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**Migration and crime: a spatial analysis in a borderless Europe**

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**Abstract**

**The expansion of the EU has generated vast media interest and political debate about an alleged crime–migration nexus. The gradual disappearance of border controls within the EU has created opportunities for easier people movement, and potentially for offenders to commit criminal offences in other countries. However, little work has been undertaken to understand the general nature of criminal activity by intra-EU migrant populations. This paper discusses the complexity of carrying out research on this issue using openly available data sources across the EU. Spatial clustering of individual nationalities is evident, distinct differences in movements on a regional scale in England are shown. There is also evidence of limited recording practices and data availability across the EU. Data on localised offending by foreign nationals can be used to inform intelligence by national and international police agencies, to generate effective cross-border information exchange, and inform crime reduction policies.**

**Keywords: Crime; EU migration; spatial diversity; data uncertainty; cross-border**

# Introduction.

The European Union (EU) has taken significant steps towards removing internal borders through its continued expansion of members since 2004, currently totalling 28 member states. A core feature of being part of the EU is the free and unrestricted movement for citizens within any member state (Krings, Bobek, Moriarty, Salamońska & Wickham, 2013); promoted by the Schengen acquis (1995) abolition of internal border controls and the Treaty of Amsterdam (1997) which adopted the agreement into law. This globalisation has created opportunities for the movement of people for legitimate and illegitimate purposes (Krings et al., 2013). The increase in global travel and legitimate trading (of services, commodities and products) has affected the opportunities for illegal activities.

Since January 1st 2014, specific restrictions and transitional arrangement for free labour mobility for the most recently accessioned EU countries – Croatia and Bulgaria who joined EU in 2007, and Romania who joined EU in 2008 – were removed. The Accession Treaty, implemented in 2004 when the first major expansion of the EU occurred involving the accession of eight Central and Eastern European (CEE) member states, stipulated a number of restrictions postponing the opening of the labour markets as well as limiting access to welfare benefits for new CEE countries for a maximum of seven years. Malta and Cyprus also joined the EU in 2004 but were exempt from accession restrictions.

Prior to the current refugee crisis experienced in 2015-2016, the EU had essentially created an area – from Portugal in the west to Romania in the east, Finland in the north and Greece in the south – of mainland Europe with ‘open borders’ (subject to the Schengen agreement). The free movement of EU citizens within the Schengen zone is still unrestricted, despite current (temporary) border restrictions in place in a number of EU countries. Many authors had attempted to predict the movement of people post 2004, considering many traditional push and pull factors (Castles & Miller, 2009; Favell, 2008; Kancs & Kielyte, 2010). However, migration flows of the A8 accession countries differed greatly from the expected; as many projections were benchmarked against free, unrestricted movement of labour across all EU15 member states (Boeri & Brücker, 2005).

A macro scale of the European Union and its 28 member states clearly exists for the intra-EU migration and crime topic of this paper, with a meso scale at member state level and micro scale at a suitable boundary level (generally administrative) within member states. Analysis at these three scales can provide valuable information and knowledge applicable to diverse functions of criminal justice systems; typically (but not limited to) tactical approaches at the micro scale informing and leading to more strategic responses nationally (meso scale) and political issues intertwined with high level strategy at the macro, EU wide scale. In this paper we explore analytical abilities at respective scales given the data that is available, confirming the need for improved constructive data collection and release in order to enhance strategy and policy development, particularly at the meso and macro scales. The lack of data concerning intra-EU migration is discussed, mindful of the negative impact on constructive academic research to inform policy makers that such a data gap creates. Ludwig and Marshall (2015), referring to data barriers in their research seeking comparable cross EU judicial data sets conclude that “*in spite of good intentions, using statistical data to actually support evidence based EU criminal policy is far from reality*” (pg. 242).

The research reported is part of a larger E.C. funded project concerning the automatic exchange of bio-information (DNA and fingerprints) between all EU member states (under the regulation of the Prüm Treaty). Signed in 2005, and incorporated into legislation in 2008, the Prüm Convention encourages the exchange of information between authorities which are “*responsible for the prevention and investigation of criminal offences*” (Article 1), for the purpose of fighting transnational crime, illegal migration and international terrorism.

This need for increased information exchange between EU member states has been driven by the increased movement of people between member states. Any EU member state is able to seek information from another member state on the basis that there has been some form of cross-border activity in relation to the criminal matter being investigated. The Treaty creates the investigatory tactic of submitting bio-informatics seized from a crime scene/during an investigation to an ‘international’ database(s), searching for the identity of offenders in another country. The Prüm Convention does not limit the sharing of bio-informatics to particular categories, types or seriousness of crime. With no such statutory limitations on the nature of the crime under investigation the Prüm Convention provides a ‘transnational’ aspect to offences which are often likely to be wholly localised in nature with no known international aspect (Johnson, 2014).

Police cooperation (domestic and international) did not begin with the development of the EU; many police agencies were regularly sharing information prior to the introduction of specific strategies; however their reach and capabilities have expanded significantly (Kirby & Penna, 2011). Closer cooperation in criminal matters and the request of assistance from other countries in the course of investigations in the EU has been occurring via mutual legal assistance regimes since 1959 (Blackstock, 2010), and became of great importance since the establishment of the internal market in 1992 and opening of borders via the Schengen Convention in 1995 (Zimmermann, Glaser & Motz, 2011). A number of bilateral and multilateral agreements are now in place between countries, institutions and agencies, which encourage the exchange of information and intelligence, and coordinate law enforcement efforts to combat organised crime, terrorism, and trafficking (McCartney, 2013). The Prüm Treaty represented a step towards the implementation of “*free-flowing law enforcement information*” between police agencies and member states (McCartney, 2013, p. 553).

The gradual disappearance of border controls within the EU has created opportunities for easier movement of people, and potentially for offenders to commit criminal offences in other countries (Kirby & Penna, 2011; Prainsack & Toom, 2013). In an EU without borders, organised crime groups are able to operate “*beyond the control of the authorities of any single member state*” (Zimmermann et al., 2011, p. 55), requiring cooperation between national authorities in order to “*to catch criminals at the same speed with which they commit crime*” (Blackstock, 2010, p. 482). The widespread discourse of security and risk prevention has encouraged European initiatives to develop better transnational and international cooperation strategies in combating terrorism, cross-border crime, and illegal immigration, utilising mechanisms like Prüm to connect a “*wide variety of heterogeneous actors, jurisdictions, objects and values*” (Prainsack & Toom, 2013, p. 77).

Considering the implementation of EU policies enabling the exchange of bio-information, this paper aims to provide a more generalised and contextual EU wide picture of intra-EU migrant crime than has previously been carried out. Publically available data at the micro and meso scales were available in England, where reasonable clarity could be established (with caveats) to identify spatial patterns of intra-EU migrant crime. Undertaking similar methods, data from other member states (the macro EU level) was sought to identify any common spatiality such as clustering and particularly border clusters. We will argue that data on localised offending by foreign nationals can be used to inform intelligence by national and international police agencies, to generate effective cross-border information exchange. However, we will show that such data is not regularly collected and available for analysis within many EU member states and informed knowledge between member states is difficult to achieve. Data is needed upon which informed and accurate requirements for inter-state communication can be built upon for positive investigatory, community safety and crime prevention benefits; the strategic and political outcomes at the meso and macro levels. Without available data sets for analysis and knowledge generation problem solving becomes problematic in itself. Transnational information sharing is acknowledged as important and valuable but only readily available data for pre-analysis can help policy makers reach informed conclusions regarding priorities, data content/type (to be shared), anticipated outputs and suitable impact for society.

# 2. Intra-EU migration and crime.

Since the expansion of the EU there has been increasing political and media interest in the relationship between migration and crime (Alonso-Borrego, Garoupa & Vazquez, 2012). The question of whether migrants commit more crimes than residents has been explored to some degree in literature, but to date there has been little empirical research carried out. Much of the previous academic focus has been on ‘organised crime’ and illegal migration (Daele, 2008; Edwards and Gill, 2002; Lampe, 2008; Smit, 2011). “*While the term ‘organised crime’ is used as if it denoted a clear and coherent phenomenon, it is in fact an ever-changing, contradictory and diffuse construct*” (Lampe, 2008). The problem of organised crime has risen on the agenda of the EU and its member states and increasingly been seen as a serious threat (Edwards & Gill, 2002a; 2002b; Fijnaut & Paoli, 2006; Madsen, 2009). It is acknowledged that there is a lack of data and literature available regarding the nature and extent of organised crime (Fijnaut & Paoli, 2006)**,** and that attempts to model or estimate the situation would be flawed due to the shortage of comparable data. The existence of transnational organised crime at all has been questioned (Hobbs, 1998). The prominence of organised crime when discussing transnational crime has been criticised, with arguments that the impacts of organised crime are experienced locally, within territories, not transnationally (Edwards & Gill, 2002b). Hobbs (1998) has questioned whether organised crime is as great a threat as some organisations portray it to be.

Migration and policing of migrants has been explored in great detail by a number of authors (see for example: Aas (2007) globalisation and crime, Aas & Bosworth (2013) migrants and borders, Bowling & Sheptycki (2012) on global policing and den Boer & Black (2013) on international policing cooperation) and have predominantly focused on the illegal movement of people. However, work carried out on an intra-EU level, where the migration is legal, is very limited. Consequently, work on migration and crime across the EU has been contained in scale to country level or smaller. By moving away from the exploration of organised crime and illegal migration and focusing on ‘legal’ intra-EU migration, as well as scaling up to a geographical level of enquiry by exploring the offending within the EU we seek to begin to explore this knowledge gap. A number of studies have looked at the link between immigration and crime with varying degrees of success and the foci of many of these studies show a great deal of variation; some compared rates of immigration and crime rates (Bell & Machin, 2011; Bianchi, Buonanno & Pinotti, 2008; Chapin, 1997), others looked at crime rates by native and non-native offenders (Entorf & Larsen, 2004; Jaitman & Machin, 2013; Tournier, 1997), or investigated foreigners as a percentage of prison populations (Banks, 2011; Lynch & Simon, 1999; Solivetti, 2012).

Drivers for migration are also well established in the literature, and recently a comprehensive review by Cummings and colleagues investigated the drivers and trends of migration in a European context (2015). Migration behaviour is commonly characterised in terms of a push-pull approach, which consists of factors which attract immigration and factors that stimulate emigration (Lee, 1966). The former are pull factors determining the choice of the destination country, whilst push factors determine the decision to emigrate. Push and pull factors include income levels and employment opportunities with significant income gaps between new and old members being a cause of concern for some EU15 governments, potentially leading to an excessive influx of workers.

Concerns about whether immigrants may depress wages, cause unemployment, exploit social security systems, and generate social tensions have been contrasted with scientific emphasis on the economic need for skilled workers by native firms and the creative potential immigrants may possess. In general, the economic impact of immigration on receiving labour markets depends on the scale of immigration flows, composition of the migrating population, and the functioning of the receiving economy (Zaiceva & Zimmermann, 2008).

Studies of the economic impact of immigration in general conclude that while it has a positive impact on the public finances, it decreases wages and the employment prospects for certain groups, in particular the low skilled (Dustmann et al. 2008). Intra-EU mobility might be thought to have a greater negative impact, because governments are unable to control the skill level of inflows into a particular area, meaning there is a greater risk of an influx of work­ers competing for low-skilled jobs. The few studies that disaggregate intra-EU mobility from immigration more broadly find no evidence that this has occurred (Benton & Petrovic, 2013).

While the economic impact of EU migration has been broadly positive, social impacts are very difficult to measure, it being difficult to disaggregate intra-EU migration from other forms. Communities suffer when the pace of change applies pressure on local infrastructure, but many of the problems faced by mobile EU citizens following the recession were shared by other groups (Benton & Petrovic, 2013). Migrations can be spectacular or mundane, or regarded as problematic or non-problematic. By and large, the mundane, unproblematic forms of movement are left unrecorded and often unstudied. The spectacular, problematic ones receive all the attention, although here it must be stressed that the nature of the ‘spectacle’ is often exaggerated and distorted by its media portrayal and politicisation (King, 2002).

Considering migration as a global phenomenon, this research is interested in the link between migration and crime at a macro geographic level. For countries hosting large numbers of immigrants, crime has been blamed on foreigners (in general, not just EU migrants) for many years. Solivetti (2012) reports on various European studies which have found that although the immigrants share in crime figures varies greatly by country, on average immigrant crime rates are two to four times higher than the rest of society. He conducts analysis across Western Europe regarding immigrant crime and similarly concludes that on average immigrant crime rates are high but emphasises that “*such a share varies greatly from country to country”* (pg. 151)*.* In addition Solivetti (2012) is able to consider and challenge both popular opinion and suggested theoretical answers to the issue of high crime rates of migrant populations and he suggests that the *“non-national contribution to crime is not associated with immigration per se but with the contexts in which immigration occurs and features of the immigration inflow*” (pg. 133)*.* Bianchi et al. (2012) examined the relationship between crime and immigration in Italy and estimated that a 1% increase in migrants could be associated with a 0.1% increase in total crime. This effect was found to occur most strongly for property crimes, especially robberies and thefts. Bianchi et al. (2012) examined reported crime across Italian provinces and concluded that “*neither the overall crime rate nor the number of most types of criminal offences are significantly related to the size of the immigrant population*” (p. 1342).

Alonso-Borrego and Vazquez (2012) studied the nexus between global migrant groups and crime in Spain, noting the political and public concerns but also that there was a distinct correlation between the two over the preceding decade. In the UK, Bell and Machin carried out a number of studies examining the relationship between migration and crime (Bell, Fasani & Machin, 2013; Bell & Machin, 2011). Using two different immigration groups – asylum seekers from the late 1990s and early 2000s, and migrants from the 2004 EU accession countries – they examined the impact of migration on violent and property crimes (Bell et al., 2013). They found no significant effects between either of these migrant groups and violent crime rates, however a ‘modestly positive’ correlation between asylum seekers and property crimes and a ‘significantly negative’ correlation between A8 and property crimes is reported (Bell et al., 2013).

With a significantly limited knowledge base to draw upon a conclusive critical understanding of the intra-EU migrant crime nexus is difficult to establish at this time but echoes calls for further research to expand the knowledge base. Quantitative research work to date suggests that the existence of a true crime-migration nexus is difficult to formally evidence and in many aspects cannot be justified. However data availability and data integrity is a recurrent issue with little commonality between member states. Johnson (2014) refers to the work of Hall (2010) in identifying that geographic debate on the matter of crime by people (individuals or groups) crossing state boundaries remains limited and encourages an expansion of such research to further knowledge attainment. Most recent quantitative work in and across member states (Johnson, 2014; 2015a; Ludwig, 2014; 2015; Ludwig & Johnson, 2015; Bernasco, Lammers & van der Beek, 2015; Jeuniaux, Duboccage, Renard, van Renterghem & Vanvooren, 2015) highlights spatial elements such as significant clustering, loosely termed criminal ‘networks’ and in particular high crime density in Member State border regions. This spatial element to intra-EU migration and crime can provide highly informed policy direction at all scales but is only recent in terms of knowledge generation. As a research topic migration and its links with crime conjure up a multitude of elements crossing diverse disciplines but this paper concentrates on the now established dearth of knowledge concerning the *‘movement of crime’* within the EU by the population of the union.

The next sections of this paper critically considers the publicly available data utilised in this research and sets out a number of statistical and analytical techniques which have proven useful in the spatial analysis of criminal activity. It will explain the development of a model in England providing informative methodologies of spatial issues, and is followed by analysis of the distribution of foreign offenders across the EU. A full discussion and final conclusions follows, considering the impact of free movement and migrant crime across a ‘borderless’ Europe.

# Methodology.

In this paper, data was sought from a number of different sources. Data for England was requested using the Freedom of Information Act 2000 (FOIA) which came into force in 2005 (Great Britain, 2000). This act requires all public authorities to provide a right of access to any information held, albeit subject to exemptions. Requests were sent to 39 English police forces, requesting data relating to the number of persons charged with a criminal offence by nationality for calendar years 2011, 2012 and 2013.

Charging an offender falls in between arrest and conviction, and is a lawful process formally notifying an arrestee of the intention to prosecute. Following an arrest and subsequent investigation, evidence for most offences are assessed to ascertain whether a formal charge is appropriate and what the criminal offence is. Most Police forces were unable to provide information regarding the nationality of individuals recorded within detected crime reports, nor were they able to consistently provide the nationality of arrestees. Consequently, population data by nationality was not utilised against which to benchmark crime data, but total population counts were used instead. Courts were unable to provide spatial information concerning a conviction beyond stating which court (geographically) dealt with the case. Counts of charges made are therefore of greater integrity than arrest data for inferring guilt given the lack of availability of conviction data with required detail (Johnson, 2014). However, the number of individuals charged is not a reliable reflection of the individuals convicted for offences. An individual can be charged and prosecuted but found not guilty.

For data relating to the rest of the EU, openly available data sets and databases were identified and interrogated for each of the 28 EU member states, and the relevant data extracted (where available). Social statistical databases, police annual reports/statistics, government websites, ministry of justice/foreign affairs reports, immigration office data, office of public prosecutor reports, Eurostat data files, UN reports, and UNODC data files were utilised to gather data on foreign offending in the EU for the calendar year 2012 (to provide a suitable comparison time frame to the English data). Crime data was more difficult to source, as it can be collected and retained by a number of different state agencies (e.g. the local or national police agencies, the ministry of justice) as well as being available from the same national databases which collate population and other socio- demographic information.

Overall, data on both migration and crime are hard to find. Although Eurostat and the Statistics Code of Practice require good quality data, many countries do not publish detailed information relating to foreign offending beyond a national level. Data is generally available on the age, sex and region of residence for all offenders; however statistics relevant to migration and crime (country of origin, nationality, crime type) are usually not available. Very limited information is available about the regional distribution of foreign offenders (Kupiszewska, Kupiszewski, Martí & Ródenas, 2010). Research into crime is reliant on data that is recorded and published by criminal justice agencies; data which is collected for other purposes.

A number of statistical tests and spatial analysis tools were utilised within this paper. Significant volumes of offending were identified using Median Absolute Deviation (or MAD factor) values greater than or equal to two. The MAD factor mitigates against outlier influence commonly seen in methods utilising mean values and standard deviations, and provides a robust method for calculating significance with a high integrity measure of the extremeness, or otherwise, of categories; in this case nationalities or the EU member state (Leys, Ley, Klein, Bernard & Licata, 2013). The MAD is a measure of dispersion, or spread, around the median of the data set and offers the advantage of indicating the distance of the value from the decision criterion of > 2 (Miller, 1991). For full explanation of the MAD factor analysis see Johnson (2014, p. 55-56).

Although infrequently used in relation to crime analysis, Brantingham and Brantingham (1998) found Location Quotients (LQs) a useful method for measuring “*the relative mix of different types of crimes for a particular area compared to the mix in the surrounding areas*” (p. 264). Since then, the uptake of LQs in the crime research arena has been relatively sparse with only a handful of researchers using it effectively. LQs compare a particular region in relation to its wider region, and provide a measure of over or under representation relative to surrounding areas (Andresen, 2007). The LQ provides an alternative view of crime, which is neither a rate nor a percentage; it is a relative measure (Andresen, Wuschke, Kinney, Brantingham & Brantingham, 2009). An LQ of 1 for a specific crime means that this area “*has a proportional mix of that crime similar to the larger comparison area*” (Brantingham & Brantingham, 1998, p. 271). Where the value is below 1, the relative proportion of crime in that area is lower than the surrounding comparison area, and vice versa for values greater than 1.

O’Donoghue and Gleave (2004) detail the use of a Standardised Location Quotient (SLQ) to overcome the otherwise arbitrarily defined cut off point of LQ values, proposing the LQ array should first be tested using a test for normality. If normally distributed, z values of the LQ lying beyond 1.96 standard deviations were considered extreme, representing the 5% level of statistical significance for a two tailed test. Heanue (2004) refines this, identifying the Shapiro-Wilk (S-W) test as a preferred test of normality. Following Heanue’s refinement we report the z values of the LQ to the 5%, two tailed level of significance, refining the transformation of the LQ into a SLQ. Where distributions were not found to be normal LQ values were logarithmically transformed and the S-W test repeated. If distributions cannot be determined as normal the SLQ cannot be used.

# Results – spatial distribution of foreign offenders.

Analysis of criminal activity of foreign nationals in England developed a model of analysis of the spatial distribution and spatial trends over time from a single country perspective (Johnson, 2014; Johnson, Davidson & Younger, 2015; Johnson, 2015a; 2015b). That research considered the potential spatial diversity of crime by migrant groups in the context of location within England and policing impact. In order to address the lack of work considering the geography of EU migrant crime in England, data regarding EU nationality of persons charged with the commission of a criminal act was obtained and spatially examined. Data relating to individuals charged was utilised as this was the best level of data available which recorded nationality of individuals for specific geographic locations. Data was collected for three calendar years (2011-2013) in order to investigate spatially significant concentrations of criminal activity and spatial trends of internal movement over time.

Of the 26 EU nationalities examined, Johnson (2014) identified that 74% of all charges aligned with A8 and A2 nationalities. Poland, Romania and Lithuania accounted for 59% of all prosecution charges. Prosecution charge counts and associated MAD factors by nationality were calculated and identified five top nationalities displaying extreme counts: Latvian, Lithuanian, Polish, Portuguese and Romanians (see table 1). Consequently, these nationalities were chosen as nationalities of particular interest for which further statistical study was warranted in England and across the EU. Data for 2011 also identified Italian nationals as an outlier, and 2012-2013 data identified Irish nationals, however these have not been considered in detail here as they are not significant across the total three year time frame.

## Table 1: Prosecution charge counts per nationality and associated MAD factor in England (2011 only)

|  |  |  |
| --- | --- | --- |
| **Nationality** | **Charges** | **MAD factor** |
| Poland | 8,090 | 12.9\* |
| Romania | 6,026 | 9.4\* |
| Lithuania | 4,555 | 6.9\* |
| Latvia | 2,018 | 2.7\* |
| Italy | 1,828 | 2.3\* |
| Portugal | 1,715 | 2.1\* |
|  |  |  |
| Czech Republic, France & Ireland | 900 - 1600 | 0.9 – 1.99 |
| Bulgaria, Germany, Hungary,  Netherlands, Slovakia, Spain | 200 - 800 | 0.5 - 0.89 |
| Austria, Belgium, Cyprus, Denmark, Estonia, Finland, Greece, Luxembourg, Malta, Slovenia, Sweden | 1 - 200 | < -0.5 |

\* Median Absolute Deviation >2 – extreme values/counts

Measures of spatial autocorrelation were employed for the counts of charges by nationality, rates of migrant charges per nationality by force area population and lastly by force area total crime. Further spatial statistical analysis using commonly applied methods provides a value accounting for spatial diversity of such crime across a geographic area (i.e. the country of England, individual Police Force areas), indicating dis/similarity with neighbours (see Johnson, 2014 for full explanation of method). Building on this work, Johnson (2015a) and Johnson et al. (2015) confirmed anticipated patterns of criminal activity regarding A8 and A2 migrants, expanding on the reported significant clustering of some national groups (Lithuanian and Latvian) and noting a wider potential dispersion of Polish and Romanian nationalities (see figure 1 for examples of 2012 spatial diversity). In order to assess the similarity of spatial diversity of intra-EU migrant crime, data was analysed for two subsequent years (2012-2013) to determine the stability of offending over time. Utilising standard location quotients (SLQ), they found a mixed profile.

Polish offending displays considerable spatial diversity but clusters towards the east and southern coasts (particularly Sussex police area). Romanian offending is disparate in spatial focus, but displays SLQs significant in some of the Home Counties (Essex, Hertfordshire, Sussex) and Suffolk. Latvian and Lithuanian offending appears the most spatially focused of all intra-EU offending by nationality with significant SLQs limited to the East and on the south coast (Cambridge Police Force area).

Contextualisation of data is a potential issue. With free intra-EU movement data on migration and emigration is extremely limited as there is no requirement to record the length of stay or reason for visiting. The 2011 National Census was deemed (by the research team) to be of low value as it required a respondent to have been normally resident in the country for 12 months prior as well as containing other relevant restricting factors given the time frame of this study (2011 – 2013). In November 2012 the UK Office of National Statistics reported via their Migration Statistics Quarterly Report that in England, Scotland and Wales as well as each of the countries regions Polish were estimated as the highest volume of resident overseas nationals, often followed in the ranked order by the Republic of Ireland. In the East Midlands ranked order was Poland, India, Republic of Ireland, Latvian and Italian. For the calendar year 2011 it was estimated that, of the 60 most common nationalities of the population of overseas nationals (estimated total 4,335,000) those pertinent to this study were:

Polish 15.85%

Republican or Ireland 8.1%

Lithuanian 3.1%

Portuguese 2.4%

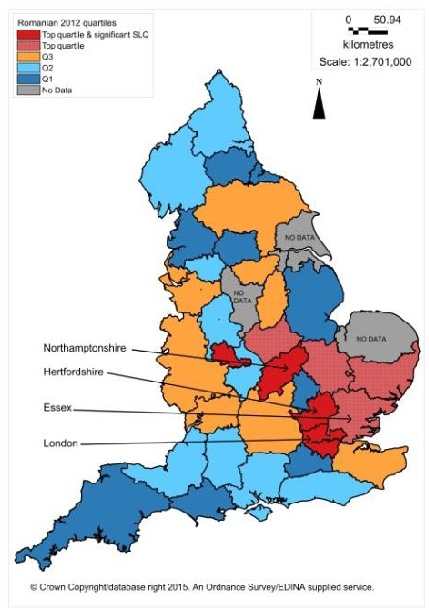
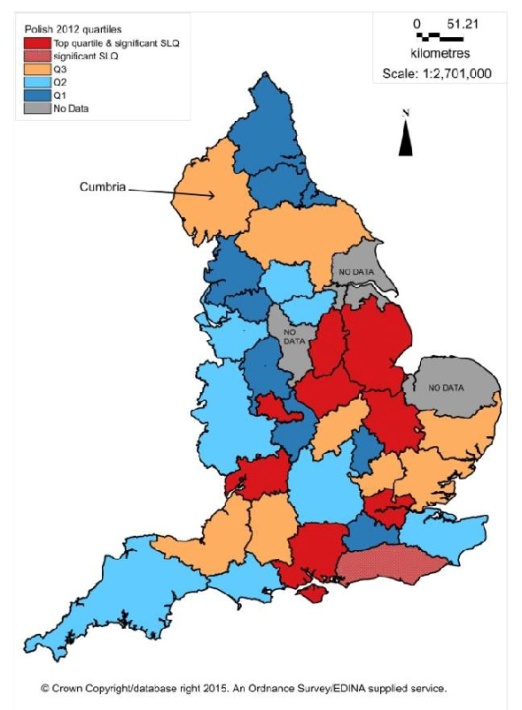
Romanian 2.2%

Latvian 1.5%

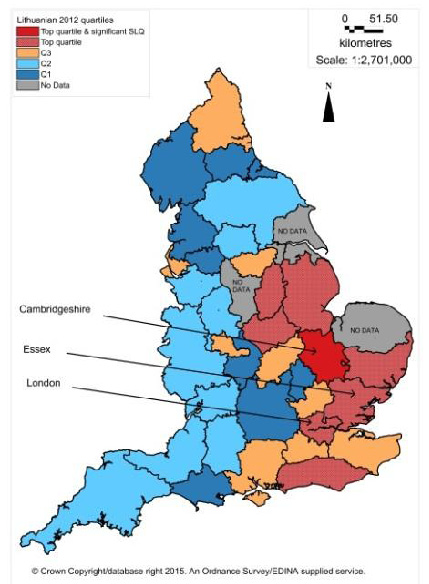
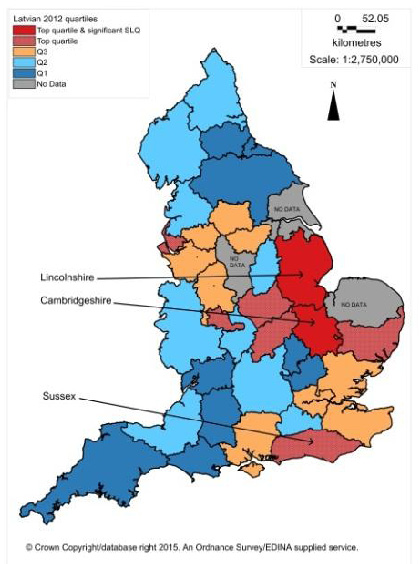
French, German and Italian residents accounted for between 2.7% and 3% and Spanish residents presented a slightly greater proportion than Latvians.

## Figure 1: Thematic maps illustrating the spatial clustering of Lithuanian, Latvian and Romanian offenders (SLQ 2012).

**Polish offenders Romanian offenders**



**Latvian offenders Lithuanian offenders**



With the caveat of London aggregation varying levels of spatial diversity of offending can be inferred by the volume of Police Force areas with significant SLQ’s for each. Spatial diversity is delineated by SLQ significance but these are limited to central and southern areas of England with the addition of a high density of Lithuanian, Latvian and Polish offending on or near the East Coast. Krings et al. (2013) argue that Polish migrants are a new “*generation of mobile Europeans who increasingly make use of their free-movement rights in pursuit of flexible work/life pathways in the new European mobility space*” (p. 87). Nationalities display disparate spatial offending patterns maintained over time indicating potentially independent geographies of crime. Distribution of offending by EU migrants is assumed to be similar to population distribution, although accurate data is not available to compare.

This English model presented intuitive methodologies to examine, display and interpret findings in an informed and transferable manner hence comparable data was sought for this study relating to the nationality of foreign offending across all EU member states. Utilising open access data, differences in FOI acts across Europe limited this methodology for obtaining data at this scale, the nationality of foreign offenders was ascertained from ten (out of 28) EU member states – Austria, Czech Republic, Denmark, Germany, Italy, the Netherlands, Poland, Slovakia and Spain (and England from Johnson’s work) – at a macro scale (country level, see table 2). This identified that foreign offending by EU nationals is not high in volume in the EU member states analysed; it makes up approximately 4% of total crime in the Czech Republic, approximately 3% of total crime in Italy, Germany and Denmark, 2.5% in the Netherlands, 1.5% in Slovakia, and less than 1% in England, Austria and Poland.

## Table 2: Foreign offenders by nationality as percentage of total crime (2012)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Foreign**  **offenders** | **As percentage of total crime** | | | | | | | | | |
| **Austria** | **Czech Rep.** | **Denmark** | **England** | **Germany** | **Italy** | **Netherlands** | **Poland** | **Slovakia** | **Spain** |
| Austria |  | 0.06% | 0.02% | 0.00% | 0.09% | 0.01% | 0.02% | 0.00% | 0.15% | *no data* |
| Belgium | 0.00% | 0.00% | 0.01% | 0.00% | 0.03% | 0.01% | 0.28% | 0.00% | 0.02% | 0.02% |
| Bulgaria | 0.04% | 0.22% | 0.12% | 0.01% | 0.22% | 0.14% | 0.14% | 0.01% | 0.05% | 0.12% |
| Croatia | 0.07% | 0.00% | 0.02% | 0.00% | 0.12% | 0.05% | *no data* | 0.00% | 0.02% | *no data* |
| Cyprus | 0.00% | 0.00% | *no data* | 0.01% | 0.00% | 0.00% | *no data* | *no data* | 0.00% | *no data* |
| Czech Rep. | 0.04% |  | 0.02% | 0.03% | 0.08% | 0.02% | 0.04% | 0.01% | 1.06% | *no data* |
| Denmark | 0.00% | 0.00% |  | 0.00% | 0.01% | 0.00% | 0.01% | 0.00% | 0.01% | *no data* |
| Estonia | 0.00% | 0.00% | 0.02% | 0.01% | 0.01% | 0.00% | *no data* | 0.00% | *no data* | *no data* |
| Finland | 0.00% | 0.00% | 0.04% | 0.00% | 0.00% | 0.00% | 0.01% | 0.00% | *no data* | *no data* |
| France | 0.01% | 0.01% | 0.06% | 0.02% | 0.13% | 0.07% | 0.15% | 0.00% | 0.04% | 0.09% |
| Germany | 0.15% | 0.13% | 0.35% | 0.01% |  | 0.01% | 0.45% | 0.01% | 0.12% | 0.06% |
| Greece | 0.00% | 0.01% | 0.03% | 0.00% | 0.16% | 0.02% | *no data* | 0.00% | 0.02% | *no data* |
| Hungary | 0.11% | 0.02% | 0.06% | 0.01% | 0.07% | 0.01% | 0.06% | 0.00% | 0.42% | *no data* |
| Ireland | 0.00% | 0.00% | 0.02% | 0.09% | 0.01% |  | 0.02% | 0.00% | 0.01% | *no data* |
| Italy | 0.02% | 0.03% | 0.09% | 0.03% | 0.38% | 0.01% | 0.10% | 0.00% | 0.10% | 0.07% |
| Latvia | 0.01% | 0.02% | 0.09% | 0.07% | 0.04% | 0.03% | *no data* | 0.00% | *no data* | *no data* |
| Lithuania | 0.01% | 0.03% | 0.21% | 0.15% | 0.07% | 0.00% | *no data* | 0.02% | 0.00% | 0.04% |
| Luxembourg | 0.00% | *no data* | *no data* | 0.00% | 0.01% | 0.01% | *no data* | *no data* | 0.00% | *no data* |
| Netherlands | 0.01% | 0.02% | 0.12% | 0.01% | 0.12% | 0.00% |  | 0.00% | 0.04% | 0.02% |
| Malta | 0.00% | *no data* | *no data* | 0.00% | 0.00% | 0.00% | *no data* | *no data* | *no data* | *no data* |
| Poland | 0.07% | 0.33% | 0.73% | 0.25% | 0.63% | 0.10% | 0.66% |  | 0.31% | 0.05% |
| Portugal | 0.00% | 0.00% | 0.02% | 0.05% | 0.08% | 0.01% | 0.08% | 0.00% | 0.01% | 0.11% |
| Romania | 0.27% | 0.21% | 0.31% | 0.22% | 0.54% | 2.07% | 0.40% | 0.01% | 0.17% | 1.26% |
| Slovenia | 0.02% | 0.01% | *no data* | 0.00% | 0.02% | 0.01% | *no data* | 0.00% | 0.02% | *no data* |
| Slovakia | 0.09% | 2.55% | *no data* | 0.02% | 0.04% | 0.01% | *no data* | 0.00% |  | *no data* |
| Spain | 0.00% | 0.01% | 0.05% | 0.01% | 0.07% | 0.03% | 0.07% | 0.00% | 0.02% |  |
| Sweden | 0.00% | 0.00% | 0.19% | 0.00% | 0.01% | 0.00% | 0.01% | 0.00% | 0.01% | *no data* |
| England | 0.00% | 0.02% | 0.20% |  | 0.07% | 0.02% | 0.16% | 0.00% | 0.02% | 0.12% |
| **TOTAL** | **0.94%** | **3.72%** | **2.75%** | **0.99%** | **2.99%** | **2.70%** | **2.65%** | **0.09%** | **2.62%** | **1.95%** |

The top offending nationalities were identified, first as a percentage of total crime to establish what the overall picture of offending patterns were across the EU. The results identified Romanian, Polish and German nationals to be within the top five offending nationalities in each EU member state analysed. Following Johnson’s (2014) model, subsequent statistical analysis was carried out using the MAD factor, to identify the significant nationalities for each country by looking for nationalities that were > 2 times the median (see table 3). It identified a number of interesting trends.

## Table 3: MAD factor analysis of significant offending nationalities (2012)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Austria:** | **MAD** |  | **England/UK:** | **MAD** |  | **Netherlands:** | **MAD** |
| Romanian | 36.4 |  | Polish | 26.4 |  | Polish | 8.7 |
| German | 36.1 |  | Romanian | 22.9 |  | German | 5.6 |
| Hungarian | 26.2 |  | Lithuanian | 15.1 |  | Romanian | 4.8 |
| Polish | 18.8 |  | Irish | 8.4 |  | Belgian | 3.1 |
| Slovakian | 18.0 |  | Latvian | 6.3 |  |  |  |
| Croatian | 16.3 |  | Portuguese | 3.9 |  |  |  |
| Bulgarian | 8.3 |  |  |  |  |  |  |
| Czech | 6.4 |  |  |  |  |  |  |
| Italian | 4.7 |  |  |  |  |  |  |
| Slovenian | 3.7 |  |  |  |  |  |  |
| **Czech Republic:** | |  | **Germany:** |  |  | **Poland:** |  |
| Slovakian | 59.3 |  | Polish | 10.0 |  | Lithuanian | 10.8 |
| Polish | 24.0 |  | Romanian | 8.4 |  | Romanian | 8.6 |
| Bulgarian | 15.9 |  | Italian | 5.5 |  | Bulgarian | 5.5 |
| Romanian | 14.9 |  | Bulgarian | 2.7 |  | German | 5.8 |
| German | 9.1 |  |  |  |  | Czech | 4.9 |
| Austrian | 3.1 |  |  |  |  |  |  |
| **Demark:** |  |  | **Italy:** |  |  | **Slovakia:** |  |
| Polish | 15.2 |  | Romanian | 21.1 |  | Czech | 69.1 |
| German | 6.5 |  | Bulgarian | 12.5 |  | Hungarian | 26.7 |
| Romanian | 5.6 |  | Polish | 9.3 |  | Polish | 18.9 |
| Lithuania | 3.3 |  | French | 6.0 |  | Romanian | 9.6 |
| British | 3.2 |  | German | 5.3 |  | Austrian | 8.2 |
| Swedish | 2.9 |  | Croatian | 5.0 |  | German | 6.6 |
|  |  |  | Spanish | 2.1 |  | Italian | 5.5 |
|  |  |  |  |  |  | Bulgarian | 2.1 |

Focusing on newly accessioned countries (A8 & A2), Romanian, Polish and Bulgarian offenders showed a high degree of dispersion across the EU, identified as significant by MAD factor analysis in over nine out of 10 possible countries. All remaining nationalities – Czech, Lithuanian, Hungarian, Croatian, Slovakian, Slovenian and Latvian – only illustrate significant MAD factor scores in less than two out of 9 possible countries. In terms of migrating population, MAD factor was also calculated for foreign population, and identified Polish, Romanian and Bulgarian population to be significant. This time however, the dispersal is slightly less apparent. Polish and Romanian also showed a high degree of dispersion across the EU, a significant MAD factor was calculated in all countries. Bulgarian and Croatian nationals were deemed significant nationalities in approximately half of the member states where data was available.

Maps of the movement of people and offenders seemed to suggest distinct movement patterns. Romanian and Bulgarian offenders spread predominantly from east to west, Polish offenders from east to west as well as north to south, and German offenders appeared to follow the distance decay effect (as the distance from home or other base increases, offending decreases (Chainey & Ratcliffe, 2008)), as offending predominantly occurred in neighbouring countries, but also more widely across the EU. What is evident is the spatial distribution of these offenders across Europe, with more limited spatial movement from member states such as Latvia and Lithuania (only significant in Denmark, England and Poland). The northern European countries, especially the UK continue to remain very popular for Latvian migrants. Despite the ability to work in other EU countries, McCollum, Shubin, Apsite and Krisjane (2013) found that labour migrants continued to prefer the UK due to greater language barriers in other countries and the UK’s ‘flexible’ labour market, making it easier to access employment there than elsewhere in Europe.

One of the characteristics of this new era in the history of international population movements from the post-communist countries was the enormous diversification of destinations. This appears to be particularly evident for Romania and Bulgaria. In addition to the traditional host countries such as Germany, Austria, France, or Greece, new migratory destinations appeared such as Belgium and Hungary (Bagatelas & Kubicova 2004; Gächter, 2003) and since the late 1990s countries in southern Europe particularly Spain and Italy (Stanek, 2009). Labour market demand, language learning ability, the degree of tolerance and the existence of networks were influences in the increase of emigrant streams toward Spain and Italy. Romanians have become the most prominent migrant group across the EU in the last 10 years (Marcu, 2012; Vargas-Silva, 2012).

# Discussion.

Crime has an inherent geographic quality (Chainey & Ratcliffe, 2005). Crime occurs in a place, at a particular time, offenders and victims move to and from that place and features of that place (physical, human, legal, societal) may significantly impact on its commission. Yet these geographies remain poorly used tools in policing and justice terms (Chainey & Ratcliffe, 2005). Utilised as a means of targeting resources, crime mapping and data/intelligence analysis can improve the engagement with crime reduction and detection, and is now extensively used within Police Forces at a strategic and tactical level (Ratcliffe, 2008). Additional geographic enquiry can inform high-level decision making on crime and justice issues, identifying areas of concern, investment requirements and thematic priority engagement, to name but a few. The mapping of criminal activity across the EU landscape, as opposed to country specific focus, provides the opportunity to analyse the spatial diversity of different offending groups and to understand movement, criminal opportunity developments and crime prevention/detection needs.

This research supports previous findings. Despite immigration being popularly associated with crime, EU migrants do not have a significant impact, being responsible for a small proportion of crime in the countries analysed. This research sought to further explore spatial diversity of selected intra EU migrants by nationality, adding to knowledge of spatial distribution of offenders across England. Statistics published on migration are usually “*deprived of information on their spatial (regional) origin or destination*” and researchers try to estimate patterns using other demographic data (Kupiszewska et al., 2010, p. 11). Data relating to foreign nationals and crime are even harder to obtain, especially if the initial movement is not recorded. This is because administrative databases have not been designed primarily for statistical purposes and academic research, and are consequently imperfect sources of information (Kupiszewska, et al., 2010).

Nationalities display disparate spatial offending patterns in England, maintained over time, indicating potentially independent geographies of crime. Distribution of offending by EU migrants is assumed to be similar to population distribution, and some evidence is available at macro level across the EU. Although limited by the lack of openly available data, the authors argue that the model developed by Johnson focusing on England should be transferrable to any other EU member states (Johnson, 2014). It would be somewhat naive to consider that the issue of foreign offending is limited to England, and that similar spatial diversity is not present on the continent also (albeit currently shrouded in a lack of accessible data).

McCartney (2013) argues that the policing of illegal activities has become “*essential in countries that share borders*”, and that police and judicial cooperation must look beyond shared borders as illegitimate activities (e.g. organised crime, terrorism) have become a global phenomenon and are of “*equal concern to countries regardless of their geographic remoteness*” (p. 544). Lawbreakers do not think in geographic terms tailored by the Council of Europe (Schomburg, 2000), with clear distinctions between borders and boundaries (physical lines on the ground) as deterrents to criminal activity (Gielis, 2009; Newman, 2006). In fact many criminals have committed offences in different legal jurisdictions seeking an advantage over law enforcement agencies by avoiding detection. Open borders have led to law enforcement agencies requiring more powers to operate across borders (McCartney, 2013).

Application of enquiry to intra-EU migration issues compounds the data collection concern given the free movement of member state nationals across the EU but is also an area of shifting societal, political, policy and academic interest and impact. Equally the interest here in terms of crime and intra-EU migration from a general crime rather than ‘organised’ crime outlook faces wavering levels of interest, organised crime perhaps representing a societal issue that crosses from local to regional, national and international interest and impact with relative ease.

Current migration data has identified that migrants use informal networks to determine and facilitate destinations for migrations (Benton & Petrovic, 2013; McCollum et al., 2013). Knowledge of and communication with individuals already in destination countries has been shown to be a driver for migrants to leave their country of origin (Bleahu, 2004; Engbersen, Leerkes, Grabowska-Lusinska, Snel & Burgers, 2013; Pinkster, 2007). Consequently, intra- EU migration is influenced by the existing network of migrants across the EU. Subsequently, it is not difficult to consider that this network may provide a mechanism to develop affiliations across a number of different member states which could potentially be exploited for unlawful trade or more serious activities (e.g. organised criminal activity).

The utility of Prüm – the proliferation of EU wide databases, the encouragement of data exchange and access to databases by law enforcement authorities from EU member states (Mitsilegas, 2009), are features of the increased transnational nature of initiatives necessary for the purpose of crime prevention and detection. The EU requires a more “*adequate means of monitoring and controlling the flows of individuals between (and within) the EU and its borders*” as well as assisting in “*intelligence-led policing and close cross border co-operation*” (Johnson & Williams, 2007, p. 104).

Unveiling geographic patterns of migration, crime and cross-border activity in Europe aids in the development of systematic uses of forensic links (e.g. Prüm) to inform strategic policy decision-making at the EU level, outside the global focus on organized crime (van Rentherghem, 2014). Bernasco et al. (2015) speculated that “*cross-border crime consists of mixtures of local and non-local offending patterns*” but developing an overall pattern of offending across the EU was not possible. This research, and that of Bernasco et al. (2015) and Jeuneaux et al. (2015), highlights that what was historically called ‘cross border crime’ or ‘transnational crime’ and generally came under the umbrella of ‘organised crime’ can no longer be considered so singularly. This recent work, which has considered patterns of offending by examining investigatory ‘cross border’ DNA matches, has begun to reveal the complexity of offending by movement across state borders but also that consideration must be given to the offender crossing a border *without intent* to commit crime but committing one where and when opportunity arises in the travelled to state. Understanding these patterns will add value to policy and strategic decision making but a wider context of the movement of offenders is required to provide context, and that context exploration is currently sorely hampered through the lack of constructive data available.

# Conclusion.

This paper has discussed the complexity of carrying out research on the issue of migration and crime using openly available secondary data across the EU. It investigated the crime-migration nexus popular in the media, that migrants are responsible for large amounts of crime in England and the EU. Analysis of spatial offending patterns and trends in England raises a number of questions requiring further work including expansion through examination of such trends on a greater macro scale of the EU, currently not possible due to a lack of data. This has potential implications for the policing of migrant communities, and for cross-border policing and intelligence sharing, both within the UK and across Europe. The issue of intra EU migration and crime is not a UK issue alone, manifest in the limited amount of work on the topic emanating from few Western European states.

Nationally held crime databases have the potential to be valuable in understanding and tackling transnational and migrant crime, however this is currently limited by the heterogeneity of recording systems (Ludwig & Marshall, 2015). “*Academic initiatives tasked to compile as much comparable crime statistics as possible are limited by the available data*” (Bondt, 2014, p. 36) and this was very much found to be the main issue in attempting to carry out migration and crime research. There is poor in-depth understanding of the knowledge gap in criminal justice in relation to the third pillar of the EU. The inherent complexities and the lack of (high integrity) publicly available data are well documented (Bell et al., 2013; Kupiszewska & Nowok, 2008). International policies “*could be informed by a better understanding of the geography of immigration at the national, regional, and local levels, which is itself reliant on a better understanding of the data sets available and discrepancies between them*” (Harris, Moran & Bryson, 2015, p. 197).

Informed cross-border information exchange between member states is difficult to achieve if information is not collected and made available. We have shown the benefits of analysing data relating to localised offending by foreign nationals in England, and have highlighted some of the problems of utilising openly available data across EU member states (Ludwig & Johnson, 2015). In order to inform intelligence development and intelligence exchange by national and international police agencies, collective understanding at the EU level is required, rather than simply continuing to focus on developing a national understanding for each EU member state individually in isolation.

Equally we would argue a need to make constructive data openly available in order to invite critical and independent research from academia and build impact on tactical, strategic and policy development. Understanding context is essential within any exploration of crime, or indeed almost any human activity, but currently poor levels of data collection and data availability significantly limit that wide context development at the macro level. Whilst not a new issue for academics, professionals or policy makers alike the intra-EU migration-crime topic of this paper provides real evidence of a need that has the potential for impact at the macro, meso and micro scales spanning the European Union.

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