi-disciplinary mixed methods approaches at the more local level of enquiry are required in order to understand the socio-economic links with crime that may be manifest.

Acknowledgements

References

Robert Agnew. "Foundation for a general strain theory of crime and delinquency" *Criminology.* 30 (1) (1992), p. 47-88.

Cesar Alonso-Borrego, Nuno Garoupa, Marcelo Perera, and Pablo Vázquez. *Immigration and crime in Spain, 1999-2006*, 2008, *WP for the FEDEA Report.*

Cesar Alonso-Borrego, Nuno Garoupa, and Pablo Vázquez. "Does immigration cause crime? Evidence from Spain". *American Law and Economics review*, 2012, ahr019.

Bridget Anderson and Martin Ruhs. "Reliance on migrant labour: inevitability or policy choice?" *Journal of Poverty and Social Justice*, *20*(1) (2012), p. 23-30.

Martin A Andresen. "Location quotients, ambient populations, and the spatial analysis of crime in Vancouver, Canada", *Environment and Planning A,* volume 39 (10), (2007), p. 2423-2444

Martin A Andresen, Kathryn Wuschke, J. Bryan Kinney, Paul J. Brantingham, and Patricia L. Brantingham. "Cartograms, crime, and location quotients."*Crime Patterns and Analysis* 2, no. 1 (2009), p. 31-46.

Athanasia Antonopoulou, and Angelika Pitsela. "Foreign Nationals as a Minority Group in the Criminal Justice System of Greece: From Offending to Victimization of non-Greek Population." *European Journal on Criminal Policy and Research* 20.2 (2014), p. 277-294.

Sally-Ann Baker, Iolo Madoc-Jones, Odette Parry, Emily Warren, Kirsty Perry, Karen D. Roscoe, and Richard Mottershead. "More sinned against than sinning? Perceptions about European migrants and crime." *Criminology and Criminal Justice* (2012): 1748895812455529.

Ray Barrell, John FitzGerald, and Rebecca Riley. "EU enlargement and migration: Assessing the macroeconomic impacts." *JCMS: Journal of Common Market Studies* 48, no. 2 (2010), p. 373-395.

Patricia L Brantingham and Paul J. Brantingham. "Mapping crime for analytic purposes: location quotients, counts and rates." In Weisburd, D. and McEwen, T. (eds) *Crime mapping and crime prevention,* 1998*,* New York: Criminal Justice Press

Brian Bell, Francesco Fasani, and Stephen Machin. "Crime and immigration: Evidence from large immigrant waves." *Review of Economics and Statistics* 21.3 (2013): 1278-1290.

Isabel Alonso Belmonte, Anne McCabe, and Daniel Chornet-Roses. "In their own words: The construction of the image of the immigrant in Peninsular Spanish broadsheets and freesheets." *Discourse & Communication* 4.3 (2010), p. 227-242.

M Bianchi, P Buonanno and P Pinotti *"Do Immigrants Cause Crime?"* Paris School of Economics Working Paper (2008), No 2008-05.

Martine Blom and Roel Jennissen. "The involvement of different ethnic groups in various types of crime in the Netherlands." *European Journal on Criminal Policy and Research* 20, 1 (2014), p. 51-72.

Alfred Blumstein, Jacqueline Cohen, and David P. Farrington. "Criminal career research: Its value for criminology." *Criminology* 26 (1988), p. 1-35.

Lisa Broidy and Robert Agnew. "Gender and crime: A general strain theory perspective." *Journal of research in crime and delinquency* 34.3 (1997), p. 275-306.

Kevin M Bryant and Mitchell Miller. "Routine activity and labor market segmentation An empirical test of a revised approach." *American Journal of Criminal Justice* 22.1 (1997), p. 71-100.

P Campbell and S Baum (1984). "Recent Immigration from Africa to the United States". In *Southern Regional Demographic Group Meeting, Orlando, Florida. 1984, October,* p. 17-19.

Rob Canton, and Nick Hammond. "Foreigners to Justice? Irregular migrants and foreign national offenders in England and Wales." *European Journal of Probation* 4.3 (2012): 4-20.

Pat Carlen. *Women, crime and poverty*. Milton Keynes: Open University Press. 1988.

Spencer Chainey and Jerry Ratcliffe. *GIS and crime mapping.* John Wiley & Sons, 2013.

Jane Roberts Chapman. *Economic realities and the female offender.* Lexington, MA: Lexington Books, 1980.

Richard A. Cloward & Lloyd E. Ohlin (1960). Delinquency and opportunity. *New York: The Free Press*

Jack Doyle and Stephen Wright. "Immigrant crime wave warning: foreign nationals were accused of a quarter of all crimes in London", *Daily Mail,* 2012, 18th February. Available at: http://www.dailymail.co.uk/news/article-2102895/Immigrant-crimewave-warning-Foreign-nationals-accused-QUARTER-crimes-London.html (accessed 4th October 2015)

Kathleen Daly. "Women's pathways to felony court: Feminist theories of lawbreaking and problems of representation." *S. Cal. Rev. L. & Women's Stud.*2 (1992), p. 11.

Jennifer Asanin Dean and Kathi Wilson. "'Education? It is irrelevant to my job now. It makes me very depressed…': exploring the health impacts of under/unemployment among highly skilled recent immigrants in Canada."*Ethnicity & health* 14.2 (2009), p. 185-204.

Alessandro De Giorgi. "Immigration control, post-Fordism, and less eligibility A materialist critique of the criminalization of immigration across Europe."*Punishment & Society* 12.2 (2010), p. 147-167.

V Dodd (2008). "Migrant Crime Wave a Myth-Police Study". *The Guardian*, 2008, *16*, 1.

Godfried Engbersen, Erik Snel, and Jan De Boom. "A van full of Poles: liquid migration in Eastern and Central European countries". In A Continent Moving West? EU Enlargement and Labour Migration from Central and Eastern Europe, Richard Black, Godried Engbersen, Marek Okólski and Cristina Panţîru (Eds), 2010, p. 115–40. Amsterdam: Amsterdam University Press.

David J. Evans and David T. Herbert, eds. *The geography of crime.* London: Routledge, 1989.

David P Farrington. "Age and crime." *Crime and justice* (1986), p. 189-250.

Ronald Aylmer Fisher. "On the mathematical foundations of theoretical statistics." *Philosophical Transactions of the Royal Society of London. Series A, Containing Papers of a Mathematical or Physical Character* (1922), p. 309-368.

Robert Ford. "Acceptable and unacceptable immigrants: How opposition to immigration in Britain is affected by migrants' region of origin." *Journal of Ethnic and Migration studies* 37.7 (2011), p. 1017-1037.

Mary E Gilfus. "From victims to survivors to offenders: Women's routes of entry and immersion into street crime." *Women & Criminal Justice* 4.1 (1993), p. 63-89.

Michael Gottfredson and Travis Hirschi. "The true value of Lambda would appear to be zero: An essay on career criminals, criminal careers, selective incapacitation, cohort studies, and related topics*." *Criminology* 24.2 (1986), p. 213-234.

Frances Heidensohn and Marisa Silvestri. "Gender and Crime" in Maguire, Mike and Morgan, Rod and Reiner, Robert, (eds.) *The Oxford Handbook of Criminology*. Oxford: Oxford University Press, 2012, p. 336-369. ISBN 9780199590278

Matthew Henty, Sara Lemos, Jonathan Portes, and Chris Bullen. *The impact of free movement of workers from Central and Eastern Europe on the UK labour market*. Leeds: Corporate Document Services, 2006.

Kevin Heanue. *Measuring Industrial Agglomeration in a Rural Industry: The Case of Irish Furniture Manufacturing*. No. 0830. Rural Economy and Development Programme, Teagasc, 2008.

Travis Hirschi & Michael Gottfredson (1983). Age and the explanation of crime. *American Journal of Sociology*, pp. 552-584.

Karen Heimer (2000). Changes in the gender gap in crime and women's economic marginalization. *Criminal Justice*, *1*, pp. 427-483.

Alex Hirschfield and Kate J. Bowers. "The development of a social, demographic and land use profiler for areas of high crime." *British Journal of Criminology* 37.1 (1997), p. 103-120.

Andrew M Isserman. "The location quotient approach to estimating regional economic impacts." *Journal of the American Institute of Planners* 43.1 (1977): 33-41.

Laura Jaitman and Stephen Machin. "Crime and immigration: new evidence from England and Wales." *IZA Journal of Migration* 2.1 (2013), p. 1-23.

Derek Johnson. "EU migrant criminal activity: exploring spatial diversity and volume of criminal activity attributed to inter-EU migrants in England". *Applied Geography* (2014), 50, p. 48-62

Derek Johnson & Edward Hampson (2015). Utilising the UK Freedom of Information Act 2000 for crime record data: Indications of the strength of records management in day to day police business. *Records Management Journal* 25 (3).

Paul Knepper. *Criminology and social policy*. Sage (2007)

Maria Beata Kreft and Felix Ritchie. "The Polish migrant community in Carmarthenshire: Substance abuse and implications for the criminal justice system." (project report). Bristol: University of the West of England, 2009.

Arjen Leerkes, Godfried Engbersen, Joanne van der Leun, Crime among irregular immigrants and the influence of internal border control. *Crime, Law and Social Change*, 58, 1, p. 15-38.

Roger Leigh. "The use of location quotients in urban economic base studies". *Land Economics* (1970), p. 202-205.

Rolf Loeber. "Does the study of the age-crime curve have a future." *The future of criminology* (2012), p. 11-19.

Chaya S Moskowitz, Venkatraman E. Seshan, Elyn R. Riedel, and Colin B. Begg. "Estimating the empirical Lorenz curve and Gini coefficient in the presence of error with nested data." *Statistics in medicine* 27, no. 16 (2008), p. 3191-3208.

Giovanni Mastrobuoni, and Paolo Pinotti. "Migration restrictions and criminal behavior: Evidence from a natural experiment." *Fondazione Eni Enrico Mattei Working Papers,* 2011, Paper 604.

John M MacDonald, John R. Hipp, and Charlotte Gill. "The effects of immigrant concentration on changes in neighborhood crime rates." *Journal of quantitative criminology* 29.2 (2013), p. 191-215.

Richard S Mack and David S. Jacobson. "Core periphery analysis of the European Union: A location quotient approach." *Regional Analysis and Policy* 26 (1996), p. 3-22.

David W Marcouiller, Jeff Prey, and Ian Scott. "The regional supply of outdoor recreation resources: Demonstrating the use of location quotients as a management tool." *Journal of Parks and Recreation Administration* 27.4 (2009), p. 92-107.

Eric S McCord and Jerry H. Ratcliffe. "Intensity value analysis and the criminogenic effects of land use features on local crime patterns". *Crime Patterns and Analysis* 2.1 (2009), p. 17-30.

Robert K. Merton (1938). Social structure and anomie. *American Sociological Review,* 3.5, pp.672-682.

Jeff Miller. "Short report: Reaction time analysis with outlier exclusion: Bias varies with sample size." *The quarterly journal of experimental psychology* 43.4 (1991), p. 907-912.

Neighbourhood Statistics. "How has crime changed since the 1980s?" *Crime Survey for England and Wales,* 2015. Available at: http://www.neighbourhood.statistics.gov.uk/HTMLDocs/dvc188/index.html (accessed on 29th September 2015)

Office for National Statistics [ONS] (undated) *Migration Statistics Quarterly Reports.* Available at: http://www.ons.gov.uk/ons/rel/migration1/migration-statistics-quarterly-report/index.html (accessed on 28th September 2015)

Office for National Statistics [ONS] (undated) *Are you interested in specific crime types?* Available at: http://www.ons.gov.uk/ons/guide-method/method-

quality/specific/crime-statistics-methodology/guide-to-finding-crime-statistics/are-you-interested-in-specific-crime-types-/index.html#4 (accessed on 2nd October 2015)

John Salt and Philip H. Rees. *Globalisation, population mobility and impact of migration on population*. Economic and Social Research Council, 2006.

Alex R. Piquero (2000). Frequency, specialization, and violence in offending careers. *Journal of research in crime and delinquency*, *37*(4), pp. 392-418.

Robert J Sampson. "Rethinking crime and immigration." *Contexts* 7.1 (2008): 28-33.

Rosemary Sheehan, Gill McIvor, and Chris Trotter, eds. *What works with women offenders*. Willan, 2013.

Deenesh Sohoni and Tracy WP Sohoni. "Perceptions of Immigrant Criminality: Crime and Social Boundaries." *The Sociological Quarterly* 55.1 (2014), p. 49-71.

Luigi M Solivetti, Luigi M. *Immigration, social integration and crime: A cross-national approach*. Routledge, 2010.

Luigi M Solivetti. "Looking for a Fair Country: Features and Determinants of Immigrants' Involvement in Crime in Europe." *The Howard Journal of Criminal Justice* 51.2 (2012), p. 133-159.

Darrell Steffensmeier and Emilie Allan. "Gender and crime: Toward a gendered theory of female offending." *Annual review of sociology* (1996), p. 459-487.

Jacob I Stowell, Steven F. Messner, Kelly F. McGeever, and Lawrence E. Raffalovich. "Immigration and the recent violent crime drop in the United States: a pooled, cross-sectional time-series analysis of metropolitan areas*."*Criminology* 47, no. 3 (2009), p. 889-928.

Gary Sweeten, Alex R. Piquero, and Laurence Steinberg. "Age and the explanation of crime, revisited." *Journal of Youth and Adolescence* 42.6 (2013), p. 921-938.

Richard Ernest Tremblay, Willard W. Hartup, and John Archer, eds.*Developmental origins of aggression*. Guilford Press, 2005.

Timo Tohmo. "New developments in the use of location quotients to estimate regional input–output coefficients and multipliers." *Regional Studies* 38.1, 2004, p. 43-54.

Tim Wadsworth. Is immigration responsible for the crime drop? An assessment of the influence of immigration on changes in violent crime between 1990 and 2000*." *Social Science Quarterly* 91.2 (2010), p. 531-553.

Scot Wortley. "Introduction. The immigration-crime connection: competing theoretical perspectives." *Journal of International Migration and Integration/Revue de l'integration et de la migration internationale* 10.4 (2009), p. 349-358.

Marjorie S Zatz and Hilary Smith. "Immigration, crime, and victimization: Rhetoric and reality." *Annual Review of Law and Social Science* 8 (2012), p. 141-159.