

Working Paper 1

IMMIGRANT IMPACT ON EMPLOYMENT AND OCCUPATIONAL OPPORTUNITIES OF POPULATION IN BRITAIN

Marina Shapira
Centre for Educational Sociology, University of Edinburgh

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1. Introduction

Migrants have a profound impact on the labour market of the country to which they move. They tend to be concentrated in particular localities, and in particular occupations and branches of industry. This concentration makes their presence in the local labour market very noticeable to non-migrant workers. There is a great deal of policy and public concern, often fanned by alarmist reporting in the media, that a large influx of migrant labour into the labour market will depress the wage levels of non-migrant workers, especially those with the same skill levels as migrants. Similarly, it is often anticipated that migrants will displace non-migrant workers from some occupations and industries, and indeed may push them out of the labour market altogether.

Since the late 1990s Britain has experienced a dramatic increase in the number of migrants. The increase in net migration coincides with changes in UK immigration policy and the relative attractiveness of the UK's economic position over the past decade. The increase in the rates of immigration from Eastern Europe since 2004 is related to the accession of the A8 countries on May 1st 2004; citizens from the A8 nations obtained free movement and the right to work in the UK, Ireland and Sweden from this date. Thus, the inflow of non-British EU citizens to Britain increased from 14,000 in 2003 to 74,000 in 2004 (ONS, 2006) and citizens of the A8 countries made up an estimated four fifths of the increase. In 2006, 30 percent of all immigrants arriving in the UK since 2004 were of Eastern European origin, while among employed immigrants the percentage of Eastern European immigrants was even higher and reached 40 percent (APS 2006, see Appendix 1). At the same time there was also growth of immigration to the UK from non-A8 countries, especially from the New Commonwealth (Blanchflower et al, 2007).

Although several studies in the UK have attempted to find evidence of negative correlations between immigration from abroad to an area and the labour market outcomes of UK

workers, existing research evidence is insufficient in relation to the growing significance of this issue in Britain.

Fears that an influx of cheap workers from Eastern and Central Europe would reduce the wages of native workers or push them out of jobs were expressed long before 2004. Thus, a study for the Department for Education and Employment on the possible labour market impact of Eastern European migrants suggested overall losses to the native population from immigration by unskilled workers and overall gains if migrants were skilled (Bauer and Zimmermann, 1999).

Several published papers (eg Dustmann et al, 2005), examined the impact of a proportion of migrants who arrived in a region before 2000 on the employment and wages of native- born Britons with different skill levels and found little evidence of a negative effect of immigration on native workers' outcomes. Similarly, Blanchflower et al (2007) conducted a thorough review of existing research on the impact of post 2004 immigrants on the UK labour market, and concluded that this research is unable to demonstrate a negative impact of immigration from A8 countries on the UK labour market. Gilpin et al (2006) recently conducted a careful econometric analysis of the impact of the new A8 migrants on the employment opportunities of non-migrant workers and found no statistical evidence which supports the view that the inflow of A8 migrants is contributing to the rise of unemployment in the UK (2006, p.49).

There were several attempts in the contemporary British research literature to explain the absence of the sizable negative impact of the immigration from A8 countries on the labour market outcomes of British workers. Thus, Frijters et al. (2005) demonstrates that immigrants do not effectively compete for jobs with natives (although the probability of success increases with the years since migration) and for this reason immigration has little impact on native employment. Similarly, Manacorda et al (2006) find evidence that natives and immigrants in the UK as elsewhere are imperfect substitutes, which explains why the wage impact of immigration on natives is small.

In summary, in the UK now, as in the USA previously, researchers on the labour market impact of immigrants expend a great deal of effort in attempting to reconcile the discrepancy between theoretical expectations about the negative labour market impact of immigration and the empirical research evidence which demonstrates that this impact is very small or does not exist. The main conclusion from the USA research literature is that the theoretical expectations about the sizable negative labour market impact of immigration are correct and that this negative impact does indeed, exist: however the methodological problems related to empirical research on this impact do not allow it to be captured. Thus, particular attention has to be devoted both to understanding and to overcoming methodological problems related to research on the impact of immigration on the labour market (Borjas 2001, 2003, 2004).

Indeed, all the British studies mentioned above have a number of methodological limitations, including insufficient attention to the individual characteristics of workers and reliance on regional information rather than local labour market information. Yet, the issue of the labour market impact of immigration in the UK requires investigation through specific research designed to assess more accurately the impact of migrants on the labour market outcomes

of the native-born population. We attempted to accomplish this task in the research presented in this paper.

Research on the labour market impact of immigration faces many methodological challenges and therefore the interpretation of the findings from this research is never easy. Researchers on the impact of immigration on the labour market are well aware of these methodological problems and usually interpret their findings cautiously. The literature about the methodological shortcomings of the research on the immigration labour market impact is as vast as the literature about the impact itself (cf. LaLonde and Topel, 1992; Altonji and Card, 1991; Borjas et al, 1992; Borjas, 2005; Friedberg and Hunt, 1995; Cohen and Hsien, 2000; Dustmann, et. al., 2005; Friedberg, 2001; Cohen-Goldner and Paserman, 2005). The main reason for these difficulties is that the labour market outcomes of workers are determined by such a wide variety of factors that only after identifying and accounting for all these factors (which is a very challenging task on its own), can one safely attribute the remaining spatial differences in workers' labour market outcomes to spatial variations in the size of immigration populations.

To mention just few of these factors, different labour markets offer different opportunities in terms of sectoral and occupational composition of job vacancies. Furthermore, labour market outcomes of workers, migrants and non-migrants alike, correlate with the socio-economic profiles of incumbents of local labour markets. Therefore, researchers should take particular care to ensure that the relationship between spatial concentrations of immigrants and the labour market outcomes of workers does not result from the immigrant propensity to be concentrated spatially in particular labour markets. Additionally, the veteran population, which is in fact or potentially affected negatively by the influx of immigrants, can out-migrate from local labour markets with a high concentration of migrants. Finally, immigrants may have a different effect on different groups of the host country population and the immigration effect is different in labour markets with different industrial/occupational structures and with different degree of segmentation or segregation.

In existing research on the effect of immigration on labour markets attempts have been made to avoid the possible relationships between the size of immigrant populations and other characteristics of local labour markets. Thus, analysis of the impact of immigrants on labour markets is often conducted at the level of the national economy rather than at the level of the local labour markets (Borjas, 2001). In other cases researchers do not use the actual size of immigrant populations in the local labour markets but predict the size of immigrant population by means of other variables which in turn are not dependent on the characteristics of local labour markets (Friedberg, 2001; Dustmann et al, 2005). However, in the research which is presented below we adopted a different strategy. We conducted the study at the level of the local labour markets and used actual sizes of immigrant populations in the local labour market. However, to resolve methodological problems that face research on the immigration labour market impact we attempt to account thoroughly for factors which shape the labour market outcomes of workers and may interfere into the relationship between the size of immigrant populations and the labour market outcomes of workers on

the level of local labour markets. To account for these factors we use insights from a number of theoretical perspectives which are outlined in the next section.

This paper investigates the impact of immigration on the labour market outcomes of British-born workers, with particular attention to the differences in the effect of immigrants arrived in the UK before 2004 and since 2004 and thereafter. We do not subdivide immigrants who arrived in the UK in 2004 or thereafter by country of origin due to overall small numbers but consider them together as a group of “new” immigrants in the UK. This paper explores the relationship between the individual level characteristics of British born workers, overall opportunity structure of the local labour market, ethnic composition of local labour markets and size and composition of the migrant population on the one hand and the labour market outcomes of the UK workers on the other hand.

The main research question addressed in this paper is whether variations across local labour markets in the labour market outcomes of the non- migrant population can be systematically related to the variations in the spatial concentration of migrants, after accounting for variations in other characteristics of local labour markets that are responsible for the differences in the labour market outcomes, such as opportunity structure of local labour markets.

In addition we want to explore if the immigration labour market effect net of the other factors responsible for the differences in the labour market outcomes, varies:

- (a) according the period of migrant arrival in Britain;
- (b) among different ethnic groups within the British born population; and
- (c) among groups of population with different levels of education.

The finding presented in this paper show that although overall immigrants who arrived in the UK after 2004 do not have a negative effect on the labour market, a negative impact exists in local labour markets where before 2004 immigrant populations used to be small or did not exist. In such labour markets new immigrants have a negative labour market impact in terms of opportunities of non-migrant workers to work in white collar occupations. Results of our previous study on economic impact of immigrants, which was conducted using the same methodology as the present study (Shapira 2008), show that wages of non-migrant workers and especially of those who are highly skilled are also impacted negatively in the local labour markets where new immigrants make up a higher proportion of the total population of immigrants. The findings also show that pre-2004 immigrants compete with non-immigrant workers in low skilled occupation, with the latter outside the labour force. Otherwise, large pre-2004 immigrants do not impact the occupational opportunities of non-migrants workers, while our other study (Shapira 2008) also shows that pre-2004 immigrants have overall positive impact on wages of non-migrant workers.

The next section aims to outline an approach to study the impact of the macro-level characteristics of local labour markets on the labour market outcomes of different groups of the non-migrant population in the labour market.

2. Theoretical Approaches to the Study of Immigration Labour Market Effect and Hypotheses

In this study we rely on three theoretical sources which allow predicting the immigration labour market impact – concepts from classical economic theory; sociological theories that include concepts of ethnic pluralism, ethnic queues as well as concepts of segmented/segregates/sheltered labour markets; and concepts from the geography of the labour market approach.

2.1 Classical economic theory

Classical Economic theory suggests that influx of the immigrant labour force in the labour market leads to the shock supply of the labour force with a particular level of skills; that leads to the violation of the equilibrium in the labour market, which results in the wage fall of non-migrant workers with compared skills; immigrants also may displace non-migrant workers in whole occupations and force them outside the labour force (Friedber, 2001; Borjas, 2003). However, despite the expectations based on classical economic theory, the findings of the extensive research on immigration labour market impact in US, Europe and Israel are not conclusive (cf. LaLonde and Topel, 1992; Altonji and Card, 1991; Borjas et al, 1992; Friedberg and Hunt, 1995; Cohen and Hsien, 2000; Dustmann, et. al., 2005; Friedberg, 2001; Cohen-Goldner and Paserman, 2005; De New and Zimmermann, 1994; Winter-Ebmer and Zweimuller, 1999; Hunt, 1992; Pischke and Velling, 1997), as some of these studies found a small positive while others a small negative effect of immigration. In any case, the size of the immigration effect is much smaller than it can be expected according to the classical economic theories predictions. Similarly, Borjas (2003, 2006) and Borjas and Katz (2005) shown that US workers lost on average about 3% of the real value of their wages because of immigration over the period 1980-2000, and that this loss reached 9% for high school dropouts. However, Ottaviano and Peri (2005, 2006), found that overall immigration from 1990-2004 has generated a large positive impact on the average wages of the US born, primarily because they find that US and foreign born workers belong to different skill groups. They also found that the least educated suffer smaller losses from immigrant presence than it was calculated previously. It is unclear whether differences in findings between different countries result from unsatisfactory research methodology or from genuine differences between the operations of the labour markets in those countries. Meanwhile, findings on the impact of immigration on the host country population based on the assumptions of the classical economic theory meet well Borjas' description "the measured impact of immigration on ... native workers fluctuates from study to study, but seems to cluster around zero." (Borjas, 2003: 1335).

Attempts to account for these different findings have led to considerable criticism of some of the basic assumptions of quantitative research in this area and of elements of its methodology (Borjas, 1990). For example, there are implicit assumptions of a fixed quantity of jobs in the labour market that are not reflected in reality. The influx of migrants into the local labour market may boost development of both the service and manufacturing sectors

and create new jobs and additional demand for manpower, including low-skilled and semi-skilled labour force positions (Sassen, 1988; Soja, 1989, Waldinger, 1989). Therefore, research on the effect of immigration on the labour market outcomes of the native population needs to take account of the overall labour market opportunity structure as well as changes in those opportunities, which may result from or coincide with the arrival of new migrants. An example of such research design can be found in Shaginyan-Shapira (2007).

Assumptions about the complementarity of skill levels of migrants and native workers were also largely criticized. Some authors argue that native workers and recent immigrants cannot be compared according to their level of skills because even unskilled native workers will possess qualities which recent immigrants lack – the former know the host country language, codes of behaviour, have better networks; in short they have host country labour market specific skilled and hence, are more valuable in the eyes of employers (eg Borjas, 2001). As a result, a negative effect of immigrants would be minimized, since many of the workers displaced by immigrants, may find new jobs, become self-employed or may being promoted by employers to lower supervisory positions, while immigrants perform the least desirable unskilled tasks (Stoll et al, 2002; Flug et al, 1994). Furthermore, in an open economy native workers who are potentially or actually affected negatively by immigration can move to labour markets that are not affected by immigrants, thus again minimizing the negative effects of immigrants (Filer, 1992; Hatton and Tani, 2005).

However, despite the limitations, classical economic theory and econometric approach make an important contribution to the research on the immigrant labour market effect, through emphasizing the importance of the shock supply created by immigrant influx on the situation on the host country labour market; another important highlight of this approach is that immigrants do not compete with the whole population of the host country, but with particular groups of this population, for example with native population whose skill level is comparable with that of the immigrants. Therefore in this study we subdivide immigrants into two groups – pre-2004 immigrants, and new immigrants who have been arriving in large amounts since 2004, and also consider the effect of immigrants separately for the groups of the UK population with different level of education.

Our first hypothesis which is derived from the classical economic theory and the econometric approach is as follows:

Hypothesis 1

Immigrants would have different impacts on different groups of non-migrant population in Britain, and the direction and size of impacts would depend on the period of immigrant arrival, type of immigration and a degree of correspondence between the skill-level of immigrant and the UK-born population. In particular:

H1.a. Influx of new immigrants into the local labour markets since 2004 would create an excess supply of workers with a particular level of skill and therefore it would have an overall negative impact on the employment and occupational outcomes of British-born workers. Due to a high level of education of new immigrants (see table A2 in Appendix 2) these immigrants may have a particularly negative labour market effect on highly skilled British workers.

H1.b. Overall, spatial concentration of pre-2004 immigrants would not have a negative labour market effect since this immigration was well dispersed throughout of half a century and British labour market is well adjusted to the presence of those immigrants. However, given that on average among the pre-2004 immigrants a proportion of people without educational qualifications or with low educational qualifications is similar to that among the British born, while the proportion of people with tertiary education among the pre 2004 immigrants is significantly smaller than among the British born (see table A2 in Appendix 2) we expect that these immigrants might to some extent compete with low skilled workers and have negative impact on the labour market opportunities of the latter.

2.2 Ethnic composition of local labour markets and the labour market impact of immigrants

Although review above quantitative econometric research could not find a significant labour market effect of immigration, studies of sociologists, based on both qualitative and quantitative technique, and in particular, case-studies, documented a large negative effect of immigrants, especially in terms of native workers displacement. Therefore, we will turn next to theories and methodologies that underlie the sociological research on the labour market impact of immigrants. The main sociological perspective that is used by researches who work on the labour market effect of immigrants is the “ethnic pluralism” approach (Lieberson, 1980), which stresses on the importance of the recognition of the multiethnic context of local labour markets, as immigrant effect vary considerably by labour markets of different ethnic compositions, and different ethnic groups among the veteran incumbents of local labour market are affected by immigrants in different ways. Indeed, many studies show that how the size and the composition of ethnic minority population affect the labour market opportunities of white majority population (Fosset et al, 1986; Model, 1997; Resenfeld and Tienda, 1999; Wilson, 1999). Ethnic pluralism approach suggests that in contemporary multi-ethnic local labour market exist complicated ethno-social hierarchies of workers; therefore a position of new immigrants, would depend on the relative prestige of the immigrants among ethnic groups or, generalizing this further, among all low-status groups, which are already present in the labour market – if local employers rank new arrivals higher than particular native-born groups of population among the veteran incumbents of the local labour market, they would prefer to hire immigrants. As a result local ethnic minorities and low status groups would loss (see Water, 1999; Waldinger, 1999).

To the contrary, if those are right who suggest that skills of immigrants and native born population are poorly comparable and therefore, native born, even low-skilled would always be a preferable choice in the eyes of the local employers for more attractive positions, then an arrival of immigrants would be beneficial for local lower status groups because immigrants would take a least attractive jobs and contribute to the occupational mobility of the native born. Although ethnic pluralism approach does not anticipate that immigrants would have an impact on the white majority population or, more generally, on the higher status social, it assigns an importance also to the relative size of the white ethnic majority in the local labour market – the smaller the size of the higher status ethno-social group is, the higher are the chances of the local lower-status ethno-social groups to move to higher

prestige occupations if new immigrants are taking are the least desirable positions (Friesbie and Neidert, 1977; Burr et al; Tieda and Lii, 1987; Shaginyan-Shapira, 2007).

Furthermore, sociologists point at evidence from a research conducted in the segmented/split/sheltered labour markets perspective (see Wilson and Portes, 1980; Shavit, 1992; Fosset et al, 1986) that the higher is the degree of the segmentation in the host country labour market in terms of residential segregation between different ethno-social groups as well in terms of or in terms of existing ethnic enclave economies or ethnic occupational niches, the smaller is the competition between new immigrant and veteran ethnic minority workers, and the smaller is the negative impact that immigrants have on local lower status ethno-social groups. Similarly, the higher is the degree of the labour market segmentation into the primary and secondary sectors and the tighter is the level of the labour market regulation, the better are protected the non-migrant workers who work in the primary economy from the competition with immigrants who would be mostly channelled into the secondary labour market, and therefore, the smaller is the negative immigrant labour market impact.

It is apparent that recognition of the multiethnic context of labour markets and taking into account of the number and size of ethnic groups among the non-migrant population, along with consideration of the degree of labour market segmentation and segregation are very important in assessing the impact of immigration on the labour market. Therefore, our second hypothesis which results from sociological perspective is as follows:

Hypothesis 2

The ethnic composition of local labour market would interfere into the relationship between the size of the immigrant populations and the labour market outcomes of non-migrant workers.

H2.a. The direction and the magnitude of the immigrant labour market impact would depend on the ethnic composition of the local labour market and the relative size of minority groups in it. In particular, the impact of the spatial concentrations of new immigrants would depend on the size of the British born ethnic minority population and on the size of the pre-2004 immigrant population in the local labour markets.

H2.b. In local labour markets where exist large populations of pre-2004 immigrants new immigrants would enter occupational niches that already exist for immigrants and therefore, they would not compete with and affect negatively the employment opportunities of non-migrants workers. However, in local labour markets where the pre-2004 immigrants population is small or did not exist, new immigrants would enter into the direct competition with the non-migrant workers and their labour market impact would be negative.

2.3 Geography of the local labour market approach and immigrant labour market impact

In recent decades there was a growing understanding that the labour market operates and regulated on the local or spatial levels that define local and regional labour markets (Martin

and Morrison, 2003). The spatial character of the labour markets is expressed through the fact that most of the jobs are spatially located and workers have to live within the commuting distance from them (Cheshire et al. 2003). Geography of the local labour markets approach (Martin and Morrison, 2003) suggests that spatial differences in labour market opportunities is an important factor that affects the labour market outcomes of workers across different labour markets.

The opportunity structure of local labour markets has an especially strong impact on the economic and occupational outcomes of lower status groups, such as low educated people, ethnic minorities and recent migrants, who have difficulties to find and access spatially distanced jobs, and who therefore tend to search for employment in proximity to their place of residence, ie in their local labour markets.

A control for differences in labour market opportunities across local labour markets is particularly important when the migrant spatial concentrations and impact of those concentrations on the labour market outcomes of workers are considered.

Indeed, migrants are not randomly distributed across local labour markets in the countries to which they move but are attracted to particular segments of the labour market that have particular characteristics, for example, the employment levels of the local population, availability of particular types of jobs in particular industries, wages and overall prosperity levels, housing prices, and pre-existing concentrations of “old” immigrant populations. These characteristics have an effect on both immigrant and non-immigrant populations. As a result, correlation between immigrant spatial concentrations and positive labour market outcomes of non-migrant population might result from immigrant choice of local labour markets with wages, which are higher than the country average, or local labour markets where well paid jobs exist in high-skilled services and high tech technologies sectors. Similarly, correlation between immigrant spatial concentrations and negative labour market outcomes of non-migrant population might result from immigrant preference to live in localities where many jobs in traditional industry sectors are available, and therefore non-migrant population in such localities would have poorer socio-economic profile, than the country average. Therefore, before studying the impact of the spatial concentration of migrants on the outcomes of non-migrant population, local labour market conditions should be accounted for, to make sure that the net effect of immigrants is being measured.

2.4 Opportunity structure of the labour market and spatial inequality in Britain

From the research it is evident that there are persistent spatial patterns of poverty and inequality in Britain. The income growth during the past decade was very uneven across the country. The highest growth rates were in South East while the slowest – in the Northern regions. Concentration of low income as a rule is associated with concentration of other types of economic, social and environmental deprivation (Martin and Morrison, 2003).

There are several sources for the spatial pattern of the inequality in poverty and inequality in Britain. Firstly, like elsewhere, in Britain deindustrialization during the 1960s and 1970s led to the growth of unemployment among workers who lived in regions where traditional

industries used to be developed. For instance, North East region of British suffered from major reduction in its manufacturing industries during the 70s. This region did not attract new industries during the 1980s and 1990s and as a result, high unemployment characterizes this region. To the opposite, South East and East Anglia developed modern high skilled services and high-tech industries during the 1980s and therefore witnessed a major economic boom.

Secondly, not only deindustrialization, but also further technological development contributed to the growth of unemployment, economic inactivity or downward occupational mobility during the 1980s and 1990s - new technologies make new skills short life and rapidly replace them with new skills, therefore forcing workers out of employment or into low skilled and low paid occupations.

Thirdly, polarization of the labour market and its segmentation also contributed to the spatial dimension of the labour market opportunities. High-skilled services and high-tech industries offer jobs as a rule in the primary labour market sector with good job conditions, job security and high wages, while in low skilled services and traditional industries jobs are as a rule low-paid, and insecure. Those who are low skilled are usually trapped in these jobs without a prospect of occupational mobility.

To summarize, the spatial distribution of job opportunities is uneven due to the fact that the deindustrialization, technological development and labour market segmentation have a clear spatial patterns and therefore contribute to the spatial dimension of labour market opportunities and therefore, social inequality.

In this study we do not test hypothesis about how local labour market conditions impact the relationship between the immigrant spatial concentration and labour market outcomes in terms of employment and occupational opportunities of non-migrant workers. However, as spatial differences in the labour market conditions lead to the spatial differences in the labour market outcomes across local labour markets, we control extensively for the differences in the labour market conditions before looking at the immigration labour market effect.

As a rule conditions of local or regional labour markets are described by unemployment rate (Morrison and Berezovsky, 2003), Additional important characteristic of the local labour market conditions is the level of earning or the degree of income or social inequality in the local labour market, as well as a concentration of jobs in low-skilled services and traditional industries such as building and manufacturing, as well as in high-skilled industries and services, such as banking and finance. All these indicators of the labour market conditions are used in the present study.

In the most empirical studies in Britain local labour markets are defined as travel-to work-areas (Reimer, 2003). In this study we approximate the local labour market through the residential localities of the respondents.

3. Methodology: Data, Variables and Method

3.1 Data Sources

The full scale research on the immigration labour market impact in Britain became possible only recently, since in 2004 Annual Population Surveys have been launched by the Office for National Statistics. To examine income attainment of employed population in Britain the 2006 Annual Population Survey (APS) data set was used in this study. The Annual Population Surveys (APS) were designed to provide reliable estimates at small area level in one time-point. The APS comprises key variables from the LFS, including education, employment and ethnicity and offers the unique opportunity to conduct analysis on the level of rather small local areas as they offer large and representative samples included unitary authority.

The aggregate level characteristics at the level of unitary authorities /local areas (UA/LAD) such as size of ethnic minority populations; employment and inactivity rates, country of birth and nationality, class composition and industrial compositions of local areas, size and characteristics of migrant population are estimated from the 2006 weighed APS.

3.2 Population and Sample

The analysis is focused on individuals 16-65 years old. The macro-level units of the analyses are unitary authorities /local area districts (UA/LAD) which are proxies of local labour markets.

The size of the Annual Population Survey for 2006 is and 375,865 individuals. The 2006 APS provides enhanced annual data for Britain and covers the sample of at least 601 individuals for 201 Unitary Authority (UA)/Local Authority Districts (LAD). The sample size for (UA/LAD) varies from 601 for Rutland and to 4464 in Kent and 7691 in Northern Ireland. Number of migrants vary from 1 in Stirling to 640 in Birmingham. 21 localities were excluded from the final sample due to the very small numbers of ethnic minorities and the analyses was conducted on 180 (UA/LAD) where the number of ethnic minorities members was 10 or more.

3.3 Variables

3.3.1 The dependent variable in this study is the labour market destination of British population.

The dependent variable was constructed using the seven categories of the EGP social class scheme (see Goldthorpe, 1987) (see Figure 1).

3.3.2. Independent variables.

For the prediction of the labour market destinations several individual level and macro-level variables are used.

We use independent variables that are usually used to estimate odds of being in particular labour market destinations. We use extensively control variables such as number of children,

student status, pensioner status, disability status and family type status. However, our main attention will be concentrated around the impact of the macro-level characteristics on the labour market outcomes of individuals.

Such variables as migrant status, ethnicity, religion, age, tenure in Britain (for migrants) are used to present descriptive statistics about differences in educational attainment and labour market outcomes among different groups of British population, and to represent a spatial dimension of these differences.

The individual level variables are presented in Figure 2.

Figure 1: Construction of a categorical dependent variable “Labour Market Destinations”

| Original Categories from the EGP scheme | Categories of the dependent variable |
|---|---|
| I. Higher Managers and Professionals II. Lower Managers and Professionals III. Higher and Lower Grade Routine non-Manual Employees IV. Small Employers ¹ V. Lower Supervisory and Technical VI. Semi-routine occupations (skilled manual workers) VII. Routine occupations | 1. White collar: Social classes I to III: managerial, professional and intermediate occupations 2. Higher status blue collar occupations: Social classes V and VI: skilled manual and lower supervisory occupations 3. Lower status blue collar jobs: Social class VII: semi-skilled and unskilled manual occupations and short term unemployed (reference category). 4. Outside labour market: Those that do not have social class: never worked/out of the labour force/ long term unemployed. |

Figure 2: Individual Level Variables

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| <ul style="list-style-type: none"> • Comparison groups - British born who describe themselves as White British; migrants (those who were not born in Britain and did not describe themselves as White British); British born ethnic minorities (those who were born in Britain and did not describe themselves as White British). • Religion – Christians (reference group); Muslims; other religions. • Age and aged squared. • Tenure in Britain for migrants : number of years since immigration (and tenure squared). • Gender: dummy variable (1) women; (0) men. • Level of educational qualification (National Vocational Qualifications): no qualification (or unknown); below NVQ level2; NVQ Level2; NVQ Level3; NVQ level4; NVQ level5. More specifically the reference group includes those with upper secondary qualifications or post-secondary non-tertiary qualifications; Level 2 includes those who have basic compulsory education up to lower secondary level; Level 4 includes those who possess lower tertiary qualifications (B.A or B.Sc); Level 5 includes postgraduate qualification or higher degrees (M.Sc., M.A., M. Eng. or Ph.D.). • Marital status: the reference group are single people; two other groups are married (cohabitated) and ex-married (widowed, divorced; separated). • Number of children in family unit • Student status: dummy variable (1) if a full time student; (0) otherwise. • Disability: dummy variable (1) id disabled; (0) otherwise. • Pension: dummy variable (1) getting pension; (0) otherwise. • Family status: dummy variable (1) single parent family; (1) otherwise. |
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The macro (local labour markets) level variables used in the in the analyses are presented in Figure 3.

¹ Category V, self-employed, was excluded from the analyses.

Figure 3: Local Labour Market Level Variables

- Percentage of the total economically active population in the UA/LAD who are not UK born and do not describe themselves as “White British”
- The relative size² of new immigrant population – the percentage of the migrant population in the UA/LAD who are “new” migrants, ie migrants arrived in 2004 or thereafter out of the all population of migrants in the UA/LAD.
- Percentage of the total economically active population in the UA/LAD who are British born ethnic minorities.
- Percentage of the total economically active population in the UA/LAD who are employed.
- Percentage of the total employed population who employed in manufacturing jobs.
- Percentage of the total employed population who employed in construction jobs.
- Percentage of the total employed population who employed in banking and finance.
- The degree of the overall socio-economic well being of the locality – percentage of the total employed population who are in Socio-Economic Class I (according to the EGP classification).

All macro level variables are centred around the sample average (see Table 1 for bivariate correlation coefficients among contextual variables included in multi-level analyses.).

3.4 Statistical method

The method used in this study is the hierarchical linear modelling, HLM (Bryk and Raudenbush, 2002). This method is appropriated for data, which have clear hierarchical, nested structure, like in the case of the present study, where individuals are positioned in the larger, macro-level units, local labour markets. The general aim of hierarchical linear modelling is to formulate and test hypothesis how variables measures on the macro level affect relationship between the independent and dependents variables on the level of individuals.

The method allows modelling in the individual level regression model (1) random intercepts to estimate how particular characteristics in the macro level affects average values of the dependents variable in each one of macro-level units, and (b) random slopes of particular independent variables which subdivide the population by sub-groups to test whether all sub-

² To capture the effect of the immigrant and, in particular, new immigrant population on the labour market outcomes of British workers we tried two different research designs. In the first one, we used two variables that measure (a) the percentage of pre-2004 immigrants and (b) the percentage of new immigrants, among the total population of the local labour market. In the second research design we used two following variables: (a) the percentage of all immigrants (both pre-2004 and new immigrants) among the total population of the local labour market, and (b) the variable that indicates the relative size of new immigrant population, ie the percentage of new immigrants among all immigrants in the local labour market. The findings from the two research designs are similar, ie the labour impact of all immigrants is not different from the labour market impact of pre-2004 immigrants, due to the fact that (a) in the localities/local labour markets with large concentrations of pre-2004 immigrants the population of new immigrants as a rule makes only a small proportion of the all population of immigrants, and (b) proportion of the new immigrants among total locality population is small (see Appendix 2); the labour market impact of the proportion of new immigrants in the whole population is similar to the labour market impact of the proportion of immigrants out of the whole population of immigrants in local labour markets according to its direction and magnitude; however, due to a smaller amount of variance of the variable “proportion of new immigrants among total population of the local labour market” the standard errors of the estimated parameters of this variable obtained by the regression analyses are large that often makes the estimated parameters statistically not significant even on the level 0.05, while the standard error of the estimated parameters of the variable “proportion of new immigrants among total population of immigrants in the local labour market” are small and estimated parameters are statistically significant on the levels 0.001-0.05. An additional advantage of using the variables from the second research design is that this allows not only controlling for the relative size of the new and old immigrants population while estimating the labour market effect of new immigrants, but directly accessing how the impact of new immigrants is related to the size of the population of pre-2004 immigrants in the local labour market. For this reason we present in this paper findings from the second research design. This allows capturing differences in the new immigrant labour market impact between localities where established migrants populations existed before 2004 and localities where the new immigrants since 2004 formed the first significant migrant sub-populations.

groups in the particular macro- level unit are affected by the macro level variables in the similar or different fashion.

We estimated multinomial multilevel regression to predict labour market destinations of British population. We modelled random intercepts, and random slopes for such individual level independent variables as “immigrant status”, “ethnicity”, “religion” and “level of education”.

The estimated model of individual opportunities of being in the following labour market destinations (1) of economic inactivity; (2) of being in higher status blue collar occupation. ie semi-skilled or lower supervisory occupations; and (3) s of being in white collar occupation, ie higher and lower managerial and professional and intermediate occupations can be formally presented as follows:

$$\text{Logit}(E_{kij}) = (\gamma_{00} + \sum_{j=1}^J \mu_{0j} + \sum_{k=1}^K \gamma_{qk} Z_{sj}) + \sum_{q=1}^Q \gamma_{q0} X_{qij} + \sum_{q=1}^Q \mu_{qj} X_{qij} + \sum_{s=1}^S \gamma_{qs} Z_{sj} X_{qij} \quad (1)$$

In (1) subscript indicates one of the three dependent variables; subscripts “i” and “j” indicated individual i in locality j (j=1...J); **X** a vector of (length Q) independent variables on the level of individuals ($X_{ijq} = \{x_{ij1} \dots x_{ijQ}\}$); **Z** is a vector of (length S) independent variables on the level of localities ($Z_{js} = \{z_{j1} \dots z_{jS}\}$).

In (1) the two three first terms, $\gamma_{00} \sum \mu_{0j}$ and $\sum \gamma_{qs} X_{sj}$ account for the random intercept (γ_{00} estimates the fixed effect of the intercept, μ_{0j} is the random intercept for the level two [localities] units and $\sum \gamma_{qs} X_{sj}$ estimates the level two covariates, ie the percentage of all migrant population ; the relative size of new migrant population; the percentage of ethnic minorities; the percentage of employed; the percentage employed in manufacturing sector; the percentage employed in construction sectors; the percentage employed in of banking and finance sector; the degree of the overall socio-economic well being of the locality measure as a percentage of population in the socio-economic class I);

The forth term $\sum \gamma_{q0} X_{qij}$ estimates individual level covariates (age, aged squared, tenure in Britain for migrants , tenure squared; dummy variables for migrants , ethnic minorities, Muslims; religions other than Christian and Muslims, gender, being married, being ex-married; a series of dummy variables for level of educational qualification; number of children; dummy variables for student status; dummy variable for family status; dummy variable for pensioner status; dummy variable for disability status);

The fifth accounts for the random slopes of the level 1 variables which assumed to vary between localities; and the sixth term estimates the cross level interactions between the locality level variables and dummy variables migrant group, ethnic minorities group, Muslims group, and five educational qualifications level group (slopes of other independent variable are constrained to be constant across localities).

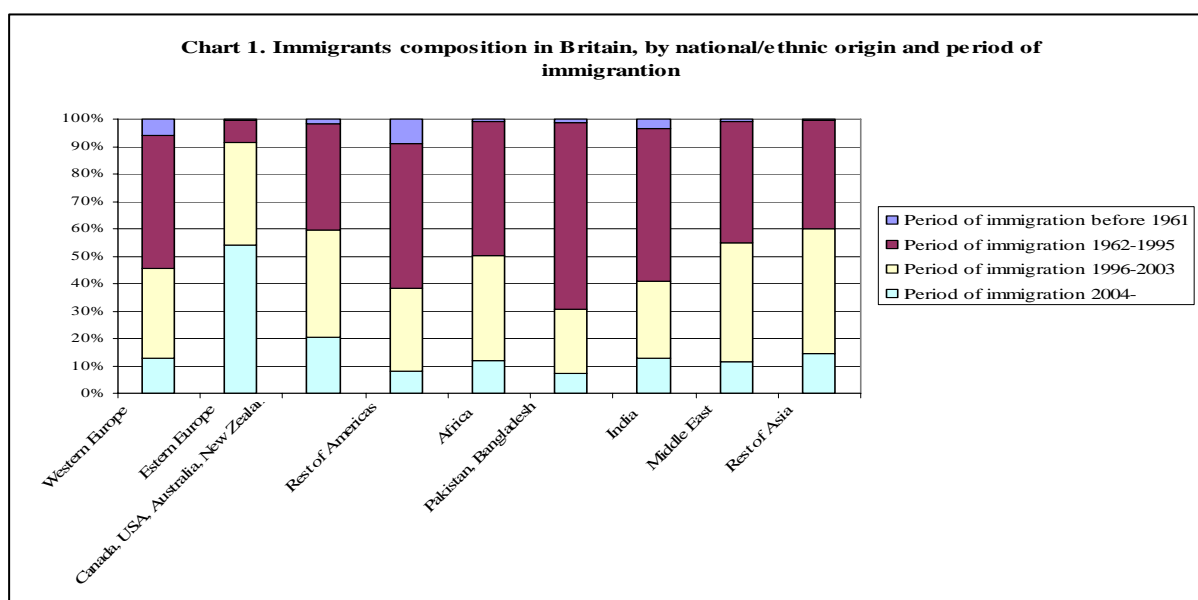
4. Findings

4.1 Descriptive findings

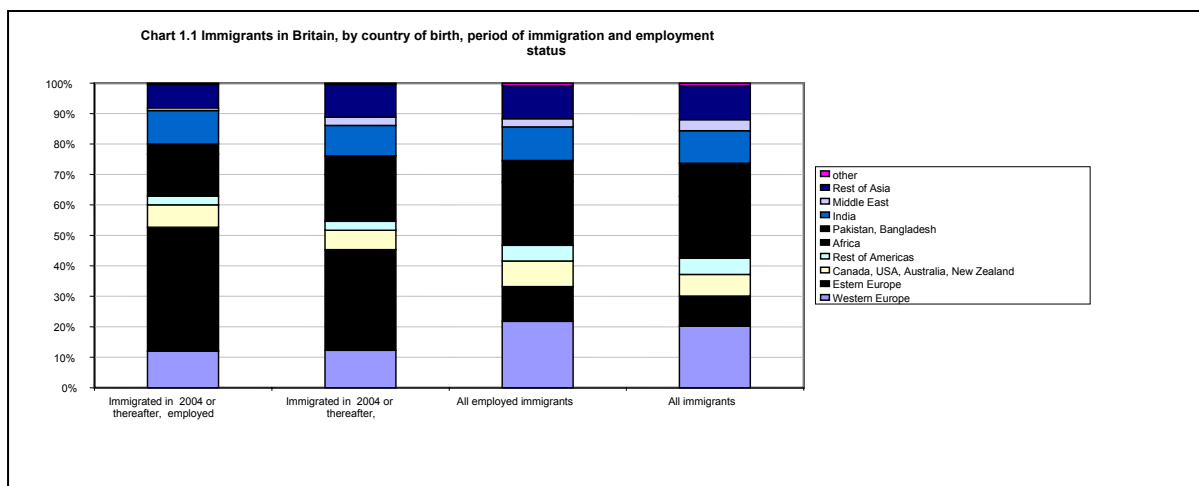
The most of the descriptive findings are presented for four groups of British population – White British, British-born ethnic minorities, pre-2004 immigrants and new immigrants.

4.1.1 Immigrant population in Britain

In Chart 1 we present the composition of immigrant population in Britain by their period of arrival in Britain and by their national/ethnic origin. It shows that with few exceptions, the largest shares of immigrants of any origin arrived in Britain between 1961-1995. However, among immigrants of Eastern/Central European origin the vast majority, more than 90 % arrived after 1995, and 54% arrived in 2004 or thereafter.

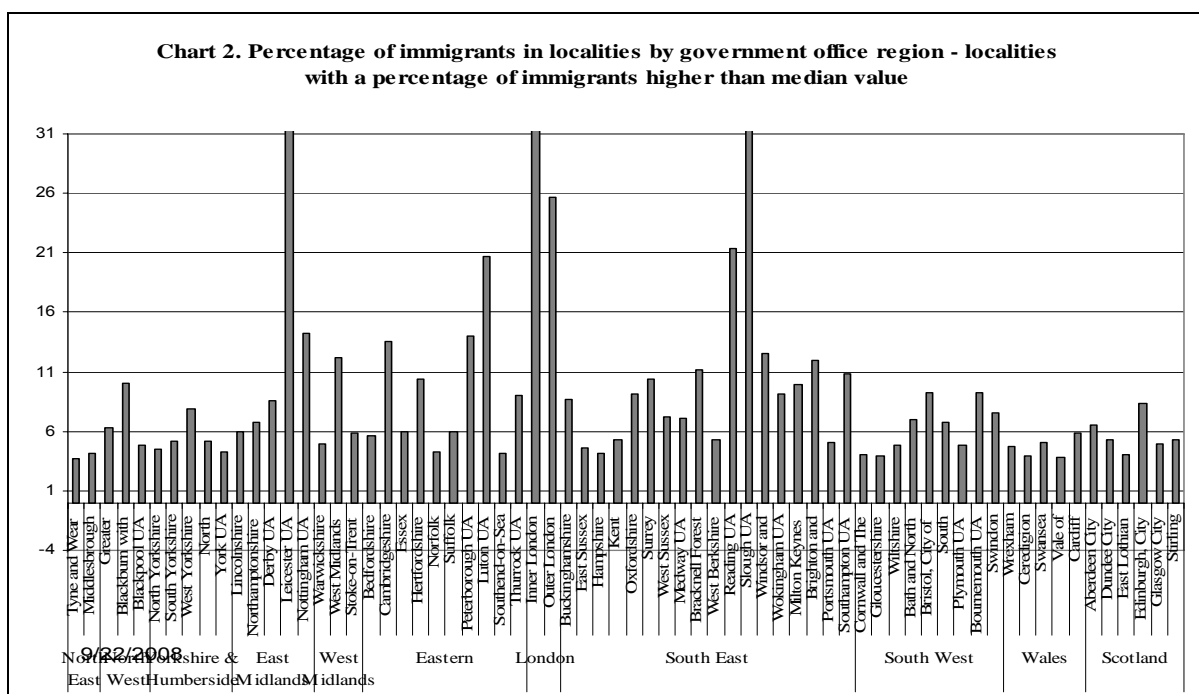


In Chart 1.1 we present differences in national/ethnic composition that exist between pre-2004 immigrants and new immigrants. Among new immigrants the proportion of immigrants from Eastern and Central Europe is very large; it is about 30 per cent, while among the employed new immigrants the proportion of Eastern and Central European immigrants reaches 40 per cent. At the same time proportions of immigrants from almost all other origins in the population of new immigrants are twice as small as correspondent proportions among the pre-2004 immigrants.



4.1.2. Spatial distribution of migrants in Britain (see also Appendix 2)

Spatial concentration of immigrant population in Britain is very uneven. On average there are about 7 percents of immigrants³ in Britain. However, the lower quartile of the percentage of immigrants in localities is 1.9, while in the half of the residential localities the immigrant percentage does not exceed 3.8 percent; in two third of the localities the immigrant percentage does not exceed 8 percent. Yet, there are some localities where the percentage of immigrants is very high. Chart 2 presents unitary authorities where the percentage of immigrants is above the median value (ie above 3.8%).



Highest spatial concentrations of new immigrant are in England, especially in London, and in Eastern and Southern regions, and to a much lesser extent in some northern regions; however, new immigrants spatial concentrations are also large in some regions of Wales

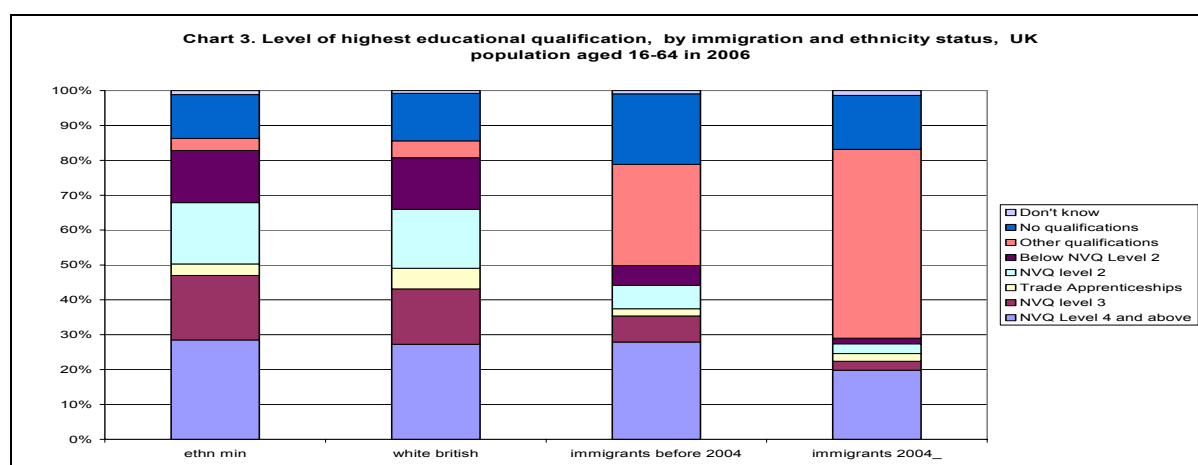
³ Economically active immigrants

and Scotland. One can see that new immigrants are more evenly distributed throughout all regions than pre-2004 immigrants, and that the picks in the spatial concentrations of new immigrants often do not coincide with the picks in spatial concentrations of pre-2004 immigrants (see Charts A2.1-2.6 in Appendix 2). Overall, a correlation between spatial distribution of pre-2004 and new immigrants, is negative (see Table A3.1 in Appendix 3).

There are some regions (especially in the north of England and in Scotland), where new immigrants live in localities where the pre-2004 immigrant population is relatively small or does not exist. Therefore, in these localities new immigrants often become the first immigrants who enter the local labour markets and start to compete with British -born population groups (see Charts A2.5 and A2.6).

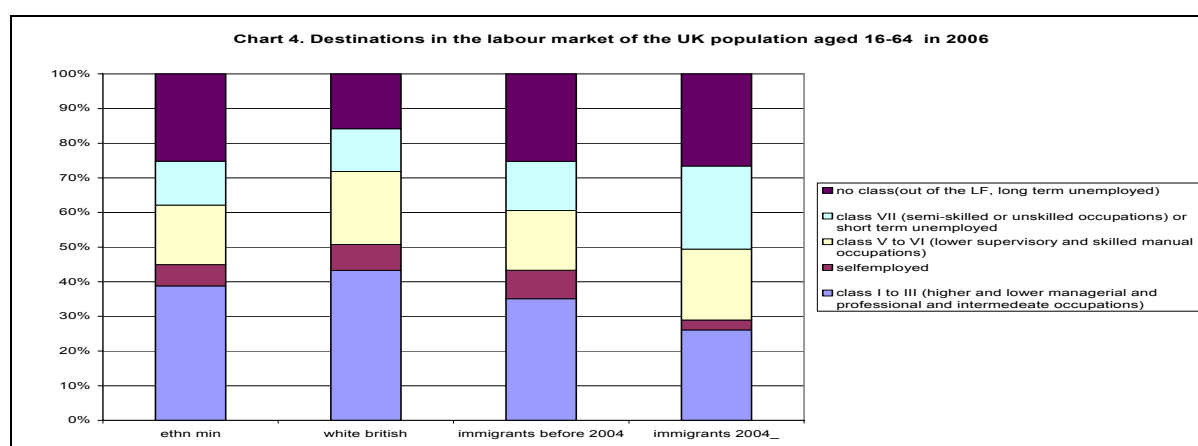
4.1.3 Educational composition of British population.

The main differences in the educational level of British population exist along the division lines that distinguish between immigrants and British born population. Indeed, on average, educational composition is rather similar for British born population, White British and ethnic minorities alike, with few small differences that include a higher proportion of people with apprenticeship qualifications among White British (on the expense of the NVQ level 3 qualifications). Educational profile of immigrants is different from that of the British born population. Thus, pre-2004 immigrants have a higher share of people without educational qualifications as well as have a high share (about 30 per cent) of people whose qualifications are not classified according to the NVQ scheme, and therefore to as “other qualifications”. A share of people with unclassified qualifications is particularly a high one among new immigrants (55 %). Obviously the smaller is the immigrant tenure in Britain the more difficulties have immigrants to “translate” their qualifications obtained abroad into the British system of educational level classification (see Chart 3). However, a proportion of people without educational qualifications among the new immigrants is smaller than among pre-2004 immigrants and resembles that among the British born population (for additional information about the level of educational qualifications of British born and immigrants see Table A1 in Appendix 1).



4.1.4. Labour market destinations of British population

In Chart 4 we present the distribution of British population according to their destination in the labour market. Although main differences in educational qualifications are between the native born and immigrants, differences in the labour market destinations exist within British born population as well. Thus, White British have more favourite labour market destinations than British born ethnic minorities – the former have a higher proportion of white collar occupations, self employed, and as well as they have a higher proportion of lower-supervisory and skilled-manual occupations, and a lower proportion of economically inactive people. The pre-2004 immigrants' distribution according to the labour market destinations resembles that of the British-born ethnic minorities, with the immigrants having slightly smaller proportion of the white collar occupations and slightly higher proportion of self-employed than the ethnic minorities. Finally, new immigrants are different from all other groups in the British labour market. Thus, among new immigrants a proportion of semi-skilled and unskilled occupations are twice as high as among any other group. New immigrants also have the smallest proportion of self-employed and the smallest proportion of people working in white collar occupations (see Chart 4).



4.1.5. Relationship between the labour market destinations of British population and the spatial concentrations of immigrants.

We will now move to the subject of our main interest, i.e. the interrelationship between the spatial concentrations of immigrants and labour market destinations of different groups of population in Britain. In Chart 5.1 we present distributions of labour market destinations of different groups of British population in areas with different densities of population of new immigrants.

Chart 5.1

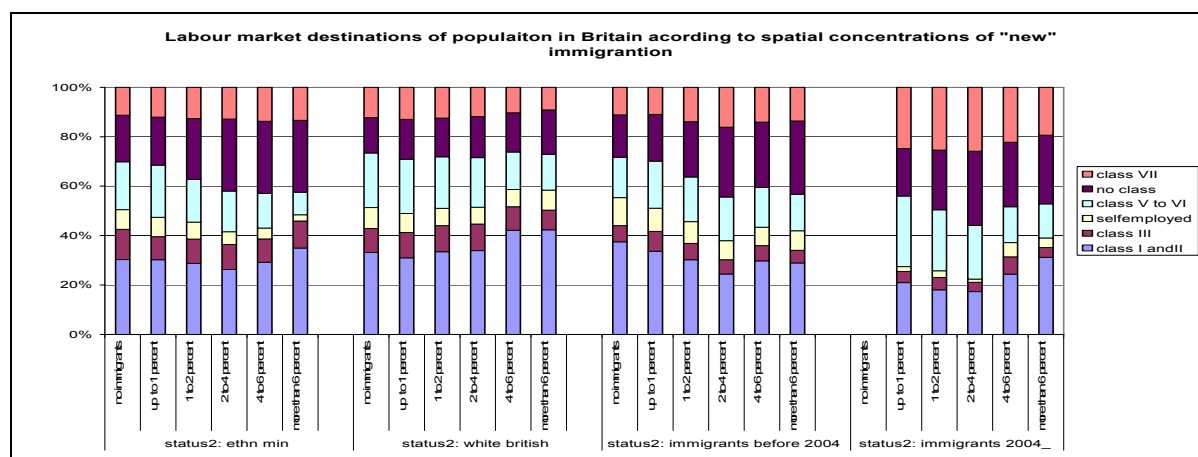
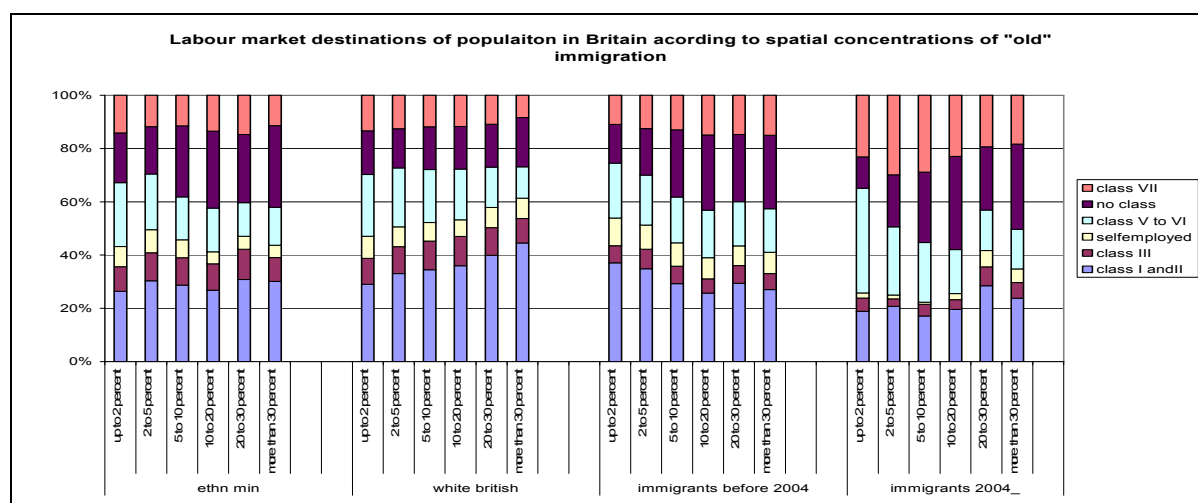


Chart 5.2



For White British an increase in the size of the new immigrant population corresponds to an increase in the share of higher status white collar occupation and with a simultaneous decrease in the share of unskilled occupations. British born ethnic minorities who live in areas with larger populations of new immigrants tend to have larger shares of economically inactive population and a smaller share of the higher status blue collar occupations as well as a smaller share of self-employed population. Among per-2004 immigrants the share of higher status white-collar occupations decreases while the share of the economically inactive increases in areas with larger populations of new immigrants. For new immigrants themselves living in the areas of their concentration is associated with an increase in the share of a higher status white collar occupations, but also with a decrease in the share of blue collar occupations.

In Chart 5.2 we present distributions of labour market destination of different groups of British population in areas with different densities of population of pre-2004 immigrants. For White British a better distribution of the LM destinations coincides with larger populations of pre-2004 immigrants. For ethnic minorities an increase in the size of the population of pre-2004 immigrants is accompanied by an increase in the share of economically inactive

population. The pre-2004 immigrants themselves have the largest share of white collar jobs and the smallest share of economic inactivity in the areas with the smallest populations of the immigrants. Finally, among new immigrants the share of a higher-status white collar jobs increase in areas with the largest concentrations of pre-2004 immigrants. However, economic inactivity among the new immigrants is the lowest one in areas with the smallest populations of pre-2004 immigrants.

However, the described associations do not account neither for the characteristics of individual workers, nor for the conditions of the local labour markets and differences in these conditions across Britain, on the one hand, nor for the associations between the spatial concentrations of immigrants and conditions of the local labour markets on the other hand. To control for these factors while considering the impact of the spatial concentrations of immigrants on the labour market outcomes of British workers we present the results of the multilevel multivariate regression analyses of labour market outcomes.

4.2 Hierarchical linear modelling results

The individual level determinants of the labour market destinations are used as control variables and the discussion of the estimated parameters of the individual level variables is beyond the tasks of the present study. The estimated parameters of the individual level variables are presented in Table A4.1 in Appendix 4 and direction and scope of the impact of these variables on the labour market destinations of British population are not different from those reported by previous studies.

Below we presents findings from the hierarchical multinomial regression modelling regarding the impact of the variables measured on the level of the local labour markets, on probabilities of different groups of British population to reach each one of the following labour market destinations relatively to their probability to be in the “reference” destination, that is unskilled occupations or short term unemployment:

(a) outside the labour force or long term unemployed (Table 1); (b) skilled manual or lower supervisory occupations (Table 2), and (c) white collar occupations (Table 3).

Statistical significance of the amount of variance explained by variables on the level of local labour markets, for each category of the dependent variable are presented in Table A4.2 (Appendix 4).

4.2.1 Dependent variable: “probability of being out of labour force or long term unemployed”

Random intercept. Estimated parameters of the macro-level regression for random intercept indicate how particular independent variables, which describe local labour markets, affects the labour market outcomes of the reference groups of comparison, ie White British population.

Higher percentage of immigrants in the local labour market affects positively the odds of economic inactive vs. the odds of working in unskilled occupations. This impact diminishes but remains statistically significant and preserves its sign when the local labour market

characteristics are accounted for (see Table 1). Relatively high spatial concentrations of new immigrants do not affect the net odds of economic inactivity of British population in a statistically significant way.

Table 1: Estimated level 2 effects for random slopes and random intercept model: Probability of being economically inactive(including long term unemployed) vs. probability of being in unskilled jobs (or short term unemployed) (only statistically significant effects are shown)

| Level 2 variables | Subpopulations | | | | |
|---|---|-------------|--------------------|---------------|-------------|
| | Contextual effects of size of immigrant and size of ethnic minority populations | | | | |
| | Intercept | Immigrants | British Minorities | Below level 2 | Muslims |
| Intercept | .80(.02)** | .20(.10*) | .07(.07) | -.83(.04)** | 1.26(.10)** |
| Percentage of immigrants | .01(.00)** | -.02(.00)** | | | |
| Relative size of the new immigrant population | | | | | |
| Percentage of British minorities | | | -.025(.01)** | | |
| Intercept | 0.79(.02)** | 1.16(.02)** | | -.09(.04)* | 1.29(.11)** |
| Contextual effects of size of immigrant and size of ethnic minority populations and opportunity structure of local labour markets | | | | | |
| Percentage of immigrants | 0.01(.00)** | | | | |
| Relative size of the new immigrant population | | | | | |
| Percentage of British minorities | | | -.026(.00)** | -.011(.05)* | |
| Percentage of employed | | | | .06(.01)** | |
| Percentage in manufacturing | -.013(.00)** | | | | |
| Percentage in construction | -.012(.01)** | | | | |
| Percentage with permanent jobs | -.017(.01)** | | | | |
| Percentage in other services | | | | | |
| Unskilled jobs | -.04(.01)** | -.05(.02)** | | -.03(.01)** | .09(.04)* |
| Percentage in class 1 | | | | -.02(.01)* | |

Random Slopes. Estimated parameters of the macro-level regression for random slopes of particular independent variables in the individual level regression indicate if labour market outcomes of different comparison-groups of population are affected by the labour market characteristics in a similar or different way.

The finding show that for all groups of comparison, ie immigrants, British born ethnic minorities, and low educated people alike, immigrant spatial concentrations increase odds of their economic inactivity in a way similar to that of the reference group.

In addition, all individuals have lower odds of economic inactivity in local labour markets characterised by a higher proportion of jobs in such traditional industries as manufacturing and construction, as well in the local labour markets with higher proportion of permanent jobs, but also in local labour markets with a higher proportion of jobs in unskilled occupations. The latter factor is particularly important when the odds of economic inactivity of people without educational qualifications are considered.

To summarize, net opportunities of economic activity for all groups of non-immigrant population in Britain are negatively affected by higher concentration of immigrants in the local labour market.

4.2.2. *Dependent variable: “probability of being in skilled manual or lower supervisory occupations vs. probability of unskilled jobs or unemployment.*

Random intercept. For the reference group of comparison, the White British population, spatial concentration of immigrants do not have a statistically significant impact on their net odds of working in higher status blue collar occupations.

Random slopes and intercepts. Percentage of immigrants in local labour market does not affect net odds of working in skilled manual or lower supervisory occupation vs. the odds of working in unskilled occupation for any groups of working subpopulation (see Table 2).

Table 2: Estimated level 2 effects for random slopes and random intercept model: Probability of being in unskilled jobs (or short term unemployed) vs. probability of being in classes V and VI (only statistically significant effects are shown)

| Level 2 variables | Subpopulations | | | | |
|-------------------------------------|---|------------|--|--|-----------|
| | Contextual effects of size of immigrant and size of ethnic minority populations | | | | |
| | Intercept | Immigrants | British Ethnic Minorities other than Muslims | Educational qualifications Below NVQ Level 2 | Muslims |
| Intercept | .71(.10)* | | | -.68(.03)** | |
| Percentage of immigrants up to 2004 | | -.01(.00)* | | | |
| Percentage of immigrants after 2004 | | | | | |
| Percentage of British minorities | | | | | |
| Level 2 variables | Contextual effects of size of immigrant and size of ethnic minority populations and opportunity structure of local labour markets | | | | |
| | Intercept | Immigrants | British Ethnic Minorities other than Muslims | Educational qualifications Below NVQ Level 2 | Muslims |
| | Intercept | Immigrants | British Ethnic Minorities other than Muslims | Educational qualifications Below NVQ Level 2 | Muslims |
| Intercept | .72(.01)** | | | -.65(.03)** | |
| Percentage of immigrants up to 2004 | | | | | |
| Percentage of immigrants after 2004 | | | | | |
| Percentage of British minorities | | .02(.01)* | | | |
| Percentage of employed | .04(.00)** | | | | |
| Percentage in manufacturing | | -.02(.01)* | | | |
| Percentage in construction | | .04(.02)* | | | |
| Percentage with permanent jobs | | | | | |
| Percentage in other services | | | | .02(.01)* | |
| Unskilled jobs | -.02(.00)** | -.05(.02)* | | -.02(.00)** | .08(.03)* |
| Percentage in class 1 | -.01(.00)* | | | | |

These odds are positively affected by the overall opportunity structure expressed through the percentage of employed in the local labour markets. For immigrants an additional factor which positively affects their odds of working in skilled manual occupations is the large concentration of ethnic minorities in local labour markets, as well high percentage of jobs in construction. The factor that affects negatively these odds for immigrants is the high percentage of jobs in manufacturing in the local labour market.

4.2.3. *Dependent variable: “probability of being in white collar (higher and lower managerial and professional and intermediate) occupations vs. probability of unemployment or unskilled jobs*

Random intercept. The spatial concentrations of immigrants do not affect the considered probabilities if the characteristics of the local labour markets are accounted for. However, in localities where the percentage of new immigrants among the total population of immigrants is high, or in other words, in localities where before 2004 immigrant populations used to be very small, an increase in the size of the population of new immigrants negatively affects the odds of the reference group, ie the British White population, of working in white collar occupations (see Table 3.)

Table 3: Estimated level 2 effects for random slopes and random intercept model: Probability of being in unskilled jobs (or short term unemployed) vs. probability of being in class I to III (only statistically significant effects are shown)

| Level 2 variables: | Subpopulations | | | |
|-------------------------------------|---|--------------|--------------------|--|
| | Contextual effects of size of immigrant and size of ethnic minority populations | | | |
| | Intercept | Immigrants | British Minorities | Educational qualifications Below NVQ Level 2 |
| Intercept | 1.97(.002)** | -.20(.09)* | | -.52(.03)** |
| Percentage of immigrants up to 2004 | .014(.003)** | -.02(.00)** | | -.005(.05)* |
| Percentage of immigrants after 2004 | -.005(.00)** | -.011(.00)** | | -.002(.001) |
| Percentage of British minorities | | | -.024(.08)** | -.010(.00)** |
| Level 2 variables: | Contextual effects of size of immigrant and size of ethnic minority populations and opportunity structure of local labour markets | | | |
| | Intercept | Immigrants | British Minorities | Educational qualifications Below NVQ Level 2 |
| | Intercept | Immigrants | British Minorities | Educational qualifications Below NVQ Level 2 |
| Intercept | 1.99(.02)** | -.21(.08)* | | -1.50(.03) |
| Percentage of immigrants up to 2004 | | -.03(.01)** | | |
| Percentage of immigrants after 2004 | -.003(.00)* | -.01(.00)** | | |
| Percentage of British minorities | .011(.00)** | .03(.01)* | -.02(.01)* | -.011(.00)** |
| Percentage of employed | .07(.01)** | | .01(.00)* | .03(.01)** |
| Percentage in manufacturing | | | .03(.01)** | -.012(.00)** |
| Percentage in construction | | | | |
| Percentage with permanent jobs | | | | -.03(.01)* |
| Percentage in banking and finance | .03(.00)** | | | |
| Percentage in personal services | | .08(.03)** | | |
| Percentage in other services | | .05(.02)* | | |
| Unskilled jobs | | | .05(.02)* | -.06(.01)** |
| Percentage in class 1 | .03(.00)** | .04(.01)* | | -.02(.01)* |

Random slopes. For *immigrants* themselves a large immigrant presence (both old and new immigrants) has a negative effect on their odds of working in while collar occupations, and controlling for the labour market opportunity structure does not change the direction and only reduces slightly the magnitude of the effect.

However, a presence of British born ethnic minority population has a positive net effect on the odds of working in while collar occupations for the British White population and this positive effect is even stronger for immigrants.

For British born minorities immigration effect on the considered odds is not different from that for the reference group of comparison. However, British born minorities have lower chances

to work in higher status occupations in localities with higher spatial concentrations of ethnic minorities.

For *low educated workers* immigration has an additional negative effect which disappears after controlling for the local labour market opportunity structure. However, higher concentration of British born ethnic minorities retains a negative effect on the opportunities of low educated workers to get higher status jobs, even if the local labour market opportunity structure is accounted for.

5. Discussion and conclusions

In this study we sought an answer to the question whether or not spatial concentrations of immigrants have a negative impact on the labour market opportunities of non-migrant workers in the British labour market, in terms of their odds of entry into employment, and odds of entry in more prestigious occupations. Multilevel multinomial analyses were conducted to explore whether variations across local labour markets in the labour market outcomes of individuals were systematically related to the variations in the spatial concentration of immigrants, after accounting for variations in other characteristics of local labour markets that might be responsible for differences in labour market outcomes.

The findings show that spatial concentrations of pre-2004 immigrants are not related to the net chances of non-immigrant workers of working higher status occupations. However, spatial concentrations of pre-2004 migrants are positively associated with higher odds of economic inactivity of the non-immigrant population. This relationship weakens but remains statistically significant and preserves its direction when local labour market characteristics are accounted for.

A higher proportion of new immigrants among the whole population of immigrants is negatively related to the higher odds of non-immigrant workers of working in white collar occupations. Accounting for the characteristics of the local labour markets does not cancel this relationship although it makes it weaker

Thus, the first hypothesis in our study has been confirmed. Overall, immigrants do not have a negative effect on occupational opportunities of non-migrant British workers who have average levels of educational attainment. Moreover, our earlier findings (see Shapira, 2008) show that immigrants have a positive effect on the wages of non-migrant workers.

However, it seems that immigrants are more likely than the British-born population to look for employment or to work in unskilled occupations, while the British born population in localities with a large population of immigrants would rather exit from the labour market altogether than work in unskilled occupations. Although this finding could be interpreted as an indication of competition between immigrants and native born workers for low skilled occupations with a subsequent substitution of native workers by immigrants [such findings are reported in Waters (1999) and Waldinger (1999)], however alternative explanations are also possible. Thus, it might be that the native-born population has more alternatives to low paid employment and relies more on state benefits or personal savings than do immigrants. It may also be the case that the migrants are taking jobs which are not wanted by the native-born population. In any case, only detailed case studies can confirm or reject the hypotheses about the competition between the immigrants and native workers.

Furthermore, new immigrants, being better educated than veteran immigrants, do indeed have a negative impact on the odds of British born populations of working in white collar occupations. These findings are in accord with our previous study which shows that new immigrants have a negative effect on the wages of British born workers and the group that is most seriously affected in terms of wages by “new immigrants” are those with highest level of educational qualification (See Shapira 2008).

However, this negative effect of new immigration does not exist in every local labour market with a large population of new immigrants. In accordance with the expectations of Hypothesis 2, the labour market impact of new immigrants depends on the size and composition of the immigrant population in local labour markets. The negative effect of the presence of new immigrants is felt by non-migrant workers only in those localities where immigrant populations were small before 2004 and thus where new migrants make a sizable proportion of the whole immigrant population. This finding may suggest that in those local labour markets with relatively large immigrant populations before 2004, immigrants and non-immigrant workers had established a balance, with each group occupying particular occupational niches in these localities. The arrival of new immigrants after 2004 did not disturb this established balance as they entered existing labour market niches for immigrant workers. However, the situation may be quite different in those local labour markets with no significant immigrant population before 2004 and where such a balance did not exist – in these areas the new arrivals may be competing for the same jobs with non-immigrants whose outcomes are negatively affected.

Nevertheless, these findings alone cannot provide us with clear evidence of competition between new immigrants and native workers for white collar jobs; case studies of particular occupations are needed to confirm or reject the hypotheses about competition.

Contrary to our expectations immigrants have a similar effect on all groups of the non-migrant population. We did not find any evidence that British born ethnic minorities or people with lower levels of education are affected by immigration in a more negative way than the White British population with an average level of education. However, spatial concentrations of immigrants have a stronger negative effect on the occupational opportunities of migrants themselves than on the non-migrants population. Thus, in local labour markets with large immigrant populations immigrants are more likely to have unskilled jobs than work in higher status blue collar occupations or in white collar occupations.

Contrary to our expectations expressed in the Hypothesis 2, the ethnic composition of local labour markets does not mediate the relationship between spatial concentrations of immigrants and the labour market outcomes of non-migrant workers. Nor does accounting for the size of the ethnic minority population change the labour market effect of immigration. A high percentage of British ethnic minorities affects positively the odds of higher status occupations for the White British population and even more so for immigrants. However, for ethnic minorities themselves, as well as for low skilled workers, a large presence of British born ethnic minorities in the local labour markets has a negative effect on their odds of higher status occupations. These findings partially support evidence of previous research based on the ethnic pluralism approach and split/sheltered labour market concepts (see Friesbie and Neidert, 1977; Burr et al; Tieda and Lii, 1987, Wilson and Portes, 1980; Shavit, 1992; Fosset et al, 1986).

Finally, findings from this research show that local labour market characteristics are an important mediator between spatial concentrations of immigrants and the labour market outcomes of native workers. Controlling for the structure of local labour market characteristics changes the relationship between the size of immigrant populations and the

labour market outcomes of non-migrant population. Hence the impact of immigration on the labour market impact cannot be properly understood without first considering how spatial differences in the labour market outcomes of individuals are related to spatial differences in the local labour market opportunity structure.

How sure one can be in claiming these effects of immigration? We found differences between the impact of two groups of immigrants, those who arrived before 2004 and those who arrived after that date. However, the spatial patterns of these two groups of immigrants are also very different: correlations between their spatial concentrations are negative (see table 1). Spatial concentrations of “new” immigrants are positively related to such characteristics of local labour markets as a large pool of jobs in construction, a small pool of jobs in banking and finance and a small percentage of the population in socio-economic class 1 (see table 1). In contrast, spatial concentrations of “old” immigrants are associated with such characteristics of local labour markets as a small percentage of manufacturing and construction jobs, a high percentage of jobs in banking and finance, and a higher percentage of the population in socio-economic class 1. Therefore it is obvious that old immigration is concentrated in the localities with socially and economically stronger populations and with a better opportunity structure in terms of availability of higher status jobs in high-skilled services. New immigrants, on the other hand, are over-represented in localities with socially and economically weaker populations and more traditional employment structures. So, the question is to what extent do the findings of this research merely reflect differences between two groups of immigrants in their spatial patterns of residence?

In this research we extensively controlled for the opportunity structure and characteristics of populations of the local labour markets. The reported results are those which were found to be statistically significant after the differences in characteristics of local labour markets where “old” and “new” immigrants live were controlled for. Therefore, we believe that the reported effects of immigration are net of the other characteristics of local labour markets responsible for differences in the labour market outcomes of their populations. However, we plan to conduct additional research at the level of the national economy to check the findings.

Of course research on the immigration labour market effect at the level of the national economy is not without its problems. However, if the findings at the level of the national economy confirm the findings at the level of the local labour markets, we will be more confident about the interpretation of the results.

Finally it should be emphasized that this study is concentrated on employment opportunities in the British labour market. However, these findings are consistent with findings from our earlier study where we considered the immigration impact on the wages of non-immigrant workers in Britain. There we found that pre-2004 immigration has a positive effect on the wages of all groups of workers with the sole exception of the immigrants themselves; however, immigrants that arrived in 2004 or thereafter affected the wages of the non-migrant workers negatively.

Despite the limitations and questions which remain open this study considers the issue of the immigration impact on the British labour market in a more comprehensive and systematic

way than previous studies through a consideration of 180 local labour markets across Britain and controlling for other characteristics of the local labour markets that might be responsible for across labour market variations in employment opportunities.

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Appendix 1

Table A1.1: Distribution of the educational qualifications of immigrants arrived in Britain in 2004 or thereafter, by country (geo-region) of birth.
Source 2006 Annual population survey.

| | Western Europe | Eastern Europe | Canada, USA, Australia, New Zealand | Rest of Americas | Africa | Pakistan, Banglades h | India | Middle East | Rest of Asia | Pre 2004 immigrants | British born |
|------------------|-------------------|-------------------|---|---------------------|--------|-----------------------------|-------|----------------|-----------------|------------------------|-----------------|
| Below NVQ level2 | 25.9 | 24.3 | 11.4 | 29.3 | 21.3 | 52.7 | 31.1 | 23.8 | 23.7 | 10.8 | 29.2 |
| NVQ level 2 | 13.6 | 6.35 | 7.97 | 12.7 | 11.6 | 6.36 | 6.47 | 6.32 | 7.09 | 38.3 | 22.2 |
| NVQ level3 | 9.64 | 3.48 | 8.89 | 7.93 | 10.2 | 4.38 | 4.36 | 8.6 | 7.33 | 30.9 | 14.9 |
| NVQ level4 | 18.8 | 7.56 | 27.5 | 22.1 | 24.3 | 8.51 | 17.2 | 21.6 | 22.8 | 5.8 | 4.7 |
| NVQ level 5 | 9.82 | 5.57 | 14.9 | 7.15 | 7.9 | 3.92 | 10.7 | 11.6 | 9.35 | 1.3 | 20.7 |
| Unclassified | 22.4 | 52.7 | 29.3 | 20.8 | 24.7 | 24.1 | 30.2 | 28.1 | 29.7 | 13.0 | 4.8 |

Appendix 2

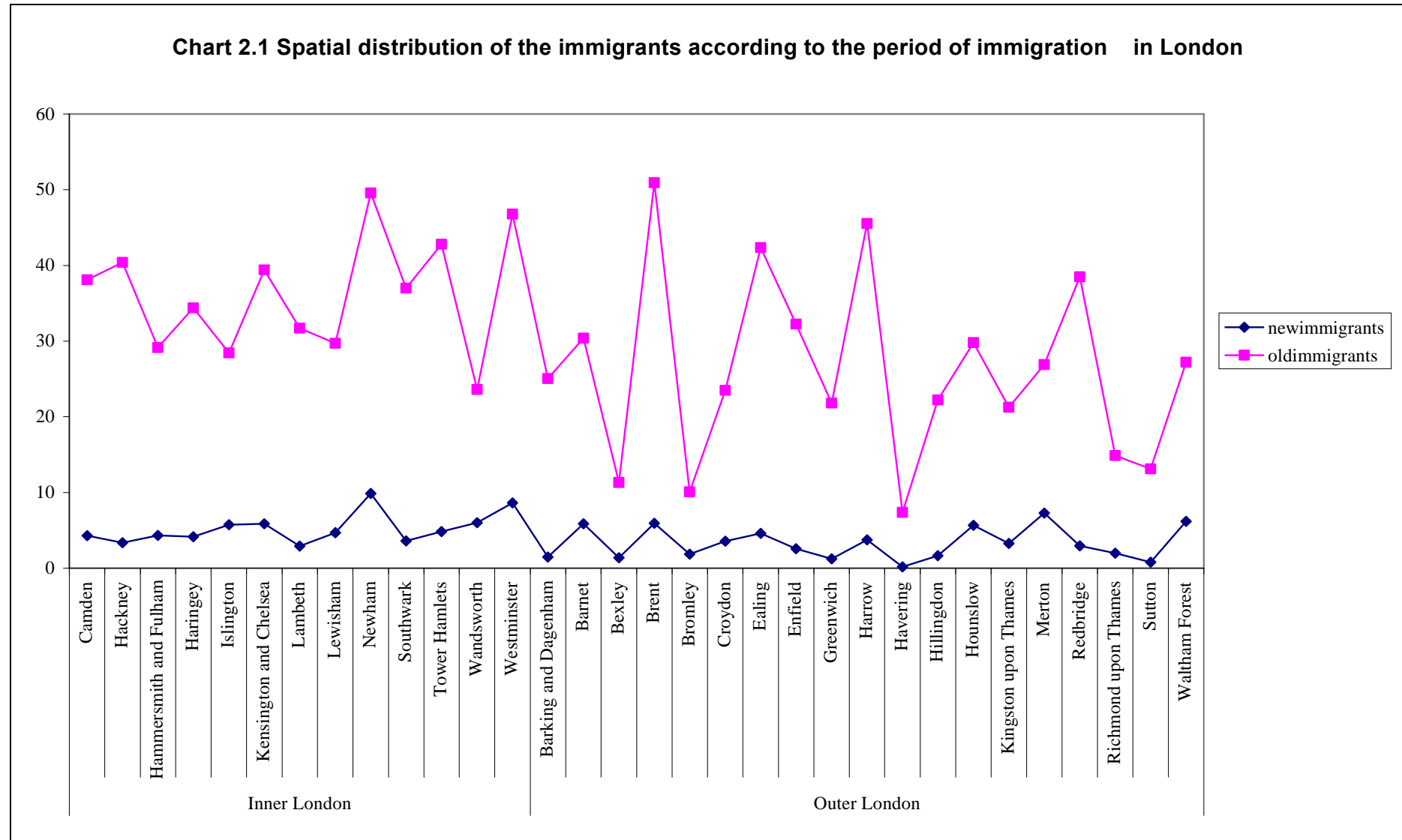


Chart 2.2 Spatial distribution of the new immigrants - old immigrants ration in London

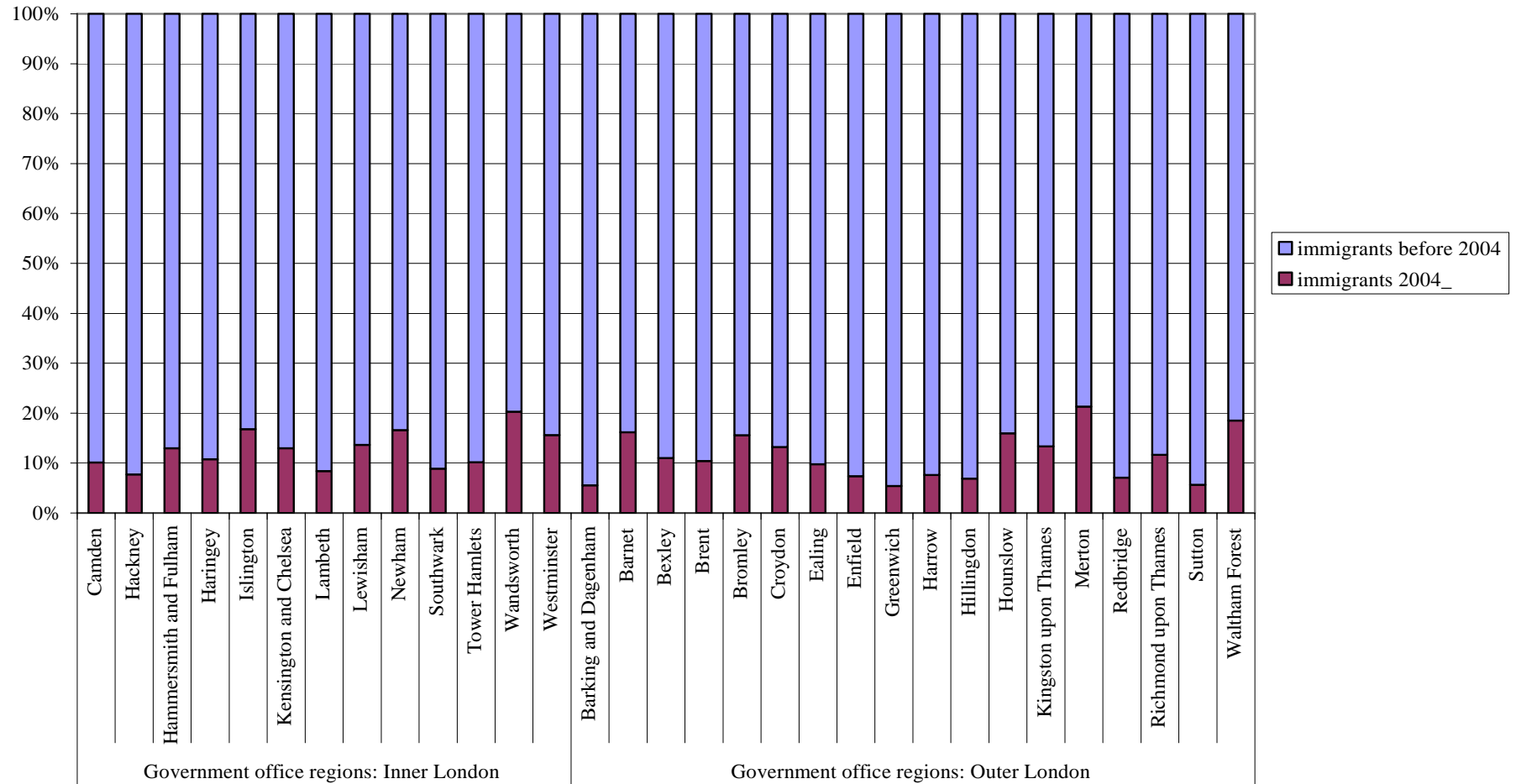


Chart 2.3 Spatial distribution of the immigrants according to the period of immigration in Scotland

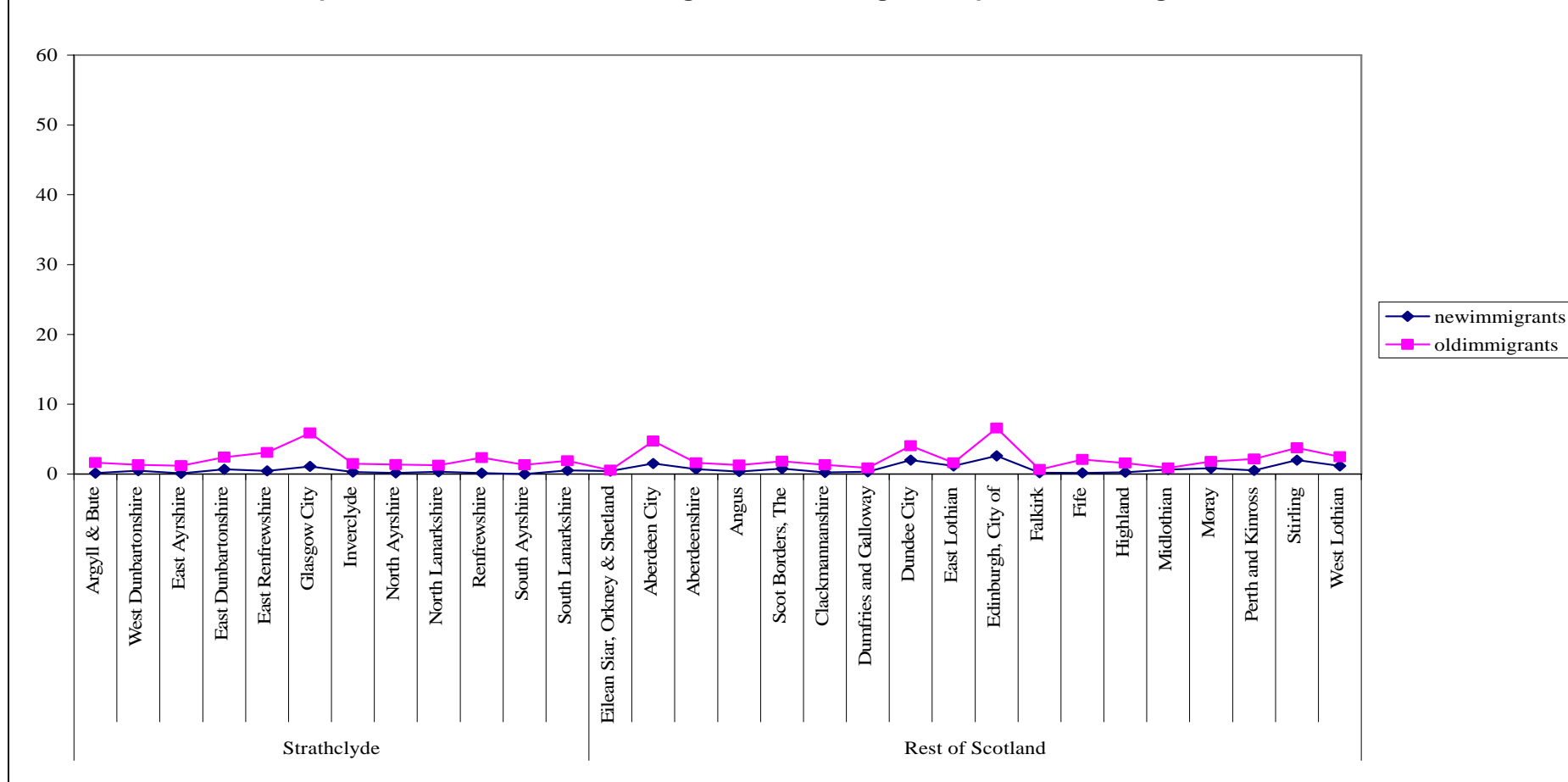


Chart 2.4 Spatial distribution of the new immigrants-old immigrants ratio in Scotland

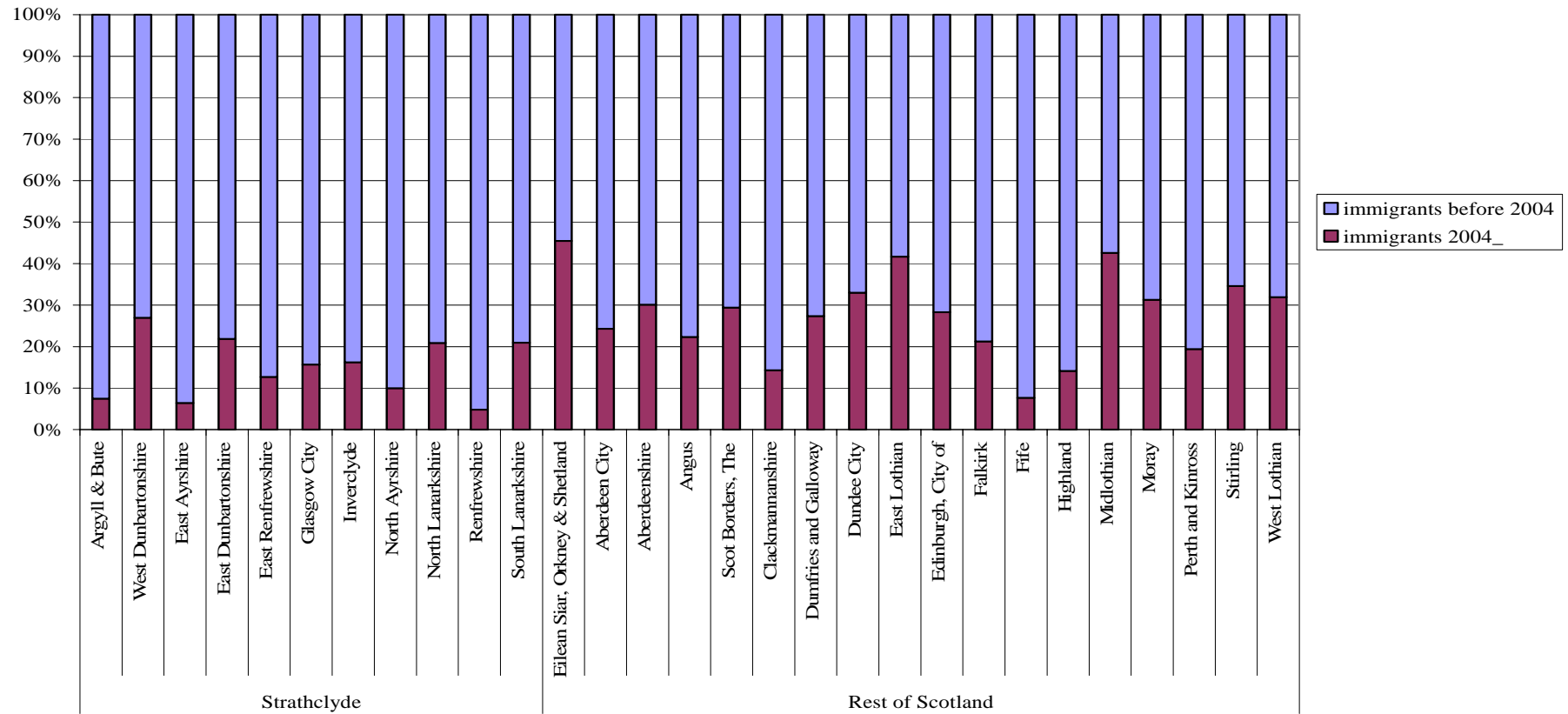


Chart 2.5 Spatial distribution of the immigrants according to the period of immigration in Midlands, South, East and South West of England

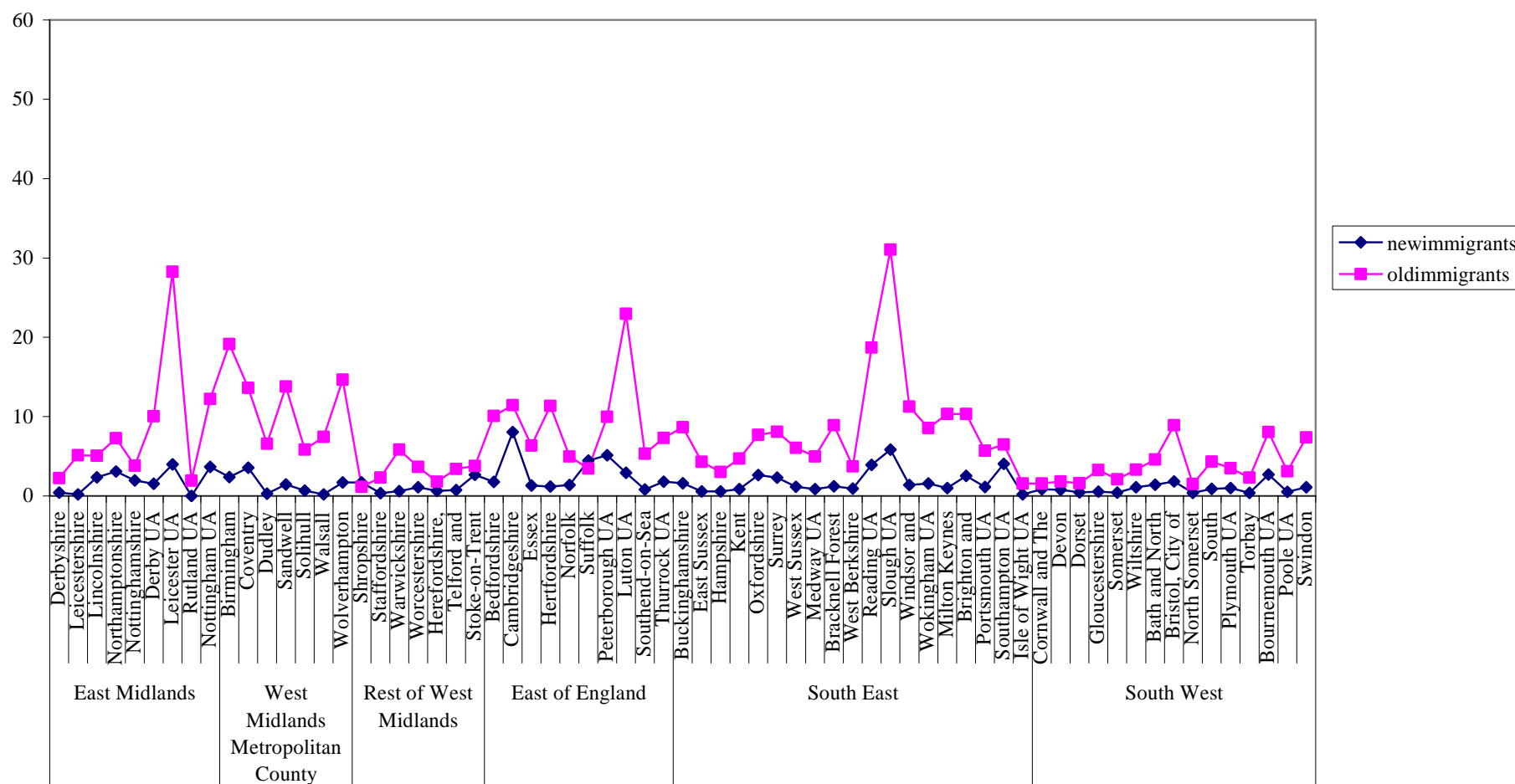


Chart 2.6 Spatial distribution of the new immigrants-old immigrants ratio in Midlands, South, East and South West of England

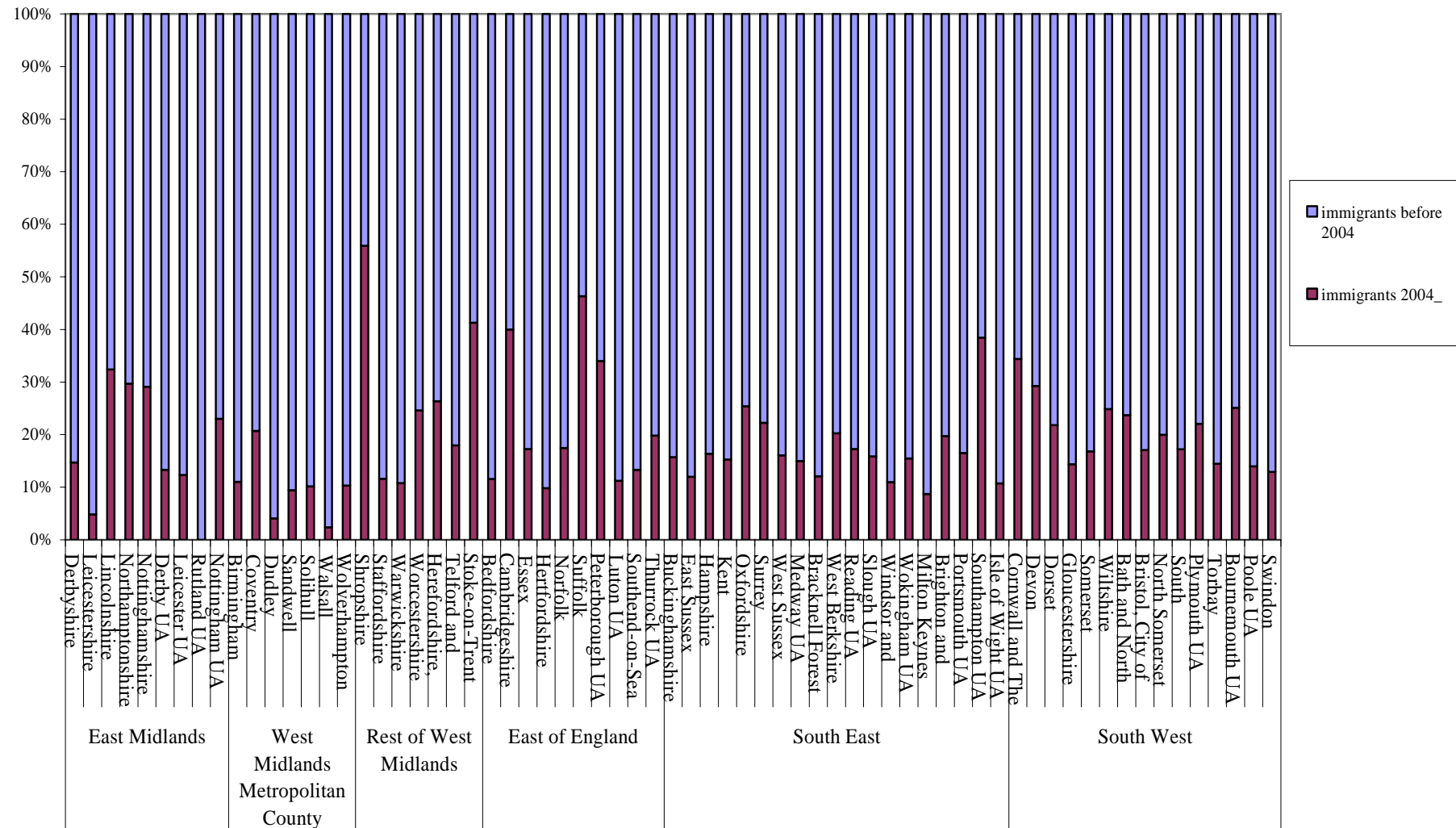


Chart 2.7 Spatial distribution of immigrants according to period of immigration in the North of England

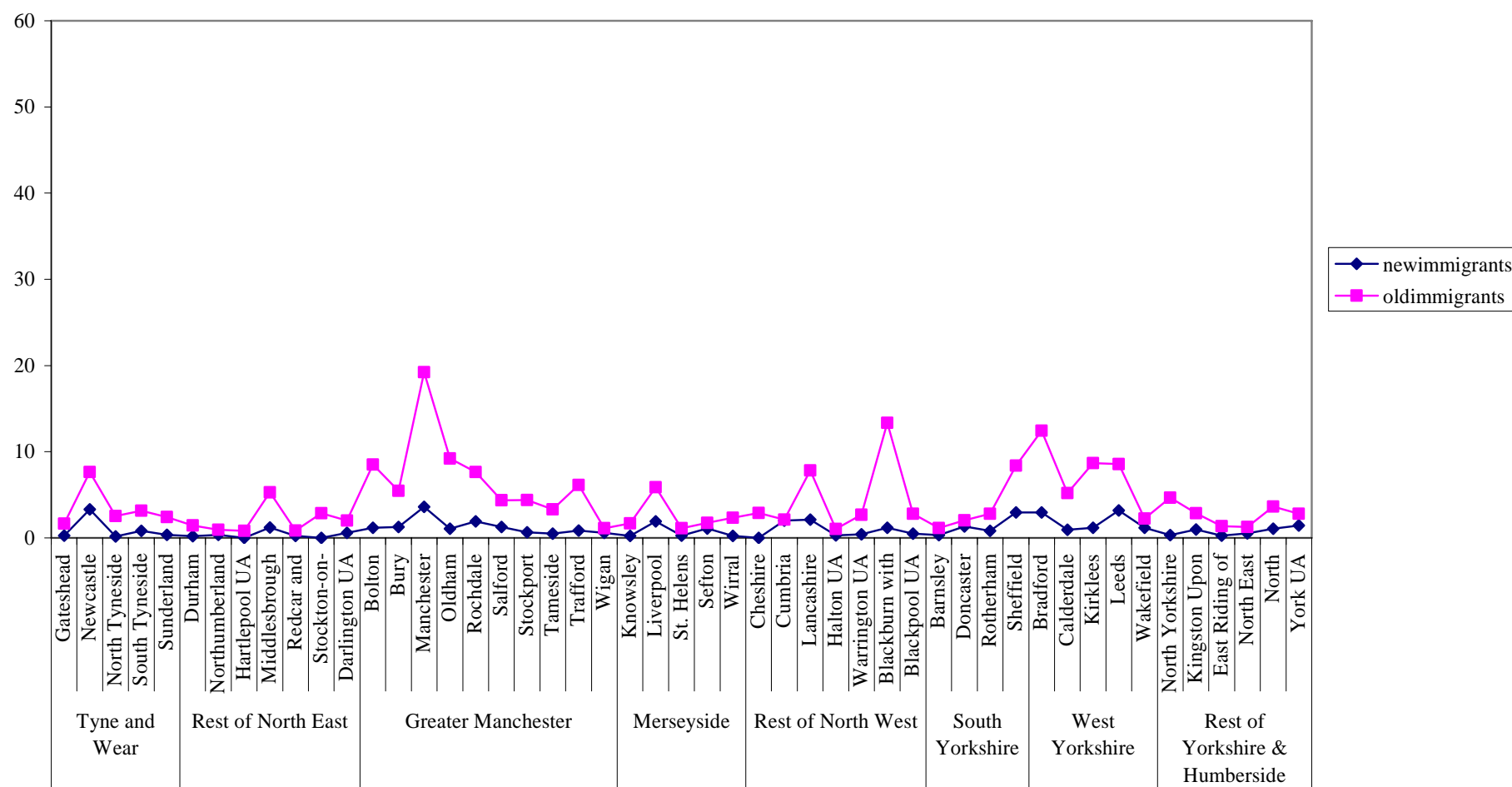
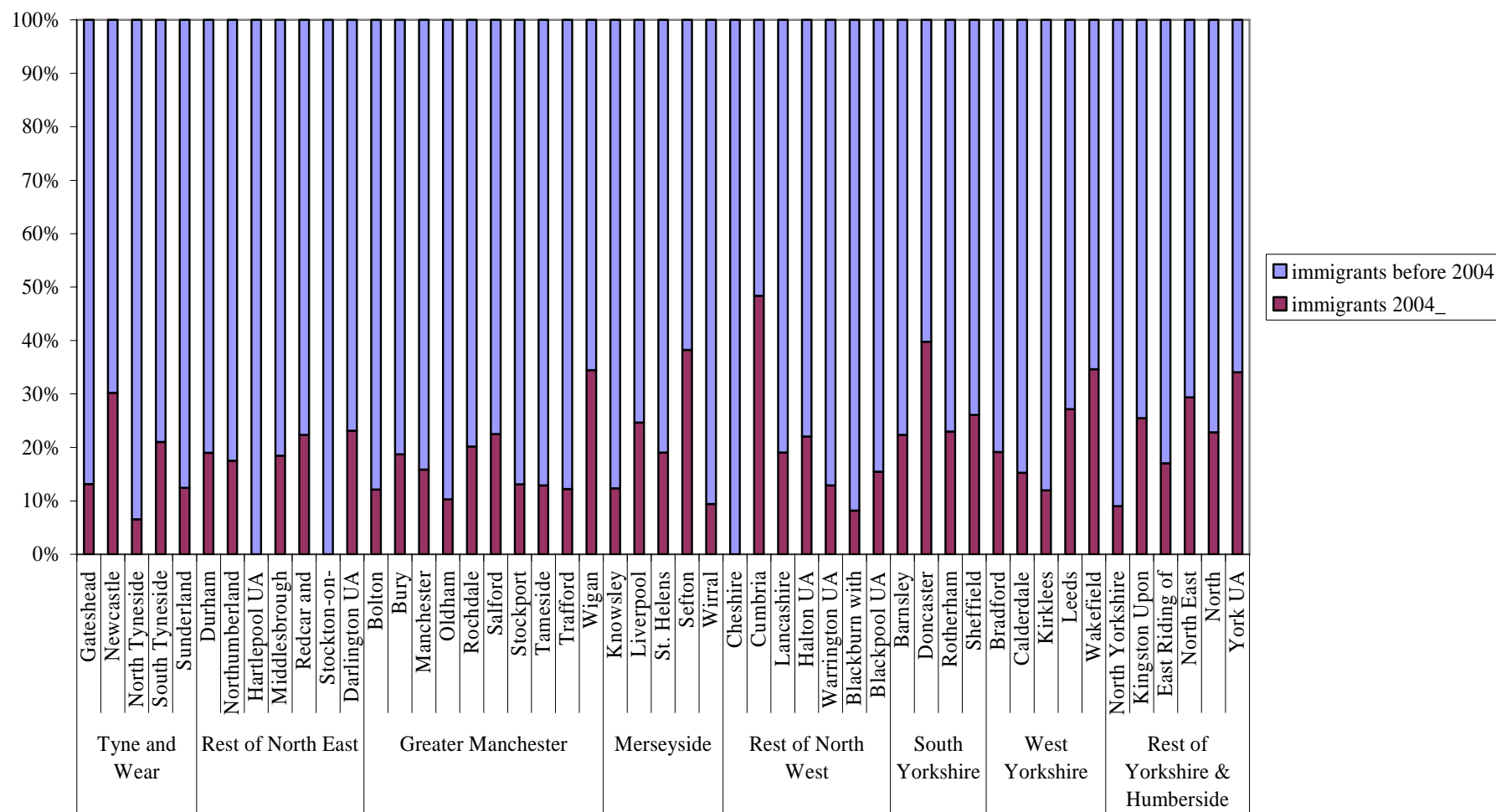


Chart 2.8 Spatial distribution of the new immigrant-old immigrant ratio according in the North of England



Appendix 3

Table A3.1: Bi-variate Correlation Coefficients among Macro–Level Variables Included in Multi-level Analyses

| | I | II | III | IV | V | VI | VII | VIII | IX | X |
|--------------------------|---|--------|---------|---------|--------|---------|---------|--------|---------|---------|
| I. Immigration 2004 - | 1 | -0.11* | -0.42** | -0.27** | -0.11* | | | 0.11* | -0.16** | -0.14** |
| II. Immigration -1960 | | 1 | -0.11** | -0.14** | | | | | | |
| III. Immigration 1961-95 | | | 1 | -0.32** | 0.21** | | -0.12** | | 0.12** | 0.13** |
| IV. Immigration 1996-03 | | | | 1 | | | | -0.13* | 0.18** | |
| V. British minorities | | | | | 1 | -0.32** | -0.27** | | 0.23** | |
| VI. Employed | | | | | | 1 | | | | 0.18** |
| VII. Manufacturing | | | | | | | 1 | -0.11* | -0.41** | -0.22** |
| VIII. Construction | | | | | | | | 1 | -0.32** | -0.34** |
| IX. Banking and Finance | | | | | | | | | 1 | 0.72** |
| X. Class I | | | | | | | | | | 1 |

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Appendix 4

Tables A4.1: Estimated fixed (with robust standard errors) effects for random slopes and random intercept models (variables whose effects is supposed to be random effects put in italics)

| | Probability of being economically inactive(including long tern unemployed) vs. probability of being in unskilled jobs (or short term unemployed) | Probability of being in higher status blue collar jobs vs. probability of being in unskilled jobs (or short term unemployed) | Probability of being in while collar jobs vs. probability of being in unskilled jobs (or short term unemployed) |
|--|--|--|---|
| <i>Intercept</i> | .77(.017)** | .70(.01)** | 1.97(.02)** |
| Gender (Male ref. cat.) | | | |
| Female | 1.16(.02)** | .51(.02)** | .78(.02)** |
| Age | .04(.003)** | .00(.00) | .00(.00) |
| Tenure in Britain for immigrants | -.006(.003)* | .004(.003) | -.01(.03)** |
| Marital status (Single ref. cat.) | | | |
| Married | -.32(.03)** | .38(.02)** | |
| Widowed, divorced, separated. | -.42(.03)** | .20(.02)** | -.31(.02)** |
| <i>Immigrants</i> | .15(.08)* | -.07(.08) | -.26(.08)** |
| <i>British born ethnic minorities</i> | .01(.01) | -.02(.04) | -.04(.05) |
| Religion (Christian or non religious ref. group) | 1.19(.09)** | -.16(.07)* | -.19(.04)** |
| <i>Muslim</i> | .46(.07)** | -.06(.05) | .09(.06) |
| <i>Other religion</i> | | | |
| Educational level | | | |
| <i>Below NVQ level 2</i> | -.83(.04)** | -.68(.03)** | -1.52(.03)** |
| <i>NVQ Level 2</i> | -.98(.04)** | -.20(.03)** | -.50(.03)** |
| <i>NVQ Level 3 ref. cat.</i> | | | |
| <i>NVQ Level 4</i> | .07(.12) | .19(.04)** | 1.75(.04)** |
| <i>NVQ Level 5</i> | .06(.12) | -.18(.12) | 2.69(.09)** |
| <i>Other qualification</i> | -1.45(.23)** | -.65(.03)** | -1.41(.05)** |
| Number of children in family unit | 0.20(.01)** | | |
| Full time student | 3.96(.06)** | | |
| Disabled | 1.87(.03)** | -.20(.02)** | |
| Getting pension | .31(.05)** | -.45(.05)** | |
| Single parent | -.002(.04) | -.10(.03)** | |

Table A4.2: Contextual Effects: statistical significance of the amount of variance explained

| A. Probability of being economically inactive (or long term unemployed) vs. probability of being in unskilled jobs (or short term unemployed). Estimation of variance components | | | |
|--|-------------------------------------|-----------------------------------|--|
| | Random intercepts and random slopes | contextual effects of immigration | contextual effects of immigration and industries |
| | Var. Chi P Xomp.Square Value | Var. Chi P Xomp. Square Value | Var. Chi P Xomp. Square Value |
| Intercept | 0.052 451.0 0.000 | 0.050 418.4 0.000 | 0.036 318.5 0.000 |
| Immigrants | 0.133 234.4 0.005 | 0.143 218.9 0.022 | 0.106 201.4 0.062 |
| British Minority | 0.099 246.4 0.001 | 0.105 241.6 0.001 | 0.121 239.2 0.001 |
| Education level 2 | 0.011 154.9 >.500 | | |
| Education below level 2 | 0.057 270.7 0.000 | 0.040 263.0 0.000 | 0.025 229.1 0.003 |
| Muslim | 0.353 245.9 0.001 | 0.377 251.2 0.000 | 0.355 242.9 0.000 |
| B. Probability of being in semi-skilled or lower supervisory occupations (class V and VI) vs. probability of being in unskilled jobs (or short term unemployed) . Estimation of variance components | | | |
| Intercept | 0.011 227.9 .00 | .011 266.6 .00 | .006 200 .09 |
| Immigrants | 0.129 227.7 .00 | .096 249.3 .00 | .059 218 .02 |
| British Minority | 0.038 150.2 >.50 | | |
| Education level 2 | 0.015 161.1 .29 | | |
| Education below level 2 | 0.027 204.4 .03 | .019 221.2 .02 | .008 182 .33 |
| Religion other than Muslim | 0.059 161.5 .28 | | |
| Muslim | 0.156 179.3 .06 | .132 220 .4 .02 | .137 217 .02 |
| C. Probability of being in class I to III vs. probability of being in unskilled jobs (or short term unemployed) . Estimation of variance components | | | |
| Intercept | 0.157. 1297.9 0.000 | .129 1246.2 .000 | .021 536.9 .000 |
| Immigrants | 0.274 378.6 0.000 | .261 353.2 .000 | .189 429.5 .000 |
| British Minority | 0.092 245.5 0.015 | .088 242.5 .015 | .101 367.5 .024 |
| Education level 2 | 0.026 223.3 0.124 | | |
| Education below level 2 | 0.057 333.9 0.000 | .028 272 .000 | .019 373.4 .013 |
| Muslim | 0.243 223.3 0.124 | | |

