UNU-MERIT Working Paper Series

#2011-068

Segregation in neighbourhoods and labour market outcomes of immigrants: Evidence from random assignment in the Netherlands

By Pascal Beckers and Lex Borghans

Maastricht Economic and social Research institute on Innovation and Technology (UNU-MERIT)
email: info@merit.unu.edu | website: http://www.merit.unu.edu

Maastricht Graduate School of Governance (MGSoG)
email: info-governance@maastrichtuniversity.nl | website: http://mgsog.merit.unu.edu

Keizer Karelplein 19, 6211 TC Maastricht, The Netherlands
Tel: (31) (43) 388 4400, Fax: (31) (43) 388 4499

UNU-MERIT Working Papers

ISSN 1871-9872

Maastricht Economic and social Research Institute on Innovation and Technology, UNU-MERIT

Maastricht Graduate School of Governance MGSoG

UNU-MERIT Working Papers intend to disseminate preliminary results of research carried out at UNU-MERIT and MGSoG to stimulate discussion on the issues raised.

Segregation in neighbourhoods and labour market outcomes of immigrants

Evidence from random assignment in the Netherlands*

Pascal Beckers
UNU-MERIT/Maastricht Graduate School of Governance
Maastricht University
Maastricht, The Netherlands
pascal.beckers@maastrichtuniversity.nl

Lex Borghans
Department of Economics and Research
Centre for Education and the Labour Market
Maastricht University
Maastricht, The Netherlands
lex.borghans@maastrichtuniversity.nl

ABSTRACT

How important is the integration of immigrants in society for labour market outcomes? In this paper we examine the effect of residential segregation in neighbourhoods on labour market outcomes, exploiting the random assignment of asylum seekers to neighbourhoods in the Netherlands. Using Dutch administrative data of the period 1995-2004, we know all consecutive places of residence, country of origin, and labour market income of the working population at the level of postal code areas. While OLS results reveal a considerable negative effect of non-Western migrant concentration on labour market outcomes, IV-results show that concentration has a positive effect on outcomes, especially when also other neighbourhood characteristics are controlled for. On average, immigrants residing in high concentration neighbourhoods are 29 percent more likely to be employed and have substantially higher annual wages than immigrants residing in low concentration neighbourhoods. The positive effect of neighbourhoods with high concentrations of non-Western immigrants is especially strong for recent immigrants. Evidence on the heterogeneity within the group of asylum seekers suggests that especially those who benefit most from living in a concentrated neighbourhood tend to go to these areas.

Keywords: Immigrant labour market outcomes, concentration, segregation, random selection, natural experiment
JEL codes: R23, J11, J15

* We would like to thank Joshua Angrist, Robert Kloosterman, Jan Rath, Erik de Regt, Boris Blumberg, Michael Bommes and participants at the LoWER workshop on migration at LSE, the 2007 Chicago meetings of the Society of Labor Economists, the 2007 Annual IMISCOE Meeting of European Migration Experts for their helpful comments. Also we thank the Central Agency for the Reception of Asylum Seekers (COA), VluchtelingenWerk Nederland and Statistics Netherlands, especially Hennie van Rossum, Martine Vriens, Martijn Haan, Jan Jonker, Gerard Meinen, for making available the data.

1 INTRODUCTION

How important is the integration of immigrants in society for labour market outcomes? Many Western countries are faced with large flows of people from developing countries. Commonly, this population group is particularly disadvantaged in the labour market. Participation rates are low and there is a substantial earnings gap to natives and immigrants originating from Western countries. Furthermore, these non-Western immigrants tend to live together in neighbourhoods with people of similar background, which raises the question whether immigrants benefit from living in these migrant neighbourhoods or that residential integration with the native population would be a better stimulus for success.

In this paper we examine the effect of residential segregation in neighbourhoods of non-Western migrants on labour market outcomes, exploiting the random assignment of asylum seekers to municipalities in the Netherlands. The combination of various administrative sources enables us to track the labour market experiences of nearly 92,000 of these immigrants over the six year period from 1999-2004. Furthermore, the large number of instruments we have in our data and the wide ranges of effects of these instruments make it possible to (1) break down the overall findings to subgroups, (2) investigate nonlinearities in the link between immigrant concentration and outcomes, and (3) take a look at possible selection effects related to unobserved characteristics. While OLS estimates suggest that residential segregation of non-Western migrants has a strong negative effect on labour market outcomes (employment and wages), it turns out that these effects dwindle in the linear IV estimation when using initial placement as an instrument for later place of residence. Neighbourhood concentration for both outcome variables is close to zero and insignificant. Further, as we take other neighbourhood characteristics (employment rate and mean wage level) into account concentration has a positive effect on outcomes, especially for high concentration neighbourhoods. Immigrants who move to high concentration neighbourhoods tend to benefit much from such concentrated environments. This implies that the correlation observed in the OLS specification results from selection effects and that the measured effects are biased downwards due to the correlation between non-Western concentration and other less favourable neighbourhood characteristics.

A crucial feature of our empirical approach is the random allocation of asylum seekers by the Dutch government. The vast majority of asylum seekers enter the Netherlands at Schiphol, the airport of Amsterdam. Upon arrival to the Netherlands, individual asylum seekers and families are assigned to housing centres spread all over the country, where they are to reside until they are officially granted asylum status. This allocation process only depends on the availability of accommodation in the centres. This process results in regional variation of the first place of residence which is uncorrelated to immigrant origin and characteristics or family background. Thus, on average the groups of asylum seekers of each centre are expected to possess similar characteristics, which give them equal chances for the labour market. It takes in most cases 12 – 36 months to get a residence permit that allows the asylum seekers to work. Although asylum seekers are free to move once in possession of a residence permit, initial placement turns out to be an important determinant of the later place of living. This allows us to identify the effect of non-Western neighbourhood concentration on labour market outcomes for these asylum seekers.

The data we use are based on the joint administration of all municipalities in the Netherlands for the period 1995-2004. These data sets provide information about all consecutive places of residence of all asylum seekers at the level of four digit postal codes and the population in each postal code area by country of origin. A four digit postal code represents a neighbourhood of on average 1500 inhabitants. Combined administrative data from the fiscal and social security authorities gives us information about the labour market position and income of all employed and self-employed workers from 1999-2004. Matching of these sources enables us to investigate the labour market outcomes of the asylum seekers for a period of six years. In the period of investigation, annually between 23,000 and 44,000 asylum seekers entered the country. Large fractions came from Iraq, Afghanistan, Somalia and Sudan. After a phase of inquiry – during which employment of asylum seekers is restricted – about 40 percent of them receive a residence permit. In total we analyze the labour market outcomes of nearly 92,000 of these immigrants. After arrival in the Netherlands, asylum seekers are allocated to specific centres spread over the country, the locations of which are strongly related to later housing location choices. Depending on the place of first residence, later non-Western neighbourhood concentrations vary considerably from near cero to above 90 percent.

This paper is related to a long line of research that explores the relationship between residential concentration of ethnic minority population and its socio-economic outcomes. Several cross-sectional studies report that higher levels of minority concentration reduce

employment chances and income levels of migrants (Blalock, 1957; Brown & Fuguitt, 1972; Wilcox & Roof, 1978; Tienda & Lii, 1987; Fossett and Seibert, 1997). The main question in this respect is whether higher concentration in neighbourhoods indeed reduces changes in the labour market or whether immigrants with lower chances tend to go to these neighbourhoods. Two opposing views on concentration effects coexist. The first and most popular view sees these neighbourhoods as 'ghettos' that implies social isolation of migrants from mainstream society coincided with socio-economic disadvantage (Wilson, 1987; Crane, 1991; Anderson, 1991; Bertrand, Luttmer and Mullainathan, 2000). The second one sees these neighbourhoods as 'springboards' helping newcomers to establish a living in receiving societies that also function as 'save havens' from discrimination in mainstream society (Portes & Rumbaut, 1990). Lazear (1999) stresses that a common language might also improve outcomes. Concentration neighbourhoods may also be beneficial to the development of ethnic entrepreneurship and the establishment of ethnic labour market niches as described by Waldinger (1996) and Kloosterman & Van der Leun (1999). Other researchers stress that ethnic minority concentration neighbourhoods may function as a social safety net for newcomers providing individuals with social capital in the form of informal support from the family and the co-ethnic community (Snel & Burgers, 2000).

Edin et al. (2003) and Piil Damm (2009) use the assignment of immigrants to municipalities as a quasi experiment to investigate the causal effects of ethnic concentration on outcomes. Effects of segregation on outcomes are most likely mainly affected by the direct neighbourhood people live in. Variation in neighbourhood concentration is much higher than variation in ethnic concentration between municipalities. Using a very large data set with precise information on where people live, this paper contributes by identifying neighbourhood rather than municipality effects of segregation and by identifying non-linearities and heterogeneity in the effects of concentration on outcomes.

The paper is structured in six sections. Following the general introduction, Section 2 provides a review of background literature on immigrant residential concentration and labour market performance. Section 3 explains the endogeneity issue relating to neighbourhood concentration and presents key information on asylum seekers in the Netherlands together with required background information on Dutch asylum policy to set the stage for later analysis. Section 4 introduces data and methodology of this study while Sections 5 and 6 contain the prime findings and concluding remarks respectively.

2 LITERATURE REVIEW

Theoretical background

Empirical evidence shows that there is a strong tendency for migrants to reside in neighbourhoods with high concentrations of ethnic minority population that are particularly located in larger cities (Borjas, 1999), which may have implications for immigrant cultural as well as socio-economic integration (Chiswick and Miller, 1995). Local living environment or residential neighbourhood will shape (in part) the personal development of individuals, which may reflect in concrete behaviour but also in more subtle social norms and values. The residential neighbourhood influences for instance whom we meet on the street, where our children go to school or how we perceive the world. A long-standing body of literature documents that *neighbourhood effects* are important for the development of individuals on a wide range of individual characteristics including labour market outcomes (Lewis, 1966; Wilson, 1987; Massey & Denton, 1993; Musterd & Andersson, 2006). Inspired by living circumstances in urban ghettos in large American cities, a prime concern of this literature is whether and how geographic concentration of ethnic minority groups affects labour market outcomes of migrants (Blalock, 1957; Brown & Fuguitt, 1972; Wilcox & Roof, 1978; Tienda & Lii, 1987; Fossett and Seibert, 1997).

The discussion on the issue is dominated by two competing views. The first and most popular view sees these neighbourhoods as 'ghettos' that implies social isolation of migrants from mainstream society coincided with socio-economic disadvantage (Wilson, 1987; Crane, 1991; Anderson, 1991; Bertrand, Luttmer and Mullainathan, 2000). The second one sees these neighbourhoods as 'springboards' helping newcomers to establish a living in receiving societies that also function as 'save havens' from discrimination in mainstream society (Portes & Rumbaut, 1990).

From the ghetto-perspective, literature provides several arguments why living in high concentration migrant neighbourhoods may affect labour market outcomes of individuals. First, labour market disadvantages may result from stigmatization effects of high concentration migrant neighbourhoods that often go hand-in-hand with concentration of socio-economic deprivation. Negative neighbourhood images or reputations may be harmful for employment opportunities of residents as redlining practices are often based on them. Redlining implies that certain neighbourhoods are considered as 'risky to invest in' and to accommodate people with unfavourable characteristics, which may lead to a deterioration of the local build environment due to lack of funding as well as to labour market disadvantages

of residents as employers may refrain from hiring workers from these stigmatized areas (Wacquant, 1993; White, 1998; Musterd & Andersson, 2006).

A second explanation why living in high concentration neighbourhoods may affect labour market outcomes of individuals is found in the social isolation hypothesis. It stresses that the accumulation of disadvantageous living circumstances in high concentration neighbourhoods further reinforces the unfortunate socio-economic position of migrants in society. The argument is build on the idea that living in a neighbourhood with deprived people limits the usefulness of local social networks to get ahead in the labour market. As locals tend to be less educated and commonly hold unfavourable positions in the labour market, social networks fail to provide essential information as well as social support to individuals seeking employment opportunities (Wilson, 1987; Crane, 1991; Anderson, 1991; Tigges, Brown & Green, 1998; Bertrand, Luttmer and Mullainathan, 2000; Topa, 2001; Ioannides & Datcher-Loury, 2004).

A third explanation is the belief that immigrant concentration reduces the acquisition of host-country specific human capital, e.g. language skills (Chiswick, 1991; Chiswick and Miller, 1995; Lazear 1999). As residential concentration reduces the frequency of social interactions of migrants with the native population, this reduces migrant incentives to acquire host-country specific human capital and in turn drives up the costs of doing so in the future. This reduces migrant labour market flexibility and thus prospects for economic mobility. This argument underlies the newcomer dispersion policy implemented in many Western countries.

Fourth, another argument relates to the access to and quality of local services, such as child care facilities, preschool services and after-school programs, as well as employment opportunities, which commonly puts individuals in migrant neighbourhoods at a disadvantage (Musterd & Andersson, 2006). Kain (1968), and Ihlanfeldt and Sjoquist (1998) introduce the argument of spatial mismatch, which states that residential segregation of migrants depresses their labour market prospects as immigrant communities tend to be located at a distance from available jobs. Due to high commuting costs and time use between place of residence and work, migrant incentives to search for available and suitable jobs are reduced, which lowers job matching effectiveness and thus labour market prospects. While spatial mismatch may be less relevant to explain migrant labour market disadvantages in the Dutch context than in the North American setting, due to better collective urban transportation systems and lower commuting times, it nonetheless is likely of significance here (Kain, 1968; Musterd & Andersson, 2006).

Other theoretical contributions explain why increased spatial concentration of immigrants may positively affect the group's labour market outcomes focuses on spatial concentration effects of ethnic groups in migrant neighbourhoods. First, it has been argued that increased spatial concentration of migrants raises the relative contacts between people of common ethnicity living in geographic proximity of each other (ethnic networks) (Bertrand, Luttmer, Mullainathan 2000). This increased density of ethnic networks is further hypothesized to have implications for labour market outcomes of immigrants (Loury, 1977; Piil Damm, 2009; Edin et al., 2003). Ethnic social networks impact on individual behaviour of members of the migrant community in two ways, namely through information channels and norms as noted by Bertrand, Luttmer and Mullainathan (2000) and Akerlof (1980). Ethnic networks render an important information source to newcomers and thereby facilitate their acquisition of essential host country insight, which positively impacts their economic prospects. This would include information about the labour market in general, potential job openings, required labour market skills and qualifications as well as potential opportunities for business start-up (Lazear, 1999). Next to offering orientation support for participation in the mainstream economy, local ethnic networks are believed to also provide information on employment and own business opportunities in the co-ethnic economy. For many newcomers, these latter means imply first stepping stones towards establishing new livings in the receiving countries (Portes, 1998; Light and Bonacich, 1988; Waldinger, 1996). Over time, this has resulted in particular occupations to become ethnic niches providing a kind of refuge for immigrants discriminated against in the primary labour market and resulting in immigrant industry clustering (Li, 1998). While immigrants in these sheltered ethnic economies – also called enclaves – may achieve higher returns to their human capital, naturally, immigrant entrepreneurs may benefit greatly also through reduced risk and costs of hiring (Bailey & Waldinger, 1991; Newman, 1999; Portes & Bach, 1985; Wang, 2004). At the same time, ethnic networks may also negatively impact on immigrant economic outcomes. Information exchange between equally disadvantaged immigrants may result in low job seeking success as actors are poorly informed about labour market opportunities but nonetheless are likely to consult their co-ethnic acquaintances rather than consulting other sources of information regarding vacancies (Phelps, 1972). Additionally, ethnic social networks may also play a role in dissemination of welfare eligibility (Bertrand, Luttmer, Mullainathan 2000).

Next to their function in the exchange of information, ethnic networks shape the norms of individual co-ethnic members, which also affect their labour market outcomes through for instance peer group pressure (Granovetter, 1985). We distinguish between direct and indirect

effects. Norms directly affect economic outcomes through work ethics, intra-household gendered role distributions, as well as traditions of self employment and attitudes of receiving welfare benefits. They indirectly impact through cultural perceptions regarding education, early marriage and fertility as noted among others by Coleman et al. (1966), Lewis (1968), Wilson (1987), Case and Katz (1991), Massey & Denton (1993), Borjas (1995), Glaeser, Sacerdote and Scheinkman (1996), and Piil Damm (2009).

Second, it has also been argued that the effects of co-ethnic social networks on labour market outcomes of migrants depend on the nature of human capital externalities or quality (human capital stock) of the co-ethnic community as well as the skill level of the individual. In this case the relative benefit of living in the co-ethnic community would increase with the share of high skilled members in the group as this enhances its resourcefulness and that benefits of living among the co-ethnic community are particularly high for low skilled individuals as their gains from co-ethnic interactions and exchanges tend to be greatest (Borjas, 1998; Kahanec, 2006; Cutler and Glaeser, 1997; Edin et al. 2003; Piil Damm, 2009).

Third, Chiswick and Miller (1995) explain earnings differentials between high and low concentration regions through the existence of ethnic goods, which are consumption goods and services fulfilling unique migrant needs that are different from those of natives or those of other migrant groups. Examples of these are traditional food products from the home country, or places to socialize with co-ethnic members or carry out religious practices. Moreover, the authors argue that migrants are willing to accept lower wages in exchange for availability of ethnic goods, which become increasingly available in higher concentrated areas. Thus, this may yet be another explanation why migrant wages are lower in areas of higher co-ethnic concentration.

Prior empirical findings

Several papers document a strong negative effect of ethnic concentration on labour market outcomes (Kahanec, 2006; Chiswick & Miller, 2005; Borjas, 1987). These papers, however, treat ethnic residential concentration as exogenous. More recent studies, however, assert that ethnic concentrations ought to be treated as endogenous factor instead as residential location is a choice variable and thus depends upon individual characteristics of migrants (Borjas, 1995; Edin et al., 2003).

A good overview of the traditional body of research on the topic, treating concentration as an exogenous variable, is provided in a recent study by Kahanec (2006). These studies conducted since the 1950's predominantly document a negative relation between immigrant

group concentration and economic performance. Some of the earlier empirical studies from the US are carried out by Blalock (1956, 1957) and Heer (1959), with the latter one finding a significant negative correlation of -0.71 between percentage of Black population and group median per capita income. Later studies by Brown and Fuguitt (1972) and Frisbie and Neidert (1977) support these findings with Frisbie and Neidert pointing out a correlation in the range of 0.19 and 0.70 between majority-minority income differentials and minority percentage in the population. In 1987, Tienda and Lii find that increasing labour market concentration of minorities further enforces own group labour market disadvantages while actually benefiting the majority. Studies by Borjas (1987) and Chiswick & Miller (2005) furthermore verify prior findings in that immigrant earnings decrease with higher concentration of same ethnic or linguistic group populations. Borjas (1987) finds that an immigrant increase of 10 percent reduces immigrant earnings by 10 percent, an impressive finding stressing the high substitutability of immigrant labour. Finally, Chiswick & Miller (2005) outline that for consolidating across all immigrants, an increase in concentration level from a 0 concentration area to the mean level of 7.8 percent, reduces earnings by approximately 4.4 percent.

Several recent studies explicitly address the endogeneity issue. First, Borjas (1995) uses parental neighbourhood choices under the assumption that these are exogenous in determining their children's outcomes. Second, studies by Bertrand, Luttmer, and Mullainanthan (2000), Cutler and Glaeser (1997), Dustmann and Preston (1998), and Gabriel and Rosenthal (1999) use the variation across metropolitan areas stressing that sorting is less of an issue at that level. Third, Edin et al. (2003) and Piil Damm (2009) make use of natural experiments in Sweden and Denmark respectively to identify the effect of concentration in municipalities on outcomes, whereby asylum seekers are randomly allocated to initial housing centres across the country. As these natural experiments result in initial housing locations to be independent of unobservable migrant characteristics, initial concentrations can be used as instruments for later concentrations allowing causal analysis of concentration on outcomes. Edin et al. document immigrant earning gains associated with a standard deviation increase in ethnic concentration in a municipality to amount to 13 percent. Piil Damm (2009) finds that a standard deviation increase in local ethnic group size in a municipality on average increases earnings by 18 percent while the effect on employment chances are positive (insignificant) for low-educated individuals but negative for the high-educated.

Although the use of random assignment to identify municipality or neighbourhood effects is attractive both studies are both troubled by a number of shortcomings. First, neither of the studies manages to clearly identify the asylum population given missing information on

residency status. As a consequence the studies rely on country of origin information and define asylum seekers as all individuals originating from the main asylum sending countries, a choice that naturally leaves a large margin of error as it necessarily includes many non-asylum migrants. Second, as both studies are situated in small European countries and the asylum identification procedures further reduces the population size, the resulting samples of the studies are rather small considering the methodological approach chosen. Third, the studies only observe the municipality of the immigrants and not the neighbourhood they live in. Literature suggests that the effect of concentration on outcomes results mainly from neighbours in the direct environment of a person. Concentration at the municipality level is therefore only a rough approximation for neighbourhood concentration. As a consequence, the smaller samples of Edin et al. (2003) and Piil Damm (2009) do not allow the analyses of non-linearities and heterogeneity in the relationship between neighbourhood concentration and labour market outcomes. It is however unlikely, that all migrants are affected equally or that the true relationship between concentration and labour market outcomes is linear. Benefits of concentration are expected to rise with the level of concentration due to increasing economic opportunities related to ethnic economies (Portes & Bach, 1985).

3 RANDOM ALLOCATIONS OF ASYUM SEEKERS IN THE NETHERLANDS

Theory suggests that that neighbourhood concentration is an endogenous variable as unobserved individual characteristics determine residential choices of migrants. This in turn complicates causal analysis of the effect of concentration on labour market outcomes. In the following section we will allude to this problem and explain our methodological approach chosen to tackle it, namely by exploiting a natural experiment – the random allocation of asylum seekers to initial housing centres in the Netherlands.

3 A – NATURAL EXPERIMENTS AND ENDOGENEITY

To illustrate the problem related to neighbourhood sorting, we consider the following model to estimate labour market outcomes (i.e. wages or employment status) of individual *i* expressed by

$$Y_i = e_i\alpha + A_{1i}\beta_1 + \varepsilon_i \qquad (1)$$

where Y_i represents labour market outcomes of individual i, e_i is a scalar variable measuring residential ethnic concentration of individual i, A_{1i} is a matrix including observed and unobserved individual, ethnic group, and local neighbourhood characteristics, and ε_i a random error term. Our key variable of interest is α , which measures the average impact of ethnic concentration on labour market outcomes.

In our model, the effect of ethnic concentration on labour market outcomes can be clearly identified as long as concentration is an exogenous variable to the model. This is however unlikely since housing decisions are based on costs and benefits given personal circumstances, as was pointed out by various earlier studies (Cutler and Glaeser, 1997; Bertrand, Luttmer and Mullainathan, 2000; Edin et al., 2000). Neighbourhood choices and thus concentration tend to themselves be affected by unobserved individual, ethnic group, and/or local neighbourhood characteristics. These omitted variables in turn introduce unexplained variation to the model, which biases the concentration coefficient.

To adequately address these endogeneity issues, our study exploits a natural experiment, namely the random allocation of asylum seekers to initial housing centres in the Netherlands.

3 B – ASYLUM INFLOWS IN THE NETHERLANDS AND THE ROLE OF COA

Asylum claims in the Netherlands

In the period from 1995 to 2004, annually between 9,600 and 45,000 asylum claims were made in the Netherlands as shown in Figure 1 below. Asylum claims strongly fluctuated increasing towards a peak in the end 1990's at the time of the Kosovo crisis and decreasing thereafter as a result of among others stricter asylum regulations from 2001 onwards. While asylum claimants have originated from a great number of origin countries, which were changing over time, many asylum seekers have come from the countries of Ethiopia, Somalia, Sudan, Liberia, Sierra Leone, Iran, Iraq, Afghanistan, Sri Lanka, Turkey, and the former Yugoslavia.

Figure 1 here

Despite the large number of asylum claims in the country, it is self evident that the actual number of asylum inflows is far lower than this. First, due to repeat claims, the number of asylum claims is overstating the actual population of asylum seekers. Second, only a fraction

of asylum claims is actually recognized enabling residency. As asylum procedures may take several years, it is difficult to estimate the success rate of asylum claims for recent cohorts. However, according to the Dutch Immigration and Naturalization Service (IND hereafter), this fraction was 40 percent, 43 percent and 47 percent for the 1995 to 1997 cohorts respectively.

Figure 1 further illustrates the temporal divide between launched claims and recognitions, which at that time commonly measured several years. During the waiting time in procedure, asylum seekers with few exceptions are centrally allocated to asylum centres, which are coordinated by the independent governmental body 'Centraal Orgaan opvang Asielzoekers' (COA hereafter). In the coming section we will discuss the details of the allocation procedure and provide information on the asylum centres to illustrate random allocation.

Asylum procedure

Asylum seekers have to claim asylum immediately upon entrance to the Netherlands. This can be done at either of four registration centres at Zevenaar, Rijsbergen, Ter Apel or at Schiphol Airport. At these locations personal belongings are checked and IND staff carries out interviews to gather information on identity, nationality, reason for seeking asylum and travel route of the asylum seekers. On basis of the acquired information IND then decides as to whether the asylum claim is to be processed in the registration centre within the fast procedure – generally within 48 hours – or as to whether more time for research is required and the procedure is transferred to another IND office. While asylum seekers in the fast procedure are residing in IND provided housing nearby the registration centres, all other individuals are put under custody of COA, which then allocates the newcomers to asylum centres throughout the country. According to information from the IND, around 40 percent of asylum claims are completely processed within the fast procedure, the great majority of which are being rejected (IND, De procedure in het aanmeldcentrum, 2006; VluchtelingenWerk Nederland, Vluchtelingen in getallen, 2004). Figure 2, below, provides an overview of the asylum procedure in the Netherlands including parties responsible for central housing provisions.

Figure 2 here

As shown in Figure 2 above, COA assumes all central housing responsibilities apart from asylum seekers remaining at the IND registration centres, and until 1996 individuals directly residing in communities while awaiting the outcome of the asylum procedure. As relatively few individuals receive residency permits during the fast or so-called 48 hour procedure and are then free to reside as they wish, nearly all individuals are centrally allocated to COA housing centres without having own choices regarding locations. According to COA information, the direct inflows to communities in the years 1995 and 1996 were 10,650 and 580 respectively. These direct placements were spread across the country with particularly larger inflows to the cities of Rotterdam, Den Haag, Amsterdam, Eindhoven, Zaanstad, Apeldoorn, Groningen, Emmen, Arnhem and Enschede as shown in Table 1 below. From 1996 onwards all asylum seekers were obligated to reside in COA asylum centres upon entrance to the country and thus direct community placement was no longer allowed.

Table 1 here

According to official figures from COA, asylum seekers in 2005 resided on average 47 months in asylum centres before being free to reside elsewhere upon hearing the verdict of their asylum claim (IND, 2004). 70 percent of all asylum seekers of the respective year stayed in the centres for longer than three years, without actually knowing as to whether they will be allowed to remain in the country thereafter (Vluchtelingenwerk, Integratiebarometer 2006). [1]

COA Asylum centres

According to official COA information, initial placement of asylum seekers is essentially random with exceptions only necessitated by medical conditions or reunification of first grade family.[2] Centre locations are furthermore chosen to optimize immigrant prospects for socio-economic integration in local communities. Important criteria hereby are labour market possibilities, availability of educational institutions as well as the favourability of local reception conditions (COA, 1995-2004). While – given these criteria – it is unrealistic to assume that all communities of the Netherlands are equally likely to host asylum seekers,

[1] For the prior years the asylum procedures took relatively less time, nonetheless leaving thousands of asylum seekers to reside in centers for more than three years. For the years 2000 to 2004, the numbers and percentages of asylum seekers remaining with COA for longer than three years are 6,800 (11%), 9,000 (12%), 18,800 (25%), 25,300 (44%), and 29,200 (55%) respectively.

[2] At later stage, asylum seekers may be relocated upon request in case of a job opportunity or special education needs. Under exceptional local circumstances COA may also have to consider additional factors such as nationality, religion and gender composition.

randomness of centre locations is not necessary as long as they remain uncorrelated to asylum seeker characteristics.

In the period 1995-2005 COA operates a total of 436 asylum centres throughout the country, which are organized in 12 provincial clusters as can be seen in Table 2 below (please refer to Figure A1 in the Appendix for a map of the 12 Dutch provinces). In absolute numbers, many asylum seekers were hosted by the provinces of North-Brabant (71,230) and Gelderland (63,436), followed by Friesland (48,806) and South-Holland (48,680). Few asylum seekers were placed in the provinces of Zeeland (14,882), Utrecht (20,459) and Flevoland (25,217). However, when accounting for general population differences between provinces a different picture emerges. The shares of asylum seekers per total population are notably higher in provinces with low population density (i.e. Drenthe, Friesland, Groningen, Flevoland, and Zeeland) than in those with high population density (i.e. North and South-Holland, Utrecht). In other words, asylum seekers are more likely to be placed in less urbanized regions of the country, which may be explained by the more favourable local reception conditions there as compared to the ones around the larger cities. This overall allocation pattern is furthermore consistent throughout the years 1995-2004. [3]

Table 2 here

The equal distribution of asylum centres and seekers throughout the country is however not paramount for the validity of our research approach as long as individual characteristics of asylum seekers do not systematically differ between centre locations. To recap, according to official COA policy this is unlikely the case, as the policy states that initial placement of asylum seekers is essentially random with exceptions only necessitated by medical conditions or reunification of first grade family. While our data does not contain information on medical circumstances nor on family ties, it does provide us with details on country of origin, gender and age group compositions at the centre level. Comparing these compositions at the centre level, we indeed find little variation across the units of analysis. We furthermore aggregate these compositions to the province level to perform cross province comparisons. Across all provinces, the countries of Afghanistan and Iraq are the most common countries of origin contributing more than 10 percent each of total asylum seekers per province (Refer to Table A2 in the Appendix). Next to Afghanistan and Iraq, the countries of Angola, Azerbaijan,

[3] Refer to Table A1 in the Appendix for further details.

Armenia, Iran, Somalia, Sierra Leone, Sudan and the former Yugoslavia are also prime origin countries across the panel. When summed together, these top 10 origin countries account for the majority of all asylum seekers hosted by each of the provinces. We further contrast gender and age group compositions across the 12 provinces, which in both cases reveal little variation (refer to Table A3 in the Appendix). On average women constitute 38 percent of the national asylum population and all of the provincial averages fall within a 2 percent range from this. In a similar fashion, age group compositions across provinces are remarkably similar. About 33 percent of the provincial asylum populations are under age 18, 66 percent of working age (i.e. 18-64 years), and 1 percent in the age group of 65plus. In conclusion, based on our comprehensive review of all available official COA documentation and data sources, we have sufficient reason to believe that allocation of asylum seekers to centres is near random, which suggests that initial housing locations are a valid instrument for later residential concentrations.

4 DATA & METHODOLOGY

The analysis of this paper is based on administrative data for the period 1995-2004 collected by Statistics Netherlands. This data contains information on all 16 million people residing in the country in the respective period including information on the working population of about 8 million individuals. This data is part of the SSB (Social Statistical Database), which includes a number of connected administrative registers with demographic and socio-economic information that are complemented by surveys providing additional insight.[4] For the purposes of our study, we match two data sets of the SSB, which we briefly explain hereafter, namely the GBA (Gemeentelijke Basisadministratie) and the SSB Banenbestand (Social Statistical Database of Jobs).

The GBA (Gemeentelijke Basisadministratie)

The GBA contains information on demographics, household compositions, and geographical locations of all 16 million individuals residing in the Netherlands. We use the records for the 10-year period 1995-2004, which are kept by local communities according to a unified national recording system assuring compatibility of records throughout the country.

[4] Next to the core databases, also a number of so-called satellite databases exist. These databases can be linked by means of personal identifiers (RIN numbers), Firm identifiers or address identifiers (RIN addresses). They contain additional information, for instance on migration motives, housing characteristics, the Geographic Baseregister of the National Post to contain full details on addresses and neighborhoods of residency, the 1% of Workforce Survey (rotating panel) (EBB) available from 1999 onwards to include info on educational background, travel distance and time to/from work, current job dynamics such as stress and conflict levels.

Moreover, the data set is a panel as individuals can be tracked across time by means of a personal identifier (the so-called RIN number). Changes in personal records such as address changes, changes in marital status etc. become visible, as a new record is created for each change containing a coding for the type of change that occurs.

The Social Statistical Database of Jobs (SSB Banenbestand)

The SSB Database of Jobs contains information on all employment relationships in the Netherlands (about 10 Mio. records in 2004), whereby individuals may have several jobs at a given time. Availability of both firm as well as personal identifiers allows evaluation of individuals' and firm performance over time. Self-employed workers are not included in the data set. The data originates predominantly from employee insurance records and is complemented with information from the employee tax records. We use data for the six-year period 1999-2004.[5]

Matching

Our data set combines information from the GBA (1995-2004) and the SSB Database of Jobs (1999-2004). Through the matching of the two data sources on basis of personal identifiers (RIN numbers) a great amount of information becomes available on demographics, household compositions, geographical locations, jobs and social security benefits of individuals. As the resulting data set is a panel, this furthermore allows tracking of people over the 10-year period 1995-2004. With employment data available from 1999 onwards, it is thus possible to exactly follow individuals across periods of unemployment and employment for six years. Finally, as these records contain specifics on individuals' residence statuses, countries of origin and places of residence at the geographical precision of postal code areas, the data lends itself favourably to the analysis of neighbourhood characteristics and immigrant labour market outcomes.

Variable descriptions

In this study we investigate labour market performance on basis of two outcome variables, namely the employment status and annual wages.[6] Employment status is a binomial variable taking the value 0 for people who are not employed and 1 for employed respectively. The annual wages variable is the annual aggregate of all fiscal, gross salaries (excluding

[5] For further specifics on the data set, please refer to Borghans and Kriechel, 2007.
[6] Compares to methodology of prior studies (i.e. Chiswick & Miller, 2002; Bauer et al., 1998)

fringe benefits) that individuals earn in employment relationships. Finally, as many individuals have worked part time over the respective period, we chose to analyze wages only of the employed having worked at least twenty days with minimum annual wages of €100 in the respective year. Individuals not meeting these criteria are regarded as unemployed.

The study makes use of various geographical units of aggregation, which require a brief explanation. The country of the Netherlands measures 41,500 square kilometres and comprises twelve provinces and 467 municipalities in 2005.[7] Each municipality is further subdivided into suburbs and neighbourhoods, the latter of which form the smallest geographical unit. In 2005 the 467 municipalities counted 2,491 suburbs and 11,286 neighbourhoods of varying population numbers. The division into suburbs and neighbourhoods is done centrally by the Netherlands Bureau of Statistics, whereby neighbourhoods are grouped according to homogeneous building structures and/or common socio-economic composition. Suburbs are generally grouped according to common area use, i.e. industrial terrain, high rise housing zone, low rise housing zone. Finally, the country is divided into 40 so-called COROP areas, which are equivalent with Eurostat classification NUTS 3 (i.e. Nomenclature of "Territorial Units for Statistics"). This classification was developed to reflect socio-economic differences across regions of the country with each region to generally include a core socio-economic centre and its surrounding area.

We include a number of local controls in our analysis, namely the degree of urbanization of the municipality, neighbourhood mean employment ratio, and neighbourhood mean wage. First, the degree of municipal urbanization is defined as the average number of addresses per square kilometre. As this indicator is rather constant over time we decide to use fixed levels as of 1 January 2003 for the analyses of all years.[8] Second, neighbourhood mean employment ratio is defined as the percentage of employed people per total neighbourhood population of working age (18-64). People are considered employed if they have worked at least twenty days with minimum annual wages of € 100 per year. Individuals not meeting these criteria are regarded as unemployed. Third, neighbourhood mean wage is defined as the average wage of the employed population per neighbourhood for each year.

We define Non-Western concentration (e_{ij}) as the share of Non-Western population per total population residing in a given neighbourhood. We define the Non-Western population on basis of country of origin information in line with the socio-economic typology of

[7] Please refer to Figure A1 in the Appendix for a map of the country.
[8] The indicator counts all addresses in a 1 km. radius of each 500x500m square of land.. According to this measure, Amsterdam had the highest population density with around 6,000 addresses per square kilometer, followed by Den Haag (4,700), Rotterdam and other municipalities in the Randstad region.

Statistics Netherlands (Netherlands Bureau of Statistics, Statline, 2007).[9] The population includes all individuals originating from countries not part of the European Union 15[10] or other Western Countries[11]. As individual behaviour is shaped by social networks with people sharing common cultural values, beliefs, and language, we further divide the population of Non-Westerners into six socio-geographic groups of origin regions to analyze these dynamics. These regional groups are namely Latin America & the Caribbean, Eastern Europe & Commonwealth of Independent States, the Arab Region, Non-Arab Africa, Non-Arab Asia, and Turkey.[12] We base our grouping on common linguistic, cultural and historic backgrounds of the origin countries of Non-Western immigrants in the Netherlands. While it is clear that this classification is somewhat subjective, it nonetheless allows more in depth analysis of Non-Western immigrant groups sharing similar characteristics.

The data permits accurate measurement of immigrants' experience in the country. Experience can be calculated on basis of day-month-year information on entry to the country. Moreover, as the data contains precise day-month-year figures also on exit of immigrants, it is possible to calculate experience accurately even for individuals having left and re-entered the country. We measure experience in full year equivalents.[13]

Identification of Asylum Centres and Population

Thanks to the support of COA, we have detailed information on all Dutch asylum centres in operation over the period 1995-2004. This includes centre characteristics such as capacities, opening and closing dates, exact locations at postal code level of precision, but also centre occupancy statistics on gender, age and country of origin compositions. When matching this dataset with administrative data, it enables us to identify the exact neighbourhoods of the asylum centres. Given average neighbourhood size of about 1,500 people, this implies a good starting point for accurate identification of the asylum population.

[9] Our classification differs slightly from the one of Statistics Netherlands in that we include immigrants from Indonesia and Japan in the group of Non-Westerners as we believe their values, beliefs and language to be closer to the ones of other Asian immigrants than to those of natives. They are thus more likely to engage in social interactions with the former group.

[10] The EU 15 includes the United Kingdom, Ireland, Sweden, Finland, Denmark, Germany, Belgium, The Netherlands, Luxemburg, France, Spain, Portugal, Italy, Austria, Greece

[11] Western Countries include EU15, Norway, Switzerland, Liechtenstein, Andorra, Monaco, Vatican City, San Marino, Cyprus, Malta, Israel, United States of America, Canada, Australia, New Zealand, South Africa

[12] Please refer to Table A4 in the Appendix for an exhaustive list of countries per geographical regions.

[13] From the identified 93,474 asylum seekers residing in the Netherlands in the 1995-2004 time period, 5,449 individuals have entered the country in or before 1995 and remained throughout the entire period. 87,642 individuals have stayed in the country with no interruptions. 383 individuals have resided in the Netherlands more than one continuous time periods, which represents a share of 0.4% of the whole asylum population. As this share is considerably low, for convenience we decide to calculate experience as the time period between immigration year and year of analysis.

As we know the asylum centre neighbourhoods, we further follow a three step approach towards identification of asylum seekers. First, as the administrative data contains an address identifier, we identify potential asylum centres as address clusters of twenty individuals or more residing at the same address that falls within one of the official COA asylum centre neighbourhoods.[14] Second, we inspect the potential centre clusters to exclude a number of unlikely candidates. We exclude temporary residence centres such as the registration centres at Schiphol, Ter Apel, Zevenaar and Rijsbergen as asylum seekers only reside there for several days.[15] Also, we compare the potential centre clusters with the official COA centres to exclude several unlikely candidates where: a – clusters have more than 3 times the maximum capacity as stated in the official COA list; b – the centre counts per neighbourhood exceed the ones from official COA list largely;[16] c – clusters have less than 80 percent of residents originating from Non-Western countries.[17] We apply this very conservative procedure in identifying asylum seeker centres to avoid observation in the sample of people who are not placed by the authorities. This yields a final selection of 318 of the 436 official COA asylum centres spread all over the country. Third, we identify the asylum population as all residents of the 318 asylum centres with country of origin other than the Netherlands, the Dutch Antilles, and Suriname. Through our approach, we identify nearly 92,000 asylum seekers initially residing in one of the COA centres. This inflow of asylum seekers constitutes about one third to one fourth of the actual inflows of asylum seekers over the period of investigation, which is a reasonably large share considering the thorough exclusion process that was followed to ensure data validity.

The Econometric Model

The primary question of interest of our research is whether the level of ethnic residential concentration affects labour market outcomes of immigrants. This question is generally difficult to assess as residential locations are subject to individual choices. This results in non-

[14] These potential asylum centers match to 90% with the postal codes of the official COA center list. This does not mean that they are good matches within the neighborhood. The 10% of official centers we cannot match are likely to be mostly smaller asylum housing units of COA, which are also part of the official COA list but that are not clusters of 20 people or more.
[15] The registration centers at Zevenaar and Rijsbergen were open until 2004.
[16] Few center candidates were excluded as field research has shown that many asylum centers have more than one address in the administrative data.
[17] It is possible that the capacity opening and closing information is not sufficiently accurate to reflect actual asylum seekers living in the respective locations. Also, as we only use the year of opening and closing of centers, it is possible that we experience overlap of building use by asylum seekers and other population. If for instance a building was in COA use from June 1995 onwards, as we only consider 1995, our GBA data might include other population residing in the tagged centers during the months January-June 1995.

random allocation of immigrants across neighbourhoods making neighbourhood concentrations endogenous to the socio-economic background of individuals. However, the natural experiment of random allocation of asylum seekers to initial housing centres in the Netherlands enables us to overcome these estimation problems. As initial housing locations of asylum seekers can be regarded as exogenous to individual socio-economic characteristics, we can use initial neighbourhood identifiers as instruments for neighbourhood concentrations of later years. This will enable us to evaluate the causal effect of neighbourhood concentration on labour market outcomes of immigrant i at time t residing in neighbourhood j using the following baseline specifications:

$$\Pr(employed_{ijt}) = \alpha X_{it} + \beta e_{ijt} + \delta_t + \delta_j + \varepsilon_{ijt} \quad (2)$$

$$\ln(wages_{ijt}) = \alpha X_{it} + \beta e_{ijt} + \delta_t + \delta_j + \varepsilon_{ijt} \text{ s.t. } \Pr(employed_{ijt}) > 0 \quad (3)$$

where $\Pr(employed_{ijt})$ is a dummy for employment status, $\ln(wages_{ijt})$ is the natural logarithm of annual wages, X_{it} is a set of individual characteristics including gender, age and age-square, e_{ijt} is the percentage of Non-Western concentration in the neighbourhood such that $e_{ijt} \in [0,1]$, δ_t represents a set of year fixed effects including year and grouped experience dummies, [18] δ_j stands for local fixed effects and includes neighbourhood mean employment rate, neighbourhood mean wages, degree of municipal urbanization as well as a regional (i.e. COROP) dummy, and finally ε_{ijt} is an error term assumed to be multivariate normal, $(\varepsilon_{ijt}) = N(0, \sum)$.

To overcome the problem of endogeneity of our neighbourhood concentration variable, we use the full set of initial neighbourhood dummies to instrument actual neighbourhood concentration in the current place of living. The first and second stage equations are found in Equations 4-6 below:

$$e^*_{ijt} = \chi_{ij} C_i + \nu_{ijt} \quad (4)$$

$$\Pr(employed_{ijt})^{IV} = \varphi e^*_{ijt} + \alpha X_{it} + \delta_t + \delta_j + \varepsilon_{ijt} \quad (5)$$

$$\ln(wages_{ijt})^{IV} = \varphi e^*_{ijt} + \alpha X_{it} + \delta_t + \delta_j + \varepsilon_{ijt} \quad (6)$$

[18] Experience is grouped into three categories, namely 4 years or less, 5-7 years, more than 8 years.

where C_i includes $X_{it}, \delta_t, \delta_j$, and the instrument, Z_i. ν_{ijt} is the error term by assumption to be multivariate normal, $(\nu_{ijt}) = N(0, \sum)$.

5 FINDINGS

First stage

In Section 2 we have demonstrated near random allocation of asylum seekers to initial housing centres, which ensures exogeneity of our instrumental variables. Additionally, for the instruments to be relevant for our analysis, they need to be correlated with annual Non-Western neighbourhood concentrations. Figure 3 shows the average concentration in the neighbourhood of living (in the period 1995-2004) conditional on the concentration in the neighbourhood of initial placement. The figure documents their strong positive relation. Of course, due to reversal to the mean individuals initially residing in lower and higher concentration neighbourhoods tend to move to mid range ones.[19] Concluding, overall our instruments are highly relevant for later neighbourhood concentrations especially for individuals initially residing in low to mid range concentration neighbourhoods.

Figure 3 here

[19] The line has a high y-axis intercept and flattens for initial neighborhood concentrations above 60%.

Descriptives

Our data enables us to track nearly 92,000 asylum seekers who entered the Netherlands in the period 1995-2004 as shown in Table 3 below. Our pattern of annual inflows closely resembles the one of actual figures according to COA with numbers strongly increasing towards a peak in 2001 (i.e. introduction of new asylum regulation) and rapidly declining thereafter. Moreover, as shown in the table, with exception of 1998, the female share as well as mean age is relatively constant (40 percent and 25 years respectively). While a negligible amount of asylum seekers originated from Latin America & the Caribbean, many asylum seekers originated from the Eastern Europe & CIS States, Arab, Asia and African regions. In contrast to stable inflows from Turkey, the numbers for the other regions have fluctuated largely reflecting the various economic and political crises that occurred during the 10-year period such as the ones in Kosovo, Iraq, Afghanistan, Somalia, Sudan.[20]

Table 3 here

The great majority of asylum seekers accommodated by COA stays in the Netherlands for many years. Table 4 shows that, while probabilities to stay have deviated somewhat between cohorts, across the panel, nearly all asylum seekers remain at least one year, four out of five still resides in the country after five years, and two-thirds even after 9 years of first entry to the country.

Table 4 here

Employment probabilities among asylum seekers are generally low, which is in part explained by their unique legal status and the related restrictions to seek employment.[21] Despite this, asylum seekers with more experience in the country are largely more likely to be employed as they have gained country-specific skills such as command of the Dutch language, cultural familiarity, as well as knowledge of the local labour market opportunities

[20] Please refer also to Table A5 in the Appendix for further specifics on asylum characteristics by year.

[21] In the period of analysis, the Dutch government changed asylum regulations effective as of 1 April 2001 (i.e. Vreemdelingenwet 2000). This replaced the previous statuses of asylum with new ones as explained in the following. Until April 2001 three statuses were distinguished, namely A-status (Refugee), Vergunning tot verblijf (Vtv-Asylum residence permit), and Voorwaardelijke vergunning tot verblijf (Vvtv-Asylum temporary residence permit). Both A-status as well as Vtv allow work. From April 2001 onwards, the previous statuses were replaced by two new ones, namely Vergunning voor bepaalde tijd (VVA/VVR-bep. - Asylum residence permit for limited time) and Vergunning voor onbepaalde tijd (VVA/VVR-onbep. - Asylum residence permit for unlimited time). While the latter one generally allows work, the former one requires a separate work permit for employment.

and demands. As demonstrated in Table 5, overall employment probabilities increase from 14 percent for individuals with four or less years of country experience to 37 percent for those with eight years or more experience.[22] Across the panel, most employment was in low-pay, part time jobs; only 1 percent of asylum seekers with four years or less of experience is working in jobs paying more than €17,500 annually, which increases to 15 percent for individuals with eight years or more experience. Women are considerably less likely to be employed with few working within the first four years after immigration. Even after eight years labour market participation remains low as around three-quarters of women are not working, and only 7 percent earn more than €17,500 per year. Men realize considerable positive economic mobility over time being more than three times as likely to be employed than women in the first four years after immigration and 24 percent working in jobs making €17,500 or more annually after eight to ten years.[23] We detect little variation in employment probabilities and incomes across the country of origin groups.[24]

Table 5 here

As shown in Figure 4, Non-Western neighbourhood concentrations at the first places of residence of asylum seekers range from near 0 percent to near 100 percent. This shows the importance of using data about neighbourhoods in comparison to municipalities. Approximately two-thirds of the distribution of initial neighbourhood concentrations is below the level of 20 percent and one-seventh above 60 percent. Furthermore, Table 6 presents summary statistics of the distributions of annual neighbourhood concentrations of non-Western immigrants. It shows that mean concentration levels have increased considerably over the 10-year period from 13 percent in 1995 to 25 percent in 2004 as a consequence of rising numbers of non-Western immigrants over the period coupled with migrant preferences to reside in the larger cities.

Figure 4 and Table 6 here

Findings

[22] Applying our earlier definition of employed as having at least €100 of income and 20 working days per year.
[23] Please refer to Table A6 in the Appendix for additional information regarding annual working days per experience and gender groups.
[24] Please refer to Table A7 in the Appendix for further information.

In Table 7 we present the main results. The findings are based on the complete sample of 306,200 pooled observations to estimate the employment status equation and 57,357 pooled observations to estimate the annual wages equation over the 1999-2004 period. All regression models control for individual characteristics, year fixed effects, and local fixed effects through the inclusion of the variables gender, age, age-square, year, experience in the country, degree of urbanization, region of the country. As Table 7 shows, the controls are significant across the panel. As expected, age has positive, bell-shaped effects on employment chances and wages increasing to maxima at age 33 and 37 respectively and decreasing thereafter. Women are less likely to be employed and earn less than men. Moreover, employment probabilities and earnings tend to be higher for individuals residing in more urbanized regions of the Netherlands.

According to the basic OLS models shown in columns (1) and (5), non-Western neighbourhood concentration is negatively related to labour market outcomes. Immigrants residing in high concentration neighbourhoods are 8 percent less likely to be employed and have 28 percent lower annual wages than individuals residing in low concentration neighbourhoods. However, the corresponding IV results in columns (2) and (6) respectively show quite a different picture as the effect of neighbourhood concentration on labour market outcomes becomes insignificant at the 10 percent significance level. This suggests the presence of negative residential selection effects where immigrants with lower labour market qualifications tend to self-select into poor immigrant neighbourhoods.

Immigrants tend to live in neighbourhoods that are characterized by less favourable circumstances in general. To investigate this issue we include neighbourhood characteristics, namely the neighbourhood mean employment rate and neighbourhood mean wage of the working age population. Using the large number of instruments available in our data both ethnic concentration and the neighbourhood characteristics are instrumented since also these characteristics of a neighbourhood are subject to choice.[25] Column (3), (4), (7) and (8) show that local neighbourhood dynamics greatly affect labour market outcomes of asylum seekers. Both the OLS findings in columns (3) and (7) as well as the IV finding in columns (4) and (8) demonstrate a highly significant positive effect of concentration on labour market outcomes. As was the case in the regressions without neighbourhood characteristics, the IV estimates show a stronger positive effect of concentration on labour market outcomes, which is consistent with our prior presumption regarding the presence of negative selection affects into

[25] This reduces the sample as employment characteristics are lacking for some neighborhoods.

neighbourhoods. The OLS (IV) findings suggest that individuals residing in high concentration neighbourhoods are 7 percent (29 percent) more likely to be employed and have 47 percent (161 percent) higher annual wages than people residing in low concentration neighbourhoods. We perform a number of robustness checks varying our employment definition, which further support these findings.[26]

Table 7 here

Non-linearity

An important question is whether the effect of neighbourhood concentration on labour market outcomes is linear across all levels of concentration. We therefore incorporate non-linearities in the model. As a first look on this issue Figures 5 and 6 show the nonparametric relationships between mean initial non-Western neighbourhood concentration, which we use as exogenous instrumental variables in the regressions, and the outcome variables, namely mean annual probability to work and mean annual wages respectively. Mean annual probability to work and wages are calculated for each population group originating from the same initial housing centre using annual information of the years 1999-2004. While the middle lines in the two figures represent the mean probability to work and mean annual wages, the top and bottom lines mark the 95 percent confidence intervals for the indicators. Both figures clearly suggest inherent non-linearity in the underlying relationships. Figure 5 suggests a U-shaped relationship between concentration and mean probability to work. The function is decreasing to a global low at around 60 percent concentration and increasing thereafter with local disturbances of the overall trend at around 20 percent and 30 percent and a somewhat unclear pattern after 90 percent concentration.

Figure 5 here

Figure 6 shows a similar pattern for concentration and mean annual wages than was portrayed before. The figure also suggests a U-shaped parabolic relationship between concentration and mean annual wages. The function is decreasing to a global minimum at about 60 percent of concentration with disturbances to the overall trend around 35 percent and 45 percent and as in Figure 5 a somewhat unclear pattern after 90 percent concentration. The

[26] Please refer to Table A8 in the Appendix for further details.

unclear trend for concentration levels above 90 percent is likely a consequence of lack of sufficient data at the high end of the concentration continuum.

Figure 6 here

To investigate this issue we augment the linear models with extra terms capturing non-linearity. For robustness reasons we use several non-linear specifications. This yields the following models: a – Square Model including a squared term of neighbourhood concentration; b – 1 Spline Model including a spline or kink at 60 percent neighbourhood concentration for both the probability of employment and the annual wages regressions; c – 2 Spline Model including two splines at 30 and 60 percent concentration for the probability of employment regression and at 45 and 65 percent concentration for the annual wages regression; d – 3 Spline Model including three splines at 20, 30 and 60 percent concentration for the probability of employment regression and at 35, 45 and 65 percent concentration for the annual wages regression.

Tables 8 and 9 below present the IV regression outputs of the linear and non-linear model specifications for the two outcome variables employment probabilities and annual wages respectively. We additionally investigate the impact of neighbourhood quality (mean employment rate and wage level) on labour market outcomes and thus carry out estimations both without as well as with neighbourhood controls.[27] All models control for individual characteristics, year fixed effects, and local fixed effects through the inclusion of the variables gender, age, age-square, year, experience in the country, degree of urbanization, region of the country, neighbourhood mean employment rate and neighbourhood mean wages.

Table 8 presents the IV regression findings of the various models for the outcome variable employment chances both without and with neighbourhood controls. First, the findings of the various models consistently demonstrate that the effect of non-Western neighbourhood concentration on employment chances is not negative but rather positive when controlling adequately for neighbourhood quality. The findings without neighbourhood controls show a pattern that is similar to Figures 5 and 6. Initially – at low levels of concentration – neighbourhood concentration has a negative impact on outcomes, but at higher levels of concentration the impact becomes positive. Second, the findings suggest that the effect of concentration on employment chances is non-linear in nature and benefits on

[27] Including squared terms for these neighborhood effects provides similar results.

employment chances are increasing at an increasing rate. This is clearly shown by the concentration coefficients as well as the results of the F-tests included in Table 8, the latter comparing the goodness of fit of the non-linear with the linear specifications. All of the Square, 1Spline and 2Spline Models fit the data better than the linear ones. Benefits thus tend to be especially great at high levels of concentration, which may demonstrate the supportive 'springboard' function that migrant neighbourhoods hold in the establishment of newcomers in society. It could furthermore be explained by the rise of local ethnic economies offering improved labour market prospects to co-ethnic members, and it is also likely that with increasing ethnic group size information about labour market opportunities and requirements becomes increasingly available resulting in greater success on the labour market.

Table 8 here

Table 9 presents the IV regression findings of the various models for the outcome variable annual wages both without and with neighbourhood controls. The findings share many commonalities with those presented in Table 8. Comparable to the findings for employment chances, our findings consistently suggest a positive, non-linear effect of concentration on migrant wages with benefits rising at an increasing rate with the level of concentration. This reflects in the trends captured by the concentration coefficients in Table 9 and is also supported by the F-test results of the 1 Spline Model. The model fit of the other non-linear specifications is not clearly better than the fit of the linear ones, which indicates that patterns of non-linearity are most in line with the trends suggested by the 1Spline Model. These findings are again in line with the 'springboard' function that migrant neighbourhoods hold in the establishment of newcomers in society. Also, it supports that larger ethnic group size leads to increasing presence of ethnic economies and rising efficiency of intra-group information exchange.

Table 9 here

The findings outlined in Tables 8 and 9 are further presented graphically in Figures 7a and 7b below, which combine the various effects of each model into a single line. The resulting lines moreover enable global as well as local analysis for different levels of non-Western concentration as the slope of the line captures the local effect of concentration on the outcome variables. This allows convenient comparison of the regression outcomes of the

various models at different levels of concentration.[28] The figures graphically show the following points. First, they clearly demonstrate the positive effects of concentration on employment chances and annual wages of migrants. Second, on average individuals residing in high concentration neighbourhoods tend to be 30-35 percent more likely to be employed and tend to have considerably higher wages than migrants living in low concentration neighbourhoods (i.e. 150-200 percent higher). Third, non-linear models tend to suggest that benefits of concentration are increasing at an increasing rate with benefits being particularly low for migrants residing in low concentration neighbourhoods and especially high for individuals living in high concentration neighbourhoods.

Figures 7a and 7b here

Next to the IV regression findings of the complete sample of pooled observations, we performed separate analyzes for subgroups defined by gender and experience in the country for the period 1999-2004. Figures 8a and 8b present the IV regression findings from the gender analyses of the various model specifications for the dependent variables employment chances and annual wages respectively. To safeguard display clarity, the figures only show regression outcomes of the non-linear model specifications if they offer better data fit than linear models.[29] The findings across model specifications per gender subgroup are rather similar for both outcome variables. Men tend to be largely more likely to be employed than women at all levels of concentration, while concentration effects on wages of men and women tend to be similar. On average, employment chances of women and men residing in high concentration neighbourhoods are 25 and 35 percent higher than those of individuals residing in low concentration neighbourhoods respectively. Furthermore, concentration benefits to employment chances tend to increase at an increasing rate for both genders, although for men this overall increase is less pronounced as the effect reverses for high levels of concentration. This means that female (and to a lesser extent male) employment chances benefit particularly little at low levels of concentration and especially much at high levels. This pattern is also observable in Figure 8b, which documents positive and increasing concentration effects on female wages and positive quasi-linear effects for men. Overall, it is

[28] The figures do not include the results from the 3Spline specifications to reduce display complexity and as the latter models fit the data no better than the linear models (i.e. p-value of model comparison F-test > .1).

[29] ***Models with p-value of F-test < .05, whereby F-test compares data fit of non-linear to linear model specifications. If linear specification displayed, concentration effects are quasi-linear for respective subgroup (i.e. none of non-linear specifications having better data fit than linear one).***

thus striking that employment benefits from concentration of women are notably low for concentration levels below 60 percent and strongly increasing for higher concentration levels. A possible explanation for this pattern may be related to the rising local presence of ethnic economies going alongside with increasing migrant residential concentration, which are an important source of employment creation especially for women, who are not able or allowed to find employment elsewhere (Waldinger, 1996; Kloosterman & Van der Leun, 1999).

Figures 8a and 8b here

We also perform separate analyses by the level of experience in the country expecting particularly newcomers to benefit from concentration through the availability of co-ethnic social networks facilitating knowledge spillovers and thus fostering the acculturation process. We define three groups, namely: a – Experience of four years or less; b – Experience of five to seven years; c – Experience of eight years or more. Our findings of concentration effects by experience group on employment chances and annual wages are displayed in Figures 9a and 9b respectively. As can be seen in Figure 9a, concentration effects on employment chances are positive for migrant groups of 1-4 years and 5-7 years of experience, but negative for migrants with 8-10 years of experience. Moreover, benefits of migrants with 5-7 years of experience are higher than for the group with 1-4 years experience, which can be explained by the fact that some asylum seekers in the latter group still face legal employment restrictions as was explained in section 3. The concentration effects on migrant wages by experience group are shown in Figure 9b, which further underline the findings from the employment chance regressions. Again, concentration effects are positive for migrants with 1-4 years and 5-7 years of experience and negative for the group with 8-10 years experience. While concentration benefits to migrants of 5-7 years experience are quasi-linear, benefits to the 1-4 years experience group tend to increase at an increasing rate on the overall, though this rate decreases for concentration levels higher than 65%. The concentration penalty on migrant wages of the 8-10 years experience group increases at a decreasing rate, reaching its maximum around the 70% concentration level and diminishing thereafter. Concluding, as expected, benefits of concentration to migrant labour market outcomes are highest for recent arrivers and tend to decrease with duration of stay in the country. Thus, the findings from Figures 9a and 9b provide supportive evidence for the 'springboard' function of migrant neighbourhoods facilitating the establishment of newcomers in the receiving society as suggested by Portes & Rumbaut (1990). Furthermore, the wage regression findings for the 1-4

years experience group show that concentration is especially beneficial in high migrant concentration neighbourhoods, which may offer unique opportunities to newcomers in ethnic economies and ethnic entrepreneurship as stated by Waldinger (1996) and Kloosterman & Van der Leun (1999). Notably, concentration effects actually become negative for migrants with 8-10 years of experience, which may suggest that these migrants 'get stuck' in their co-ethnic communities. A possible explanation for these negative effects may be found with the spatial mismatch hypothesis, which argues that the cause of these negative employment outcomes is the large spatial separation of migrant communities to job opportunities. Alternatively, these individuals may also have become self employed and actually derive far greater benefits from their co-ethnic community, which are not accounted for in the employment data.

Figures 9a and 9b here

Heterogeneity of concentration effects

The effect of concentration on outcomes might be different between immigrants. To investigate this heterogeneity of the concentration effects we explore the information about movements of migrants across the country. The idea behind this is that if migrants who differ in their concentration effect parameter make different decisions concerning the choice of neighbourhood, this information reveals patterns of heterogeneity. Mobility of migrants is substantial. Table 10 reports mobility in four categories, namely: non-movers, movers within the same municipality, movers within the same corop region and movers between corop regions. We find that nearly one third of the asylum population (28,190 people or 30.8 percent) does not move from the initial place of residence, while nearly half of the population remains in the same corop region of the country (44,400 people or 47.4 percent).

Table 10 relates mobility patterns of individuals to their levels of initial and 10-year (1995-2004) mean annual concentration levels. Moreover, for convenient display, migrants are sorted into three groups based on their levels of initial and 10-year mean annual concentration levels for the left hand and right hand sections of the table respectively. This creates two sets of three equal-size groups including migrants with high, medium and low initial and 10-year mean concentration levels respectively. The findings in the left hand part of the table show that individuals initially residing at higher concentrations tend to move less than those initially residing at lower levels of neighbourhood concentration. In the right hand part, the table moreover shows that asylum seekers residing on average in higher

concentration neighbourhoods over the 10-year period (1995-2004) also tend to move less than individuals residing in lower concentration neighbourhoods. Overall, this evidence clearly suggests a clustering trend of non-western migrants over the 10-year period.

Table 10 here

To measure heterogeneity in concentration effects we split the sample in three subgroups according to their mobility patterns. Assuming that from all people who start in one specific asylum centre those who prefer to live in a high concentration neighbourhood will actually move to the more concentrated neighbourhoods compared to others, we sort individuals per initial housing location and year on their later choices of neighbourhood residential concentrations[30] and create three equal-size groups of people for each of these year-initial housing combinations. We call these groups 'low preference', 'medium preference' and 'high preference', which reflect different residential preferences as people starting at the same initial level of neighbourhood concentration choose to reallocate to neighbourhoods of different levels of concentration over time in line with their individually derived benefits. Furthermore, as we perform this grouping separately for each initial housing location the three resulting preference groups are independent on the initial level of concentration and are expected to reflect differences in underlying personal preferences to reside in the non-Western migrant community. Members of the low preference group have the lowest preference to reside in the migrant community, while members of the high preference group the highest.[31] For each group we performed to analyses of the effect of concentration on outcomes separately. Figures 10a and 10b show the outcomes. As can be seen in Figure 10a, concentration benefits to employment chances are highest for individuals in the low concentration preference group up to concentration levels of just below 70 percent. For high neighbourhood concentrations the benefits to the high preference group become larger than those to the prior group. Concentration gains to migrants with medium concentration preferences are considerably lower than to either of the other two groups at all levels of concentration. So people with the highest tendency to move to high concentration areas profit

[30] individual mean level of all later annual neighborhood concentrations

[31] This approach is based on the assumption that people are acting to equal extent on their preferences at different levels of initial concentration (i.e. costs of moving are comparable). While this is perhaps somewhat unrealistic, outcomes of mobility analysis remain valid as long as potential differences in sensitivity to move between individuals do not alter ranking of three groups. We are confident that this is not the case as monetary costs of moving are not substantial in the Netherlands given the small size of the country, and thus cost differences between individuals are expected to be relatively small.

most from very high levels of concentration while those who tend to move to low concentration areas profit more from low levels of concentration. The middle group is an exception to this pattern. Considering concentration effects on migrant wages, as displayed in Figure 10b, a similar picture emerges. We find that migrants with high concentration preferences tend to derive the greatest gains from concentration in terms of wages, followed by the medium preferences group and finally the low preferences group. Overall, the findings of the heterogeneity analysis suggest – with the exception of the middle group in the analyses of employment probability – that people who tend to move to high concentration areas profit more from high concentration than others.

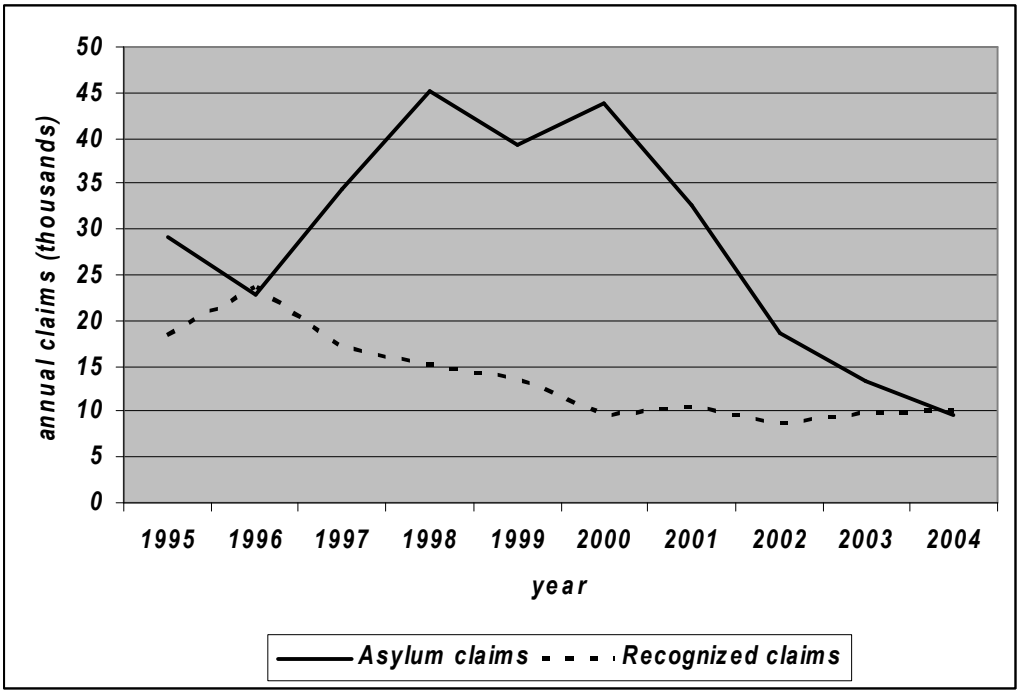
Figures 10a and 10b here

6 CONCLUDING REMARKS

The main aim of this study was to estimate the causal effect of residential segregation of non-Western migrants on their labour market outcomes. In other words, does living in high concentration non-Western migrant neighbourhoods benefit or harm immigrant labour market performance? To address this question, our study made use of a unique natural experiment, namely the random allocation of asylum seekers to initial housing locations in the Netherlands. This natural experiment enabled us to use exogenous initial housing locations as instruments for endogenous later neighbourhood concentrations, which in turn made causal estimation of the effect of neighbourhood concentration on immigrant labour market performance possible. While most prior studies disregarding endogeneity issues have documented a negative effect of concentration on labour market outcomes, by accounting for endogeneity, our study suggests that the true causal effect on labour market outcomes is likely to be positive instead. The key findings of our study are the following: First, we find evidence for residential sorting, which introduces a downward bias to concentration estimates of regressions not accounting for endogeneity. Second, the residential neighbourhood quality is very important for labour market performance of migrants as migrants residing in low-unemployment neighbourhoods tend to be more successful in the labour market than migrants residing elsewhere. Third, using exogenous initial housing locations as instruments and controlling for individual characteristics, year fixed effects, local fixed effects and neighbourhood fixed effects, our findings suggest that on average individuals residing in high concentration neighbourhoods are 29 percent more likely to be employed and have 161

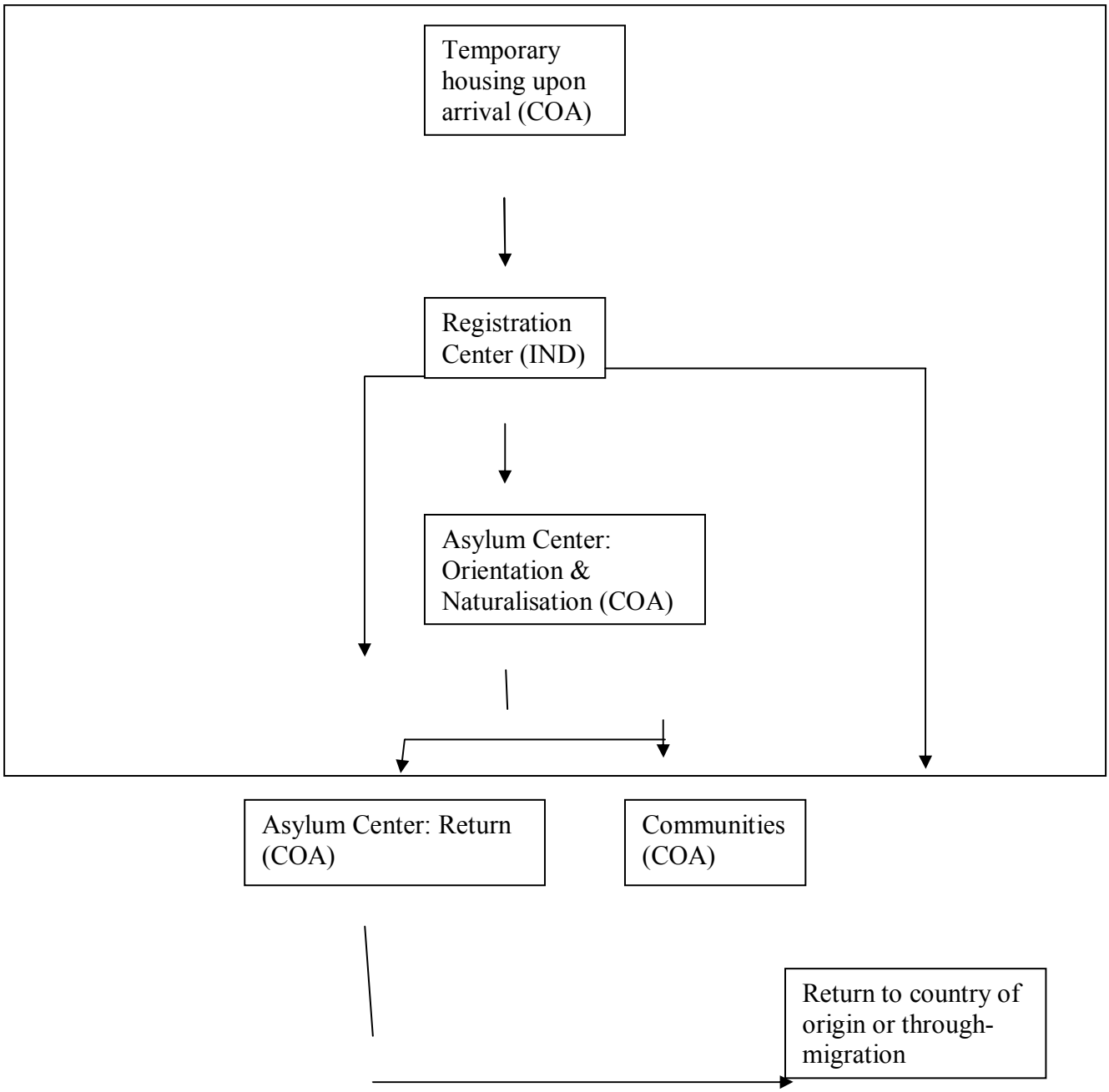
percent higher annual wages than people residing in low concentration neighbourhoods. These findings are comparable but much stronger than findings at the level of the municipality by Edin et al. (2003) and Piil Damm (2009), who find that earning gains associated with a standard deviation increase in ethnic concentration respectively local ethnic group size amount to 13 and 18 percent. Fourth, the positive effects of concentration on outcomes are especially strong during the first years after migration. With more experience in the Netherlands the effects reduces. Fifth, we find heterogeneity in the effects of concentration on outcomes. Migrants who tend to go to high concentration neighbourhoods benefit most from living in concentrated areas.

Figure 1: Annual asylum claims and recognized claims in the Netherlands 1995-2004



Sources: Netherlands Bureau of Statistics, Statline, 2007; IND (Vluchtelingen in getallen 2004)

Figure 2: Asylum procedure in the Netherlands and parties responsible for central housing provisions



Source: COA, 2007

Table 1: Main communities with direct asylum inflows in the years 1995-1996

Community	years 1995	1996	Total
Rotterdam	**823**	**53**	**876**
Den Haag	**457**	**37**	**494**
Amsterdam	**221**	**14**	**235**
Eindhoven	**197**	**10**	**207**
Zaanstad	**157**	**15**	**172**
Apeldoorn	**165**	**5**	**170**
Groningen	**148**	**10**	**158**
Emmen	**147**	**3**	**150**
Arnhem	**141**	**8**	**149**
Enschede	**141**	**5**	**146**

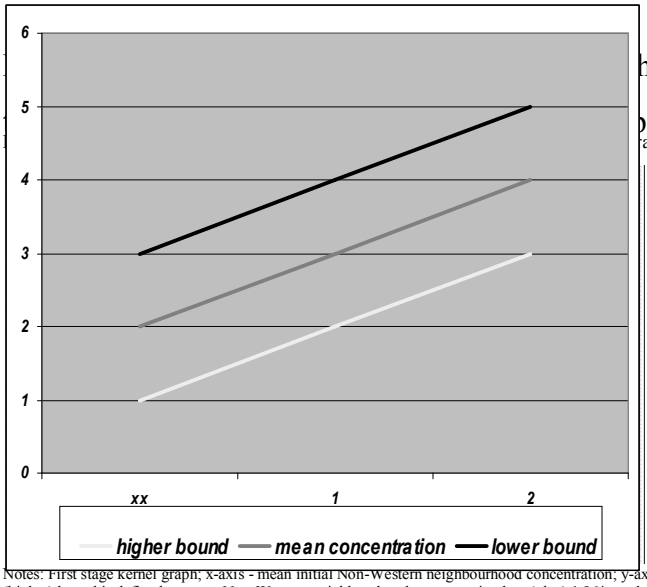
Source: COA, 1995-2004.

Table 2: Asylum centres per province (1995-2005)

province	centers	people	asylum share*
Drenthe	43	38,911	0.73%
Friesland	42	48,806	0.69%
Groningen	41	42,822	0.68%
Flevoland	6	25,217	0.64%
Zeeland	19	14,882	0.36%
Overijssel	37	42,100	0.35%
Gelderland	49	63,436	0.29%
North-Brabant	45	71,230	0.27%
Limburg	36	32,012	0.25%
Utrecht	14	20,459	0.16%
North-Holland	65	37,220	0.13%
South-Holland	39	48,680	0.13%
Total	436	48,5775	

Source: COA, 1995-2004; Netherlands Bureau of Statistics, SSB 1995-2004

* Average annual number of asylum seekers per province (1995-2005) divided by total population of province as of 1 January 2000.



hood of living (1995-2004) conditional on

lacement*

rations

Notes: First stage kernel graph; x-axis - mean initial Non-Western neighbourhood concentration; y-axis - mean Non-Western neighbourhood concentration, where lower (higher) bound is defined as mean Non-Western neighbourhood concentration less (plus) 1.96*standard error. Bandwidth=.1; y=0(.01)1.

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

*First stage kernel graph; x-axis - mean initial Non-Western neighbourhood concentration; y-axis - mean Non-Western neighbourhood concentration, where lower (higher) bound is defined as mean Non-Western neighbourhood concentration less (plus) 1.96*standard error. Bandwidth=.1; y=0(.01)1.

Table 3: Characteristics of asylum seekers per cohort

		female	shares origin groups (%)*							age	
cohort	count**	share(%)	lac	eecis	arab	asia	africa	turkish	unknown	mean	st.dev.
1995	5.572	39.3	0.1	21.6	13.9	4.9	8.4	1.2	49.9	25.67	15.83
1996	7.345	41.1	0.1	15.5	34.2	13.8	24.1	2.1	10.2	26.45	14.62
1997	5.740	36.9	0.1	10.1	37.8	20.6	16.7	2.3	12.4	26.94	14.91
1998	5.758	29.1	0.1	8.5	46.7	14.6	11.9	3.9	14.3	27.47	14.78
1999	6.799	41.0	0.3	27.7	22.6	15.8	11.4	3.2	19.0	24.22	15.73
2000	15.69	42.1	0.1	33.4	20.4	15.0	17.0	3.0	11.1	25.25	15.28
2001	19.9	40.2	0.2	23.8	18.4	17.6	25.4	3.6	11.0	24.71	14.51
2002	14.59	38.6	0.1	18.0	13.3	14.9	39.4	2.8	11.4	23.57	14.19
2003	7.875	37.6	0.2	17.6	14.5	14.0	36.4	2.3	15.0	23.20	14.40
2004	2.391	39.2	1.6	14.1	19.5	9.9	33.9	2.4	18.6	22.17	14.91

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

* lac (Latin America & Caribbean), eecis (Eastern European & CIS region), arab (Arab countries). Table A4 in the Appendix contains further information on the origin grouping.

** Includes all individuals first registered in the GBA in the respective year. GBA registration is typically 6 months after entry.

Table 4: Probabilities of asylum seekers to stay in the Netherlands (in percent)

		years (%)								
cohort	count	1996	1997	1998	1999	2000	2001	2002	2003	2004
1995	5,572	95.9	85.9	80.0	78.0	76.7	74.6	72.6	70.8	67.6
1996	7,345		98.2	92.4	88.5	86.9	84.7	82.2	79.2	75.2
1997	4,740			97.7	93.4	90.4	87.5	85.5	82.5	78.5
1998	5,758				98.8	93.7	88.5	85.2	80.1	74.6
1999	6,799					97.6	91.7	87.7	83.0	78.7
2000	15,687						99.0	94.6	88.7	82.1
2001	19,903							99.0	92.4	84.2
2002	14,592								98.1	87.3
2003	7,875									96.1

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

Table 5: Annual wage distributions, per gender and experience groups (in percent)

		wage groups (percentages, wages in €)									
group	experience	below 100	100-9,999	10,000-12,499	12,500-14,999	15,000-17,499	17,500-19,999	20,000-22,499	22,500-24,999	25,000-29,999	30,000 plus
overall	1-4years	86.2	11.4	0.5	0.5	0.4	0.4	0.3	0.2	0.1	0.1
	5-7years	72.2	15.4	1.5	1.6	1.8	2.0	1.9	1.5	1.5	0.7
	8-10years	62.9	15.4	1.9	1.9	2.4	2.9	2.8	2.7	4.1	3.0
male	1-4years	80.5	15.8	0.8	0.7	0.6	0.6	0.5	0.3	0.2	0.1
	5-7years	65.3	17.5	1.8	1.9	2.3	2.8	2.8	2.3	2.3	1.0
	8-10years	56.2	16.2	1.9	1.9	2.5	3.4	3.8	3.9	5.8	4.5
female	1-4years	94.9	4.8	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0
	5-7years	82.8	12.1	1.0	1.0	1.0	0.7	0.5	0.4	0.3	0.2
	8-10years	72.6	14.2	1.9	2.0	2.3	2.2	1.4	1.0	1.6	0.9

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

Figure 4: Initial Non-Western neighbourhood concentrations

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

Table 6: Annual non-Western neighbourhood concentrations (in percent)

concen-	years										
tration	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	overall*
mean	12.96	20.42	21.83	18.17	18.16	19.91	24.00	25.53	26.00	24.92	23.60
st. dev.	15.74	24.34	25.70	20.96	20.62	21.14	23.32	24.04	23.86	22.92	23.27

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

* average over the period 1995-2004.

Table 7: The relationship between migrant concentration and employment and income (linear specification)

	dependent variable: probability of employment				*dependent variable: annual gross wages*			
	(1) OLS	*(2) IV*	*(3) OLS*	*(4) IV*	*(5) OLS*	*(6) IV*	*(7) OLS*	*(8) IV*
concentration	*-.077*	*.011*	*.067*	*.290*	*-.282*	*.083*	*.472*	*1.61*
	*(.004)****	*(.011)*	*(.014)****	*(.034)****	*(.035)****	*(.098)*	*(.089)****	*(.311)****
female	*-.125*	*-.124*	*-.132*	*-.130*	*-.443*	*-.437*	*-.430*	*-.427*
	*(.002)****	*(.002)****	*(.003)****	*(.003)****	*(.018)****	*(.018)****	*(.021)****	*(.021)****
age	*.019*	*.019*	*.020*	*.020*	*.217*	*.216*	*.229*	*.226*
	*(.001)****	*(.001)****	*(.001)****	*(.001)****	*(.006)****	*(.006)****	*(.007)****	*(.007)****
age-square	*-.0003*	*-.0003*	*-.0003*	*-.0003*	*-.003*	*-.003*	*-.003*	*-.003*
	*(.001)****	*(.000)****	*(.000)****	*(.000)****	*(.000)****	*(.000)****	*(.000)****	*(.000)****
urbanization	*.016*	*.013*	*.006*	*-.003*	*.116*	*.100*	*.074*	*.050*
	*(.002)****	*(.002)****	*(.002)****	*(.002)*	*(.012)****	*(.013)****	*(.014)****	*(.017)****
employment_nbh			*.315*	*.407*			*1.27*	*1.46*
			*(.016)****	*(.040)****			*(.124)****	*(.460)****
meanwage_nbh			*-.001*	*-.001*			*.001*	*.001*
			*(.000)****	*(.000)****			*(.000)****	*(.000)****
constant	*-.068*	*-.079*	*-.127*	*-.164*	*3.27*	*3.30*	*2.37*	*1.82*
	(.012)	*(.012)****	*(.020)****	*(.036)****	*(.150)****	*(.150)****	*(.211)****	*(.389)****
experience	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*
year	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*
corop	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*
observations	*306,200*	*306,200*	*176,296*	*176,296*	*57,357*	*57,357*	*36,511*	*36,511*
r-square	*.159*		*.169*		*.283*		*.291*	

a. Table represents estimation outcomes using OLS and IV techniques with dependent variables probability of employment and annual gross wages, where employment is defined as min. annual wages of €100 and 20 working days.

b. urbanization is the natural logarithm of the degree of urbanization of neighbourhoods, which is measured as the number of addresses per 1km radius of the neighbourhood.

c. heteroskedasticity-consistent standard errors are in parentheses. They are corrected to account for multiple observations of individuals over time. Asterisks indicate significance level: * at 10%, ** at 5%, *** at 1% respectively.

d. In the IV regressions, initial neighbourhood concentrations are used as instruments for annual neighbourhood concentrations.

e. All regressions include dummies for level of experience (levels: 1-4 years, 5-7 years, 8-10 years), year (1999-2004), corop (40 areas). Regressions (3), (4), (7) and (8) moreover include neighbourhood fixed effects where employment_nbh is mean employment rate among the population aged 18-64 in the neighbourhood and meanwage_nbh is mean wage of the population 18-64 working of the neighbourhood. In the latter regressions the sample is reduced as employment characteristics are lacking for many neighbourhoods.

Figure 5: Employment chances of initial asylum clusters per neighbourhood concentration (kernel regression)

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

Notes: x-axis - mean initial Non-Western neighbourhood concentration; y-axis - mean annual probability to work, where lower (higher) bound is defined as mean annual probability to work less (plus) 1.96*standard error.

Figure 6: Mean annual log wages of initial asylum clusters per neighbourhood concentration (kernel regression)

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

Notes: x-axis - mean initial Non-Western neighbourhood concentration; y-axis - natural log of mean annual wages, where lower (higher) bound is defined as natural log of mean annual wages less (plus) 1.96*standard error.

Table 8: The relationship between migrant concentration and employment (linear and non-linear IV specifications)

	dependent variable: probability of employment									
	no neighborhood controls					neighborhood controls				
	Linear	Square	1Spline	2Splines	3Splines	Linear	Square	1Spline	2Splines	3Splines
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
concentration	.011	-.084	-.012	-.058	-.251	.290	.122	.270	.193	-.044
	(.011)	(.042)*	(.017)	(.040)	(.077)***	(.034)***	(.076)***	(.041)***	(.058)***	(.090)
conc.-square	-	.110	-	-	-	-	.228	-	-	-
	-	(.047)**	-	-	-	-	(.089)***	-	-	-
conc.-spline1	-	-	.103	.088	.580	-	-	.127	.205	.849
	-	-	(.057)*	(.069)	(.198)***	-	-	(.141)	(.100)**	(.242)***
conc.-spline2	-	-	-	.036	-.372	-	-	-	-.130	-.571
	-	-	-	(.076)	(.171)**	-	-	-	(.185)	(.242)**
conc.-spline3	-	-	-	-	.133	-	-	-	-	.126
	-	-	-	-	(.082)*	-	-	-	-	(.197)
female	-.124	-.124	-.124	-.130	-.124	-.130	-.131	-.130	-.131	-.131
	(.002)***	(.002)***	(.002)***	(.002)***	(.002)***	(.003)***	(.003)***	(.003)***	(.003)***	(.003)***
age	.019	.018	.019	.019	.020	.020	.020	.020	.020	.020
	(.001)***	(.001)***	(.000)***	(.001)***	(.000)***	(.001)***	(.000)***	(.000)***	(.000)***	(.000)***
age-square	-.0003	-.0003	-.0003	-.0003	-.0003	-.0003	-.0003	-.0003	-.0003	-.0003
	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***
urbanization	.013	.016	.014	.016	.019	-.003	.002	-.002	.002	.005
	(.002)***	(.002)***	(.002)***	(.002)***	(.002)***	(.002)	(.003)	(.003)	(.003)***	(.003)
employment_nbh						.407	.386	.400	.401	.407
						(.040)***	(.041)***	(.042)***	(.041)***	(.042)***
meanwage_nbh						-.001	-.001	-.001	-.001	-.001
						(.000)***	(.000)***	(.000)***	(.000)***	(.000)***
constant	-.079	-.086	-.082	-.087	-.089	-.164	-.180	-.166	-.182	-.189
	(.012)***	(.012)***	(.012)***	(.013)***	(.013)***	(.036)***	(.036)***	(.036)***	(.037)***	(.037)***
experience	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
year	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
corop	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
p-value(F-test)	base	<.001	<.001	<.001	<.001	base	<.001	<.001	<.001	1
observations	306200	306200	306200	306200	306200	176296	176296	176296	176296	176296

a. Table represents estimation outcomes using IV techniques with dependent variable probability of employment, where employment is defined as min. annual wages of €100 and 20 working days.

b. Models are composed as follows: (1) and (6) are the linear specifications equivalent to the ones found in Table 9; (2) and (7) contain a square term of neighbourhood concentration; (3) and (8) contain a spline at 60% neighbourhood concentration; (4) has splines at 30 and 60%; (9) has splines at 45 and 65%; (5) has splines at 20, 30, 60%; (10) has splines at 35, 45, 65% concentration.

c. Urbanization is the natural logarithm of the degree of urbanization of neighbourhoods, which is measured as the number of addresses per 1km radius of the neighbourhood.

d. Heteroskedasticity-consistent standard errors are in parentheses. They are corrected to account for multiple observations of individuals over time. Asterisks indicate significance level: * at 10%, ** at 5%, *** at 1% respectively.

e. In the IV regressions, initial neighbourhood concentrations are used as instruments for annual neighbourhood concentrations.

f. All regressions include dummies for level of experience (levels: 1-4 years, 5-7 years, 8-10 years), year (1999-2004), corop (40 areas). Regressions (6) - (10) moreover include neighbourhood fixed effects where employment_nbh is mean employment rate among the population aged 18-64 in the neighbourhood and meanwage_nbh is mean wage of the population 18-64 working of the neighbourhood. In the latter regressions the sample is reduced as employment characteristics are lacking for many neighbourhoods.

g. P-values capture significance levels of F-test assuming model goodness of fit equals between non-linear and linear specifications. Small levels of significance indicate that non-linear specifications offer better fit than linear ones.

Table 9: The relationship between migrant concentration and income (linear and non-linear IV specifications)

	dependent variable: annual gross wages									
	no neighborhood controls					neighborhood controls				
	Linear	Square	1Spline	2Splines	3Splines	Linear	Square	1Spline	2Splines	3Splines
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
concentration	.083	-.728	-.092	-.337	-.426	1.61	-.150	1.29	.726	.567
	(.098)	(.422)*	(.164)	(.274)	(.378)	(.311)***	(.580)	(.346)***	(.401)***	(.458)
conc.-square	-	.975	-	-	-	-	2.47	-	-	-
	-	(.488)**	-	-	-	-	(.686)***	-	-	-
conc.-spline1	-	-	.830	1.18	.647	-	-	2.13	3.80	1.58
	-	-	(.607)	(.869)	(2.05)	-	-	(.939)***	(1.19)***	(2.41)
conc.-spline2	-	-	-	-.485	.397	-	-	-	-3.27	1.79
	-	-	-	(1.13)	(2.67)	-	-	-	(1.84)*	(3.34)
conc.-spline3	-	-	-	-	-.214	-	-	-	-	-2.47
	-	-	-	-	(1.43)	-	-	-	-	(2.22)
female	-.437	-.440	-.439	-.440	-.440	-.427	-.433	-.430	-.433	-.434
	(.018)***	(.018)***	(.018)***	(.018)***	(.018)***	(.021)***	(.021)***	(.021)***	(.021)***	(.021)***
age	.216	.217	.216	.217	.217	.226	.227	.226	.227	.227
	(.006)***	(.006)***	(.006)***	(.006)***	(.006)***	(.007)***	(.007)***	(.007)***	(.007)***	(.007)***
age-square	-.003	-.003	-.003	-.003	-.003	-.003	-.003	-.003	-.003	-.003
	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***	(.000)***
urbanization	.100	.126	.109	.122	.124	.050	.114	.072	.106	.112
	(.013)***	(.018)***	(.014)***	(.018)***	(.019)***	(.017)***	(.025)***	(.021)***	(.024)***	(.025)***
employment_nbh						1.46	1.40	1.35	1.45	1.48
						(.460)***	(.460)***	(.463)***	(.467)***	(.470)***
meanwage_nbh						.001	.001	.001	.001	.001
						(.000)***	(.000)***	(.000)***	(.000)***	(.000)***
constant	3.30	3.16	3.24	3.17	3.16	1.82	1.42	1.72	1.44	1.37
	(.150)***	(.164)***	(.156)***	(.165)***	(.169)***	(.389)***	(.412)***	(.395)***	(.411)***	(.423)***
experience	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
year	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
corop	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
p-value(F-test)	base	<.001	.317	.003	.005	base	1	<.001	1	1
observations	57357	57357	57357	57357	57357	36511	36511	36511	36511	36511

a. Table represents estimation outcomes using IV techniques with dependent variable annual gross wages, where employment is defined as min. annual wages of €100 and 20 working days.

b. Models are composed as follows: (1) and (6) are the linear specifications equivalent to the ones found in Table 9; (2) and (7) contain a square term of neighbourhood concentration; (3) and (8) contain a spline at 60% neighbourhood concentration; (4) has splines at 30 and 60%; (9) has splines at 45 and 65%; (5) has splines at 20, 30, 60%; (10) has splines at 35, 45, 65% concentration.

c. Urbanization is the natural logarithm of the degree of urbanization of neighbourhoods, which is measured as the number of addresses per 1km radius of the neighbourhood.

d. Heteroskedasticity-consistent standard errors are in parentheses. They are corrected to account for multiple observations of individuals over time. Asterisks indicate significance level: * at 10%, ** at 5%, *** at 1% respectively.

e. In the IV regressions, initial neighbourhood concentrations are used as instruments for annual neighbourhood concentrations.

f. All regressions include dummies for level of experience (levels: 1-4 years, 5-7 years, 8-10 years), year (1999-2004), corop (40 areas). Regressions (6) - (10) moreover include neighbourhood fixed effects where employment_nbh is mean employment rate among the population aged 18-64 in the neighbourhood and meanwage_nbh is mean wage of the population 18-64 working of the neighbourhood. In the latter regressions the sample is reduced as employment characteristics are lacking for many neighbourhoods.

g. P-values capture significance levels of F-test assuming model goodness of fit equals between non-linear and linear specifications. Small levels of significance indicate that non-linear specifications offer better fit than linear ones.

Figure 7a: Employment chances by level of concentration, various models

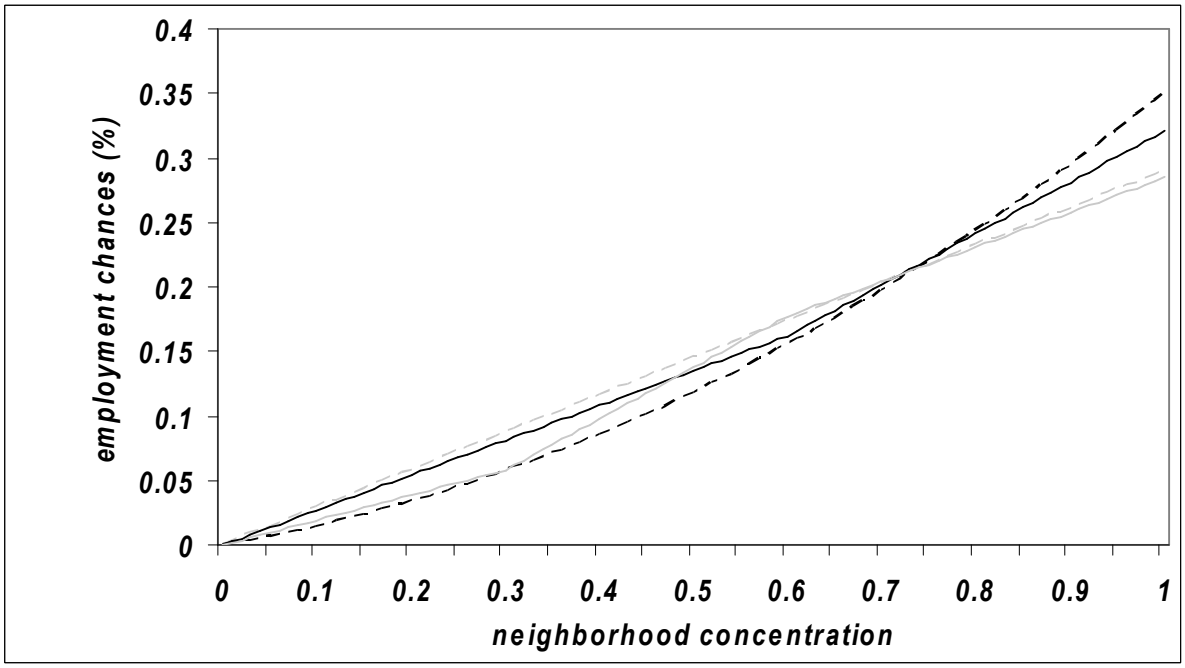
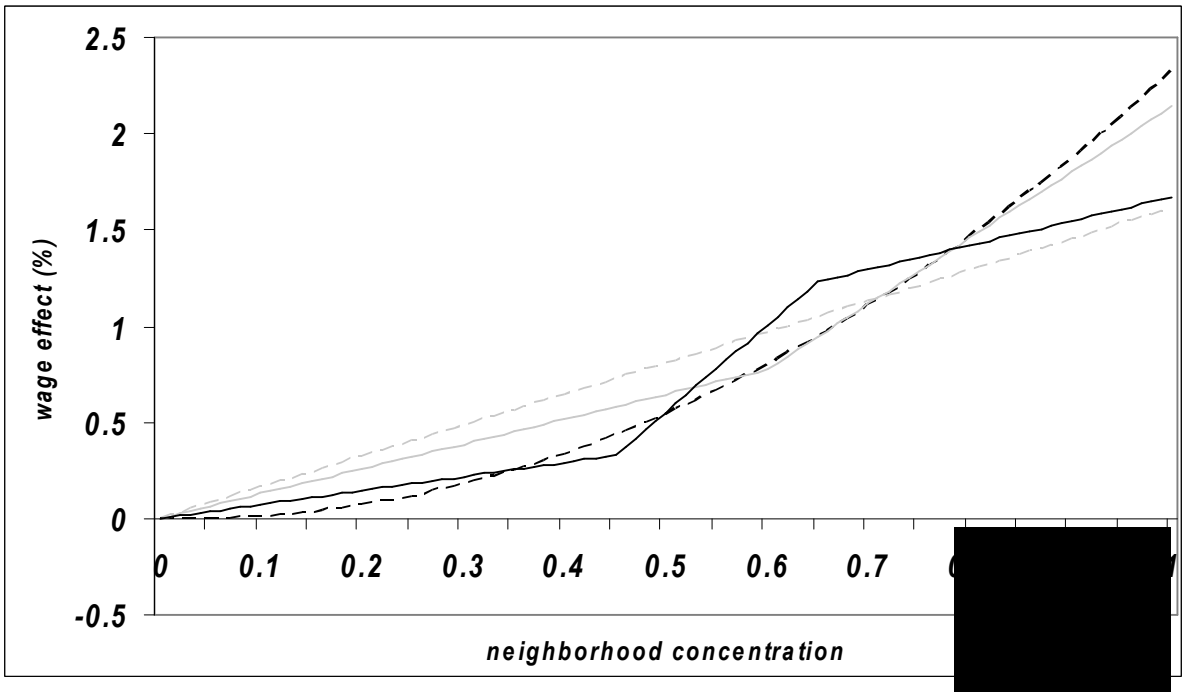


Figure 7b: Annual wages by level of concentration, various models



Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

**** Graphs plot the regression outputs of the IV estimations including neighbourhood controls for the dependent variables employment chances and annual gross wages with non-Western neighbourhood concentrations on the horizontal axis and the dependent variables on the vertical axis.***

Figure 8a: Employment chances by level of concentration, male and female, various models

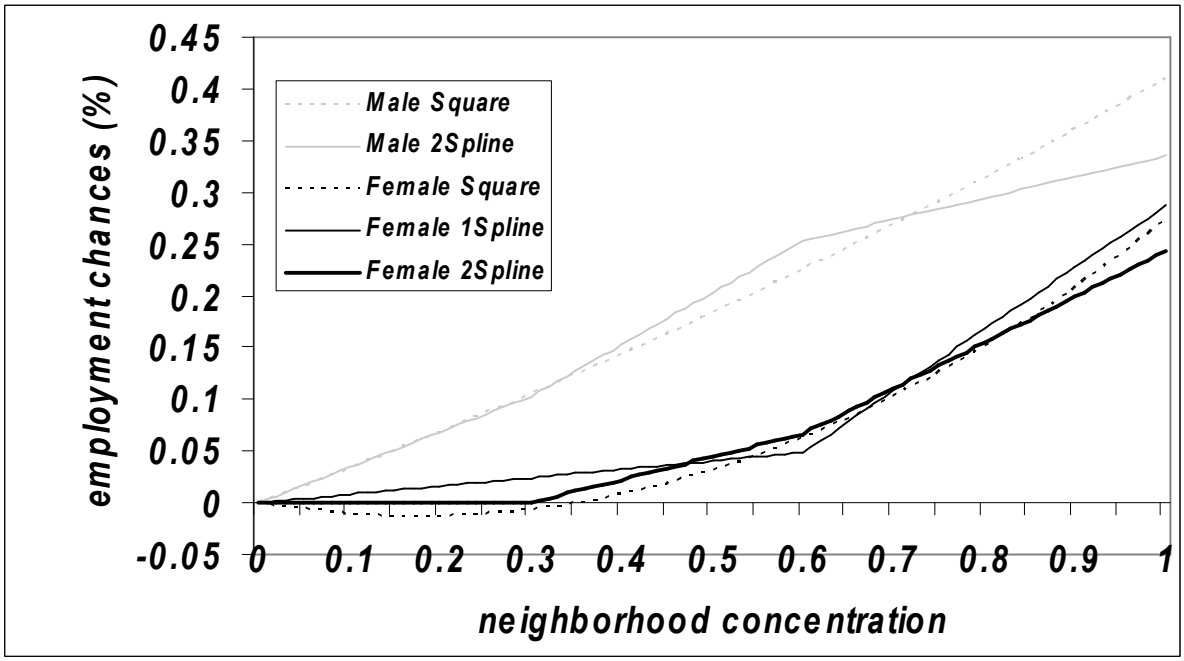
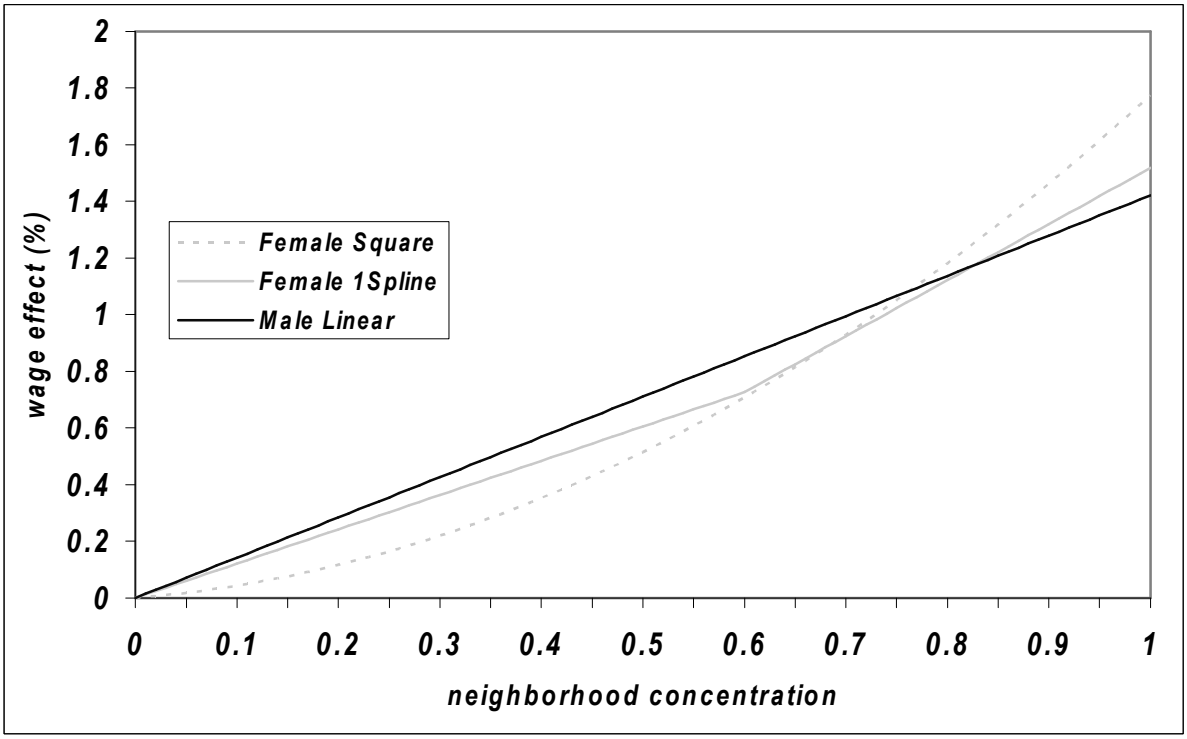


Figure 8b: Annual wages by level of concentration, male and female, various models



Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

Notes: Graphs plot the regression outputs of the IV estimations including neighbourhood controls for the dependent variables employment chances and annual gross wages with non-Western neighbourhood concentrations on the horizontal axis and the dependent variables on the vertical axis. Figures display non-linear models with better data fit than linear specification per subgroup (i.e. p-value of F-test < .05). If linear specification displayed, concentration effects are quasi-linear for respective subgroup (i.e. none of non-linear specifications having better data fit than linear one).

Figure 9a: Employment chances by level of concentration, experience groups, various models

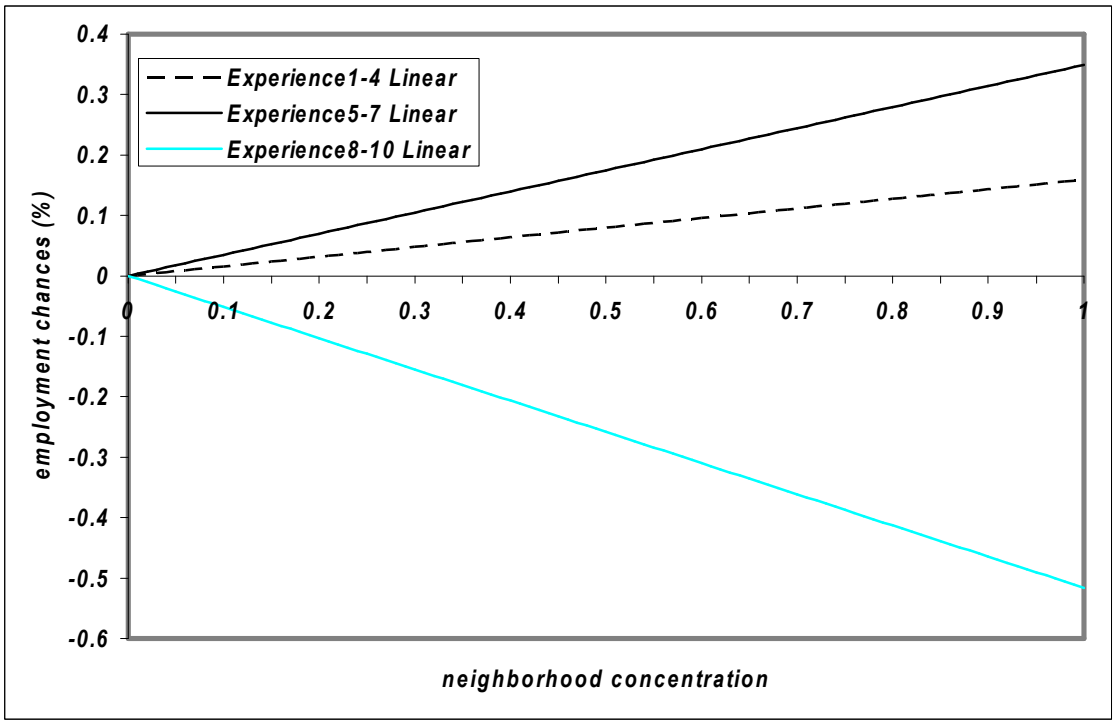
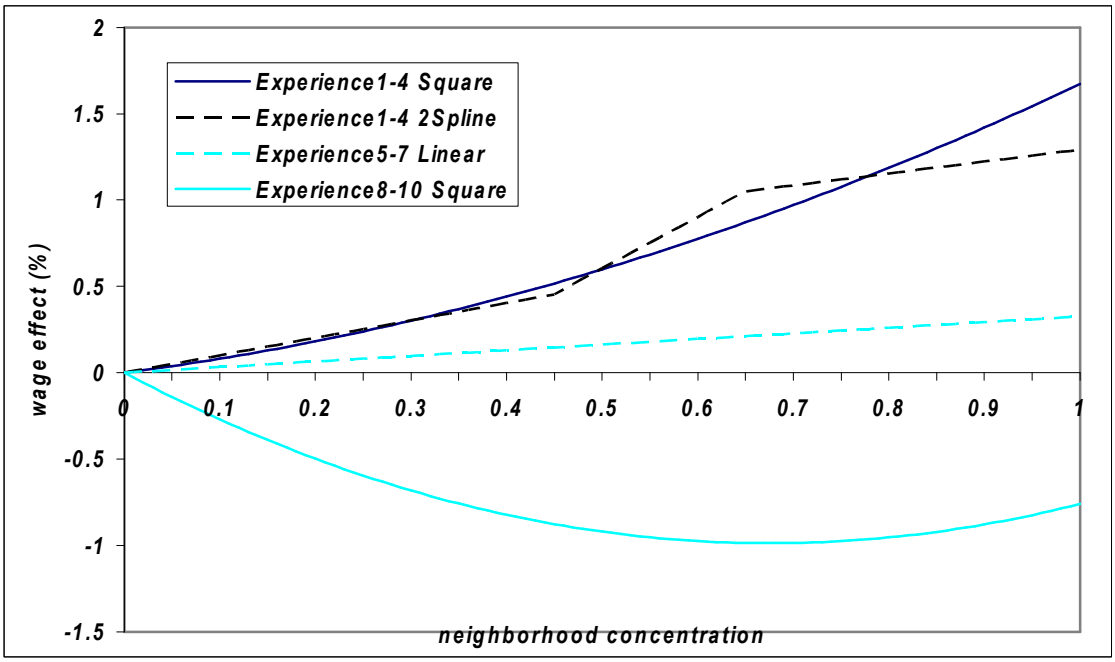


Figure 9b: Annual wages by level of concentration, experience groups, various models



Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

**** Graphs plot the regression outputs of the IV estimations including neighbourhood controls for the dependent variables employment chances and annual gross wages with non-Western neighbourhood concentrations on the horizontal axis and the dependent variables on the vertical axis. Figures display non-linear models with better data fit than linear specification per subgroup (i.e. p-value of F-test < .05). If linear specification displayed, concentration effects are quasi-linear for respective subgroup (i.e. none of non-linear specifications having better data fit than linear one). In case of 1-4 years experience subgroup in wage regressions (Figure9b), all non-linear models offer better fit than linear one but cannot all be included. Please refer to Figure A2 in Appendix for complete display.***

Table 10: Mobility (%) by migrant level of initial and 10-year mean neighbourhood concentration

	*initial concentration level**			*10-year mean concentration level***		
	high	*medium*	*low*	*high*	*medium*	*low*
non-movers	*36.36*	*33.47*	*22.43*	*27.68*	*18.82*	*8.83*
mover within municipality	*5.22*	*7.91*	*6.68*	*5.44*	*8.65*	*8.57*
mover within corop area	*12.38*	*9.96*	*10.89*	*10.82*	*11.57*	*14.16*
mover between corop area	*46.04*	*48.65*	*60*	*56.07*	*60.95*	*68.44*

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

* migrant level of non-western neighbourhood concentration at first point of residence in country

** 10-year (1995-2004) mean of individual annual levels of non-western neighbourhood concentration

Figure 10a: Employment chances by level of concentration, residential preference groups

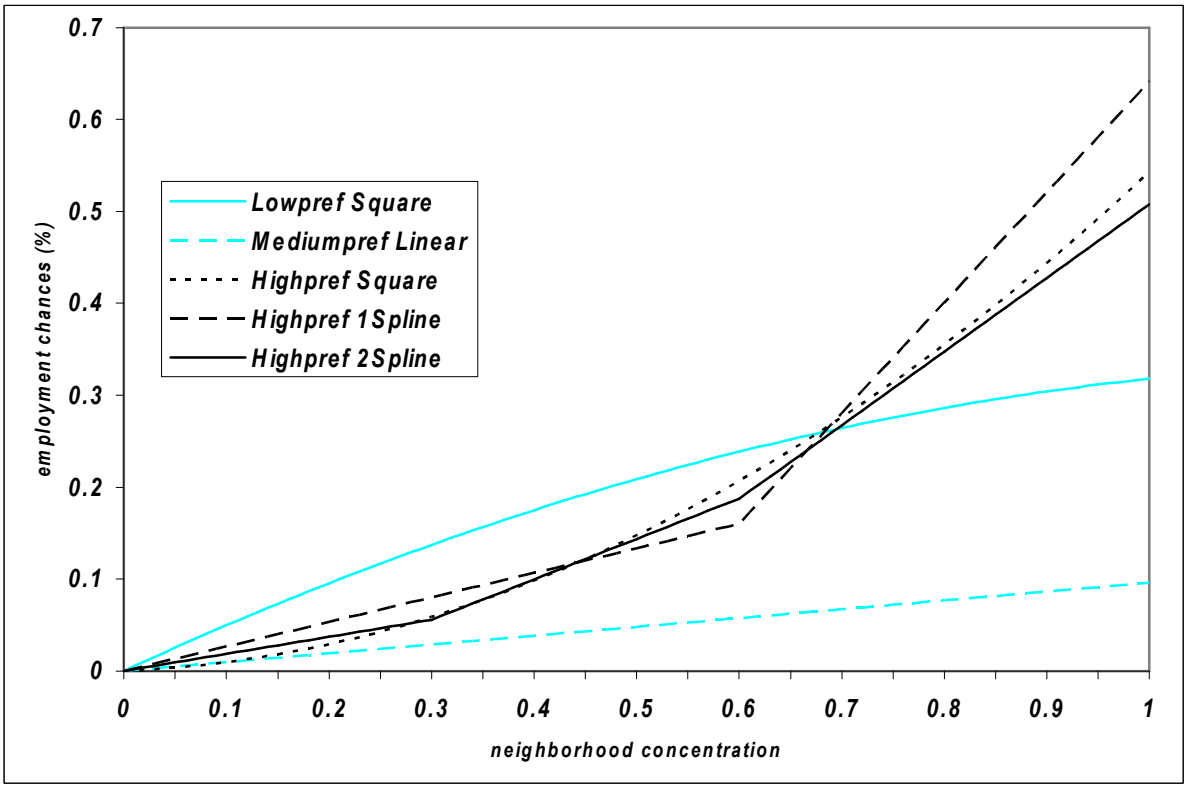
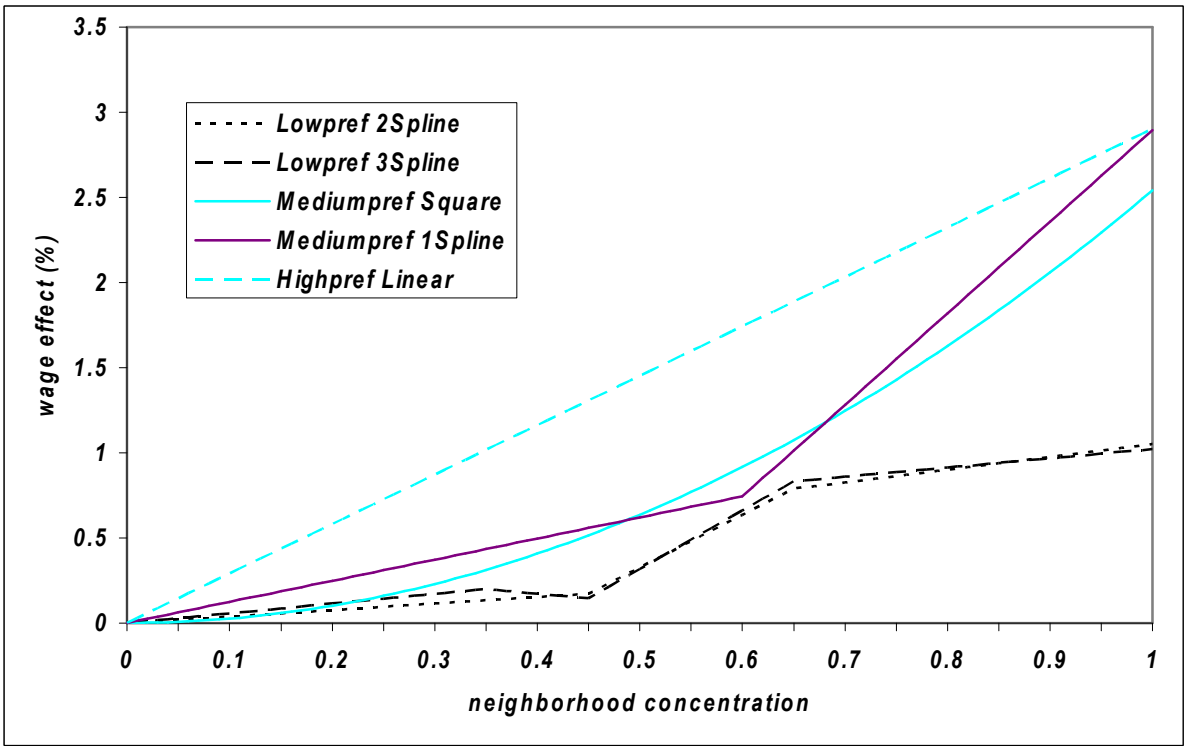


Figure 10b: Annual wages by level of concentration, residential preference groups



Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

** Graphs plot the regression outputs of the IV estimations including neighbourhood controls for the dependent variables employment chances and annual gross wages with non-Western neighbourhood concentrations on the horizontal axis and the dependent variables on the vertical*

axis. Figures display non-linear models with better data fit than linear specification per subgroup (i.e. p-value of F-test < .05). If linear specification displayed, concentration effects are quasi-linear for respective subgroup (i.e. none of non-linear specifications having better data fit than linear one).

References

Akerlof, G. A. (1980). "A theory of social custom of which unemployment may be one consequence." Quarterly Journal of Economics 94(4): 749-775.

Anderson, E. (1991). Neighbourhood effects on teenage pregnancy. The urban underclass. C. Jenck and P. E. Peterson. Washington D.C., The Brookings Institute.

Bailey, T. and R. Waldinger (1991). "Primary, secondary, and enclave labour markets: A training systems approach." American Sociological Review 56(4): 432-445.

Bauer, T. e. a. (1998). "Portuguese migrants in the German labour market: Performance and self-selection." IZA Discussion Paper No. 20.

Bertrand, M., Luttmer, E., Mullainathan, S. (2000). "Network effects and welfare cultures." Quarterly Journal of Economics 115: 1019-1055.

Blalock, H. M. (1956). "Economic discrimination and negro increase." American Sociological Review 21(5): 584-588.

Blalock, H. M. (1957). "Per cent non-white and discrimination in the south." American Sociological Review 22(6): 677-682.

Borghans, L. and B. Kriechel (2007). "Wage structure and labour mobility in the Netherlands 1999-2003." NBER Working Paper 13210.

Borjas, G. J. (1987). "Immigrants, minorities, and labour market competition." Industrial and Labor Relations Review 40(3): 382-392.

Borjas, G. J. (1995). "Ethnicity, neighbourhoods, and human-capital externalities." American Economic Review 85(3): 365-390.

Borjas, G. J. (1998). "To ghetto or not to ghetto: Ethnicity and residential segregation." Journal of Urban Economics 44: 228-253.

Borjas, G. J. (1999). Heaven's Door - Immigration policy and the American economy. Princeton, NJ, Princeton University Press.

Brown, D. L. and G. V. Fuguitt (1972). "Percent nonwhite and racial disparity in nonmetropolitan cities in the south." Social Science Quarterly 53(3): 572-583.

Case, A. C., and Katz, L.F. (1991). "The company you keep: The effects of family and neighbourhood on disadvantaged youths." NBER Working Paper 3705.

Chiswick, B. R. (1991). "Speaking, reading, and earnings among low-skilled immigrants." Journal of Labor Economics 9(2): 149-170.

Chiswick, B. R. and P. W. Miller (1995). "The endogeneity between language and earnings: International analyses." Journal of Labor Economics 13(2): 246-288.

Chiswick, B. R. and P. W. Miller (2002). "Immigrant earnings: Language skills, linguistic concentrations and the business cycle." Journal of Population Economics 15: 31-57.

Chiswick, B. R. and P. W. Miller (2005). "Do enclaves matter in immigrant adjustment?" City and Community 4(1): 5-35.

COA (Central Agency for the Reception of Asylum Seekers). (2007). Retrieved December 2007.

Coleman, J. S. e. a. (1966). Equality of educational opportunity. Washington, DC, US Government Printing Office.

Crane, J. (1991). Effects of neighbourhoods on dropping out of school and teenage childbearding. The urban underclass. C. Jenck and P. E. Peterson. Washington D.C., The Brookings Institute.

Cutler, D. and E. Glaeser (1997). "Are ghettos good or bad?" Quarterly Journal of Economics 112(3): 827-872.

Dustmann, C. and I. Preston (1998). "Attitudes to ethnic minorities, ethnic context and location decisions." The Economic Journal 111: 353-373.

Edin, P.-A., and Fredriksson, P. (2000). "LINDA-Longitudinal INdividual DAta for Sweden." Uppsala University Department of Economics Working Paper No. 2000:19.

Edin, P.-A., Fredriksson, P. and Aslund, O. (2003). "Ethnic enclaves and the economic success of immigrants - evidence from a natural experiment." Quarterly Journal of Economics 118: 329-357.

Fossett, M. A. and T. Seibert (1997). Long time coming: Racial inquality in the nonmetropolitan south, 1940-1990. Boulder, CO, Westview Press.

Frisbie, W. P. and L. Neidert (1977). "Inequality and the relative size of minority populations: A comparative analysis." American Journal of Sociology 82(5): 1007-1031.

Gabriel, S. and S. Rosenthal (1999). "Location and the effect of demographic traits on earnings." Regional Science and Urban Economics 24: 445-461.

Glaeser, E. L., Sacerdote, B. and Scheinkman, J.A. (1996). "Crime and social interactions." Quarterly Journal of Economics 111: 507-548.

Granovetter, M. S. (1985). "Economic action and social structure: The problem of embeddedness." American Journal of Sociology 91: 481-510.

Heer, D. M. (1959). "The sentiment of white supremacy: An ecological study." American Journal of Sociology: 592-598.

Ihlanfeldt, K. and D. Sjoquist (1998). "The spatial mismatch hypothesis: A review of recent studies and their implications for welfare reform." Housing Policy Debate 9: 849-892.

IND (Netherlands Immigration and Naturalization Service) (2006). De procedure in het aanmeldcentrum.

IND (Netherlands Immigration and Naturalization Service) and VluchtelingenWerkNederland (2004). Vluchtelingen in getallen.

Ioannides, Y. and L. Datcher-Loury (2004). "Job information, networks, neighbourhood effects and inequality." Journal of Economic Literature 17: 1056-1093.

Kahanec, M. (2006). "Ethnic specialization and earnings inequality: Why being a minority hurts, but being a big minority hurts more." IZA Discussion Paper No. 2050.

Kain, J. F. (1968). "Housing segregation, negro employment, and metropolitan decentralization." Quarterly Journal of Economics 82(2): 175-197.

Kloosterman, R. and J. P. v. d. Leun (1999). "Just for starters: commercial gentrification by immigrant entrepreneurs in Amsterdam and Rotterdam." Housing Studies 14: 659-677.

Lazear, E. P. (1999). "Culture and language." Journal of Political Economy 107(6): S95-S126.

Lewis, O. (1966). The culture of poverty. The city reader. R. T. LeGates and F. Stout. London/New York, Routledge: 217-224.

Lewis, O. (1968). The culture of poverty. On understanding poverty: Perspectives from the social sciences. D. P. Monynihan. New York, Basic Books: 187-200.

Li, W. (1998). "Los Angeles' Chinese Ethnoburb: From ethnic service centre to global economy outpost." Urban Geography 19(6): 502-517.

Light, I. and E. Bonacich (1988). Immigrant entrepreneurs: Koreans in Los Angeles, 1965-1982, University of California Press.

Loury, G. C., Ed. (1977). A dynamic theory of racial income differences. Women, minorities, and employment discrimination. Lexington, MA, Lexington Books.

Massey, D. S. and N. A. Denton (1993). American apartheid - Segregation and the making of the underclass. Cambridge, Harvard University Press.

Musterd, S. and R. Andersson (2006). "Employment, social mobility and neighbourhood effects." International Journal of Urban and Regional Research 301(1): 120-140.

Newman, K. (1999). No shame in my game. New York, Knopf.

Phelps, E. S. (1972). "The statistical theory of racism and sexism." American Economic Review 62: 659-661.

Piil Damm, A. (2009). "Ethnic enclaves and immigrant labour market outcomes: Quasi-experimental evidence." Journal of Labor Economics 27(2): 281-314.

Portes, A. (1998). "Social capital: Its origins and applications in modern sociology." Annual Review of Sociology 24: 1-24.

Portes, A. and R. L. Bach (1985). Latin journey: Cuban and Mexican immigrants in the United States, University of California Press.

Portes, A. and R. G. Rumbaut (1990). Immigrant America: A portrait. Berkeley, University California Press.

Snel, E. and J. Burgers (2000). "The Comfort of Strangers. Etnische enclaves in de grote steden." Amsterdams Sociologisch Tijdschrift 27(3): 292-313.

Tienda, M. and D.-T. Lii (1987). "Minority concentration and earnings inequality: Blacks, Hispanics, and Asians compared." American Journal of Sociology 93(1): 141-165.

Tigges, L. M., I. Brown, et al. (1998). "Social isolation of the urban poor. Race, class, and neighbourhood effects on social resources." The Sociological Quarterly 39(1): 53-77.

Topa, G. (2001). "Social interactions, spillovers and unemployment." Review of Economic Studies 68: 261-295.

Wacquant, L. (1993). "Urban outcasts: stigma and division in the black American ghetto and the French urban periphery." International Journal of Urban and Regional Research 17(3): 366-383.

Waldinger, R. D. (1996). Still the promised city?: African-Americans and new immigrants in postindustrial New York, Harvard University Press.

Wang, Q. (2004). "Labor market concentration of Asian ethnic groups in US metropolitan areas: A disaggregated study." Population, Space and Place 10: 479-494.

White, P. (1998). Ideologies, social exclusion and spatial segregation in Paris. Urban segregation and the welfare state: inequality and exclusion in Western cities. S. Musterd and W. Ostendorf. London, Routledge.

Wikipedia. (2007). "Map of the Netherlands."

Wilcox, J. and W. C. Roof (1978). "Percent Black and Black-White status inequality: Southern versus Nonsouthern patterns." Social Science Quarterly 59: 421-434.

Wilson, W. J. (1987). The truly disadvantaged: The inner city, the underclass, and public policy. Chicago, University of Chicago Press.

Wood, C. H. (1982). "Equilibrium and historical-structural perspectives on migration." International Migration Review 16(2): 298-319.

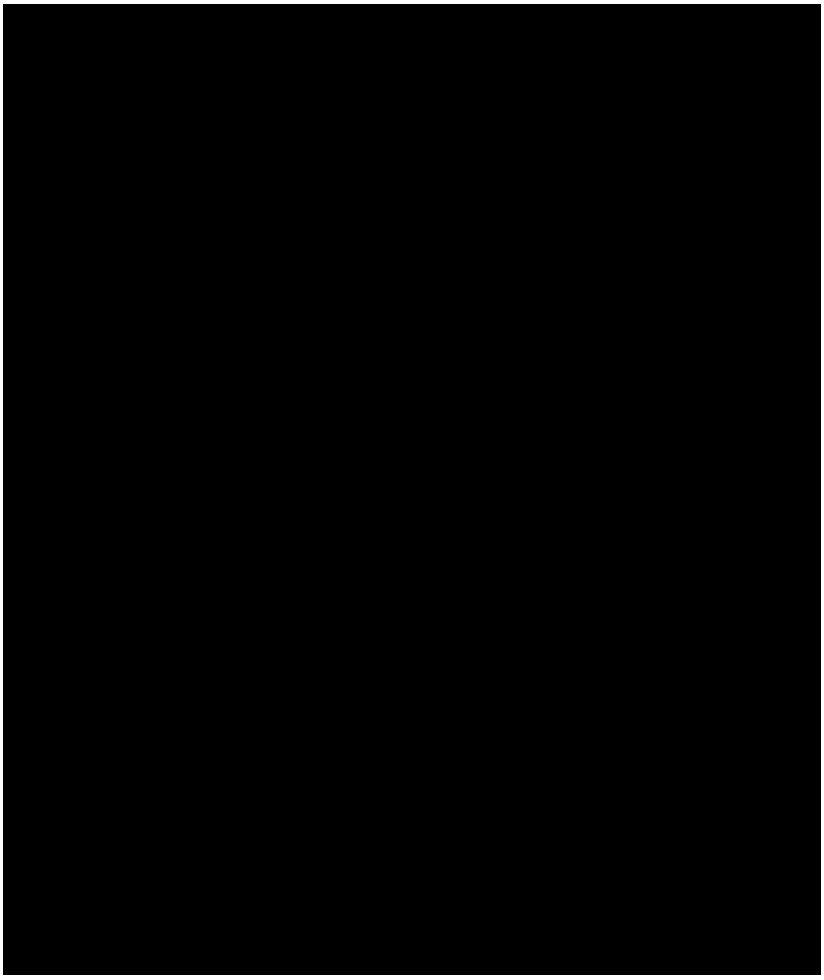
(1995-2004). Central Housing Database, Central Agency for the Reception of Asylum Seekers (COA).

(1995-2004). Social Statistical Database (SSB), Netherlands Bureau of Statistics (CBS).

(2007). Statline, Netherlands Bureau of Statistics (CBS).

Appendix

Figure A1: Map of the Netherlands and its provinces



Source: Flags of the world homepage, 2009

Table A1: Annual asylum seekers per province

	years										
province	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	total
Drenthe	1389	1857	2004	3582	4302	4923	6383	6006	3993	3034	1438	38911
Flevoland	1575	1670	1910	1845	2323	2719	3571	3169	2259	2145	2031	25217
Friesland	1009	1556	3115	3927	6147	5937	6540	7061	5407	4487	3620	48806
Gelderland	2758	3674	3091	3606	5653	6522	8470	9321	8413	6757	5171	63436
Groningen	567	882	1250	2538	3642	4309	6143	8629	6730	4594	3538	42822
Limburg	1251	2639	2269	2448	3394	3879	4244	4339	3052	2300	2197	32012
North-Brabant	3053	4352	4822	6093	8948	9652	9874	9076	6340	5380	3640	71230
North-Holland	1846	3037	2330	2296	3016	3583	4118	5012	4565	4105	3312	37220
Overijssel	2006	2665	2875	3214	3905	5253	6146	5635	5115	2904	2382	42100
Utrecht	1354	1736	1449	1516	2265	2341	2911	2288	1509	1439	1651	20459
Zeeland	1027	1207	978	1060	1277	1771	2060	2043	1672	978	809	14882
South-Holland	2406	3755	3355	3908	5538	6160	7277	7129	4382	2909	1861	48680
Total	20241	29030	29448	36033	50410	57049	67737	69708	53437	41032	31650	485775

Source: COA, 1995-2004

Table A2: Top 10 nationalities of asylum seekers per province (1995- 2005)

Drenthe			Flevoland			Friesland		
Nationality	Count	% all asylum/prov	Nationality	Count	% all asylum/prov	Nationality	Count	% all asylum/prov
Afghanistan	4739	12,2%	Afghanistan	2715	10,8%	Afghanistan	5342	10,9%
Angola	2240	5,8%	Angola	1043	4,1%	Angola	2833	5,8%
Azerbajdsjan	2021	5,2%	Azerbajdsjan	987	3,9%	Armenie	1492	3,1%
Bosnie Herzegovina	1748	4,5%	Bosnie Herzegovina	1063	4,2%	Azerbajdsjan	2626	5,4%
Irak	4678	12,0%	Irak	4320	17,1%	Bosnie Herzegovina	1477	3,0%
Iran	2691	6,9%	Iran	1860	7,4%	Irak	6165	12,6%
Joegoslavie	2808	7,2%	Joegoslavie	1646	6,5%	Iran	3517	7,2%
Sierra Leone	1074	2,8%	Somalie	1255	5,0%	Joegoslavie	2845	5,8%
Soedan	1229	3,2%	Syrie	940	3,7%	Soedan	1850	3,8%
Somalie	2250	5,8%	Turkije	907	3,6%	Somalie	3414	7,0%
Total asylum in province	38911		Total asylum in province	25217		Total asylum in province	48806	
Gelderland			Groningen			Limburg		
Nationality	Count	% all asylum/prov	Nationality	Count	% all asylum/prov	Nationality	Count	% all asylum/prov
Afghanistan	6144	9,7%	Afghanistan	4712	11,0%	Afghanistan	2920	9,1%
Angola	3370	5,3%	Angola	2978	7,0%	Angola	1344	4,2%
Azerbajdsjan	3032	4,8%	Azerbajdsjan	2497	5,8%	Armenie	1281	4,0%
Bosnie Herzegovina	2414	3,8%	Irak	3573	8,3%	Azerbajdsjan	1746	5,5%
Irak	7585	12,0%	Iran	2846	6,6%	Bosnie Herzegovina	2697	8,4%
Iran	5844	9,2%	Joegoslavie	2488	5,8%	Irak	3643	11,4%
Joegoslavie	3974	6,3%	Sierra Leone	1770	4,1%	Iran	3071	9,6%
Sierra Leone	1876	3,0%	Soedan	1805	4,2%	Joegoslavie	3360	10,5%
Soedan	2522	4,0%	Somalie	2366	5,5%	Somalie	2029	6,3%
Somalie	4736	7,5%	Turkije	1543	3,6%	Sri Lanka	963	3,0%
Total asylum in province	63436		Total asylum in province	42822		Total asylum in province	32012	
Noord-Brabant			Noord-Holland			Overijssel		
Nationality	Count	% all asylum/prov	Nationality	Count	% all asylum/prov	Nationality	Count	% all asylum/prov
Afghanistan	6448	9,1%	Afghanistan	4497	12,1%	Afghanistan	5085	12,1%
Angola	3612	5,1%	Angola	1673	4,5%	Angola	2129	5,1%
Azerbajdsjan	2927	4,1%	Azerbajdsjan	1275	3,4%	Azerbajdsjan	1980	4,7%
Bosnie Herzegovina	3018	4,2%	Bosnie Herzegovina	1292	3,5%	Bosnie Herzegovina	1668	4,0%
Irak	10665	15,0%	Irak	5283	14,2%	Irak	5475	13,0%
Iran	4795	6,7%	Iran	3634	9,8%	Iran	3264	7,8%
Joegoslavie	5167	7,3%	Joegoslavie	2160	5,8%	Joegoslavie	2613	6,2%
Sierra Leone	2094	2,9%	Soedan	1219	3,3%	Somalie	2164	5,1%
Soedan	2555	3,6%	Somalie	2547	6,8%	Syrie	3092	7,3%
Somalie	6120	8,6%	Sri Lanka	1199	3,2%	Turkije	1243	3,0%
Total asylum in province	71230		Total asylum in province	37220		Total asylum in province	42100	
Utrecht			Zeeland			Zuid-Holland		
Nationality	Count	% all asylum/prov	Nationality	Count	% all asylum/prov	Nationality	Count	% all asylum/prov
Afghanistan	1874	9,2%	Afghanistan	900	6,0%	Afghanistan	5283	10,9%
Angola	796	3,9%	Angola	779	5,2%	Angola	1854	3,8%
Armenie	516	2,5%	Armenie	643	4,3%	Azerbajdsjan	1447	3,0%
Azerbajdsjan	749	3,7%	Azerbajdsjan	986	6,6%	Bosnie Herzegovina	2033	4,2%
Bosnie Herzegovina	669	3,3%	Bosnie Herzegovina	758	5,1%	Irak	8269	17,0%
Irak	2892	14,1%	Irak	1635	11,0%	Iran	4662	9,6%
Iran	2188	10,7%	Iran	1486	10,0%	Joegoslavie	2592	5,3%
Joegoslavie	1372	6,7%	Joegoslavie	1200	8,1%	Soedan	1726	3,5%
Soedan	875	4,3%	Soedan	499	3,4%	Somalie	4487	9,2%
Somalie	2158	10,5%	Somalie	1256	8,4%	Turkije	1441	3,0%
Total asylum in province	20469		Total asylum in province	14882		Total asylum in province	48680	

Source: COA, 1995-2004; Netherlands Bureau of Statistics, SSB 1995-2004

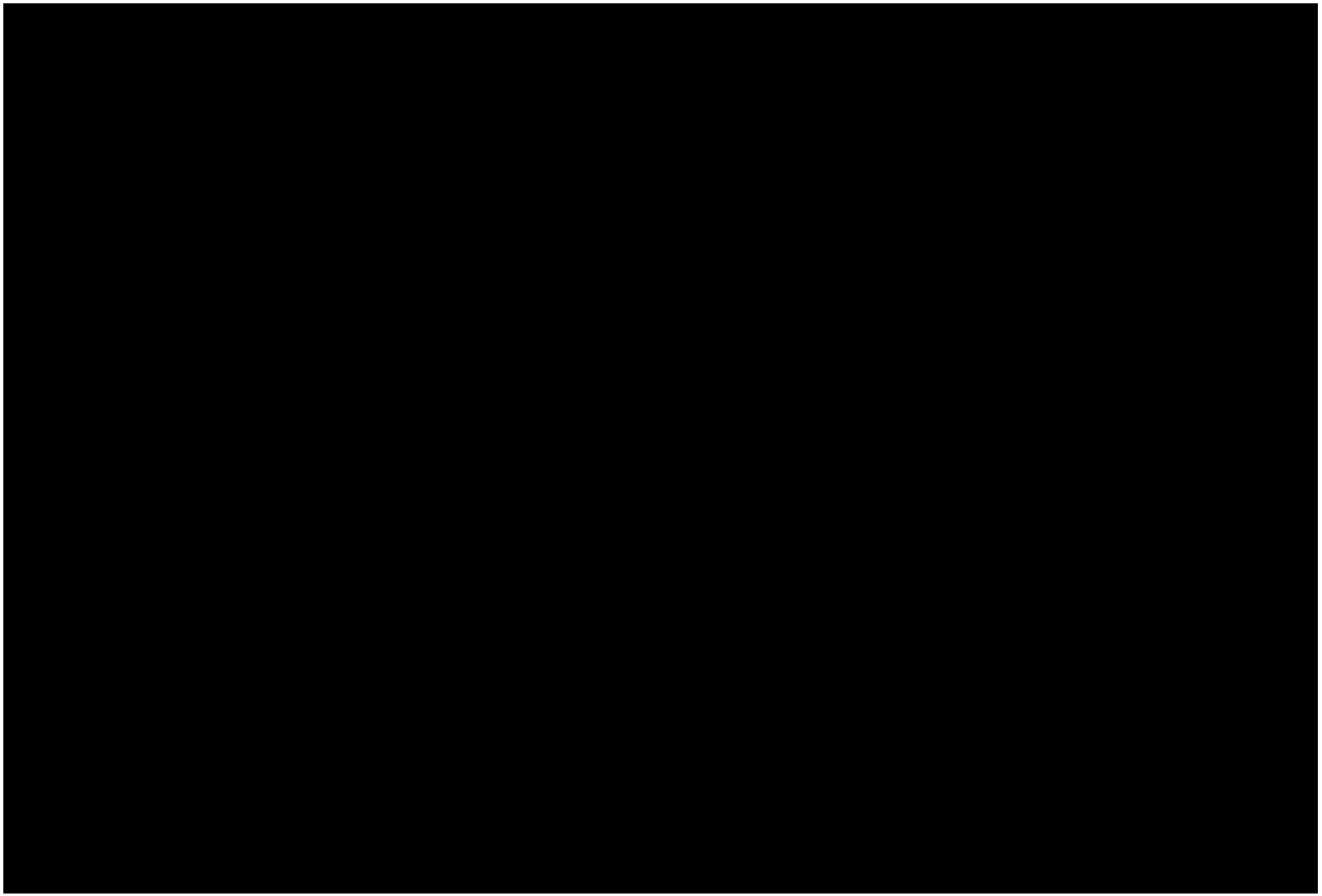
Notes: Table displays top 10 nationalities of asylum seekers for each province of the Netherlands in absolute terms and as share of total asylum seekers of province.

Table A3: Characteristics of asylum seekers per province (1995-2005)

	share	share age groups		
province	female	below18	18-64	65plus
South-Holland	38.11%	31.15%	67.56%	1.29%
North-Holland	38.61%	32.37%	66.62%	1.02%
North-Brabant	36.13%	32.79%	66.38%	0.84%
Gelderland	37.24%	31.30%	67.80%	0.89%
Utrecht	39.06%	31.96%	66.75%	1.29%
Limburg	38.94%	34.53%	64.69%	0.78%
Overijssel	38.76%	34.41%	64.24%	1.35%
Friesland	37.03%	34.88%	64.38%	0.75%
Groningen	37.97%	33.89%	65.24%	0.87%
Drenthe	39.06%	36.37%	62.85%	0.79%
Zeeland	37.91%	33.97%	65.44%	0.59%
Flevoland	36.01%	31.84%	67.28%	0.88%

Source: COA, 1995-2004

Table A4: List of countries per regions of origin



Sources: Netherlands Bureau of Statistics, SSB 1995-2004; own additions

Table A5: Characteristics of asylum seekers per year

		share	origin group(%)*							age	
years	count**	female(%)	lac	eecis	arab	asia	africa	turkish	unknown	mean	st. dev.
1995	2804	38.3	0.0	4.0	3.5	1.1	4.5	0.8	86.1	20.75	15.95
1996	8088	39.8	0.1	20.2	21.8	6.7	13.9	1.6	35.8	22.82	15.26
1997	14275	40.3	0.1	17.4	27.8	11.2	18.4	1.8	23.3	23.63	14.90
1998	18433	38.9	0.1	14.8	31.7	14.4	16.5	2.1	20.4	24.52	14.93
1999	24200	37.3	0.1	14.6	34.6	14.3	15.0	2.5	19.0	25.14	14.95
2000	33268	38.8	0.1	19.8	31.2	12.9	14.3	2.7	18.0	25.11	15.25
2001	52918	40.1	0.1	23.2	26.5	15.5	16.9	2.9	14.9	25.15	15.18
2002	68349	39.8	0.1	22.8	23.9	15.8	20.7	3.0	13.7	25.50	15.02
2003	76027	39.8	0.1	22.0	22.1	16.0	23.6	2.8	13.4	25.95	14.99
2004	75794	40.2	0.2	21.6	22.3	16.2	23.4	2.7	13.6	26.63	15.07

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

* lac (Latin America & Caribbean), eecis (Eastern European & CIS region), arab (Arab countries). Table A4 in the Appendix contains further information on the origin grouping.

** Only individuals are reported residing in the country as of 1 July of the each respective year.

Table A6: Annual working days, by gender and experience group (percent)

		annual working days			
group	experience	0-59	60-144	145-364	365plus
	1-4 years	90.6	3.2	3.7	2.4
	5-7 years	75.9	3.8	8.4	11.9
overall	8-10 years	66.5	3.4	8.8	21.3
	1-4 years	86.6	4.5	5.4	3.6
	5-7 years	69.9	4.5	10.4	15.2
male	8-10 years	60.4	3.8	10.4	25.4
	1-4 years	96.7	1.3	1.3	0.7
	5-7 years	85.3	2.8	5.2	6.8
female	8-10 years	75.3	2.8	6.5	15.4

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

Table A7: Annual wages by country of origin group

	wage groups (€)									
origin group*	0-99	100-9999	10000-12499	12500-14999	15000-17499	17500-19999	20000-22499	22500-24999	25000-29999	30000 plus
lac	87.0	10.4	1.0	0.5	1.0	0.0	0.0	0.0	0.2	0.0
eecis	84.3	9.4	0.7	0.7	0.8	0.9	0.8	0.8	1.1	0.6
arab	76.8	15.8	1.2	1.1	1.1	1.1	1.0	0.7	0.8	0.5
asia	77.8	15.2	0.9	1.0	1.0	1.3	1.1	0.7	0.7	0.3
africa	77.8	15.9	1.0	0.9	0.9	0.9	0.9	0.7	0.6	0.3
turkish	84.0	11.1	0.7	0.7	0.8	0.6	0.8	0.5	0.4	0.2

Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

* lac (Latin America & Caribbean), eecis (Eastern European & CIS region), arab (Arab countries). Table A4 in the Appendix contains further information on the origin grouping.

Table A8: Robustness check regressions, outputs linear specification

	Dependent variable: Probability of employment				*Dependent variable: Annual gross wages*			
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
	OLS	*IV*	*OLS*	*IV*	*OLS*	*IV*	*OLS*	*IV*
concentration	*-.073*	*.001*	*.057*	*.242*	*-.177*	*-.135*	*.261*	*.399*
	*(.004)****	*(.009)*	*(.012)****	*(.029)****	*(.032)****	*(.109)*	*(.072)****	*(.290)****
female	*-.093*	*-.093*	*-.102*	*-.101*	*-.357*	*-.356*	*-.344*	*-.343*
	*(.002)****	*(.002)****	*(.002)****	*(.002)****	*(.015)****	*(.015)****	*(.016)****	*(.016)****
age	*.014*	*.014*	*.016*	*.016*	*.171*	*.171*	*.180*	*.179*
	*(.001)****	*(.000)****	*(.000)****	*(.000)****	*(.006)****	*(.006)****	*(.006)****	*(.006)****
age2	*-.0003*	*-.0003*	*-.0003*	*-.0003*	*-.002*	*-.002*	*-.002*	*-.002*
	*(.000)****	*(.000)****	*(.000)****	*(.000)****	*(.000)****	*(.000)****	*(.000)****	*(.000)****
urbanization	*.018*	*.016*	*.010*	*.003*	*.061*	*.059*	*.043*	*.038*
	*(.001)****	*(.001)****	*(.002)****	*(.002)*	*(.010)****	*(.012)****	*(.012)****	*(.016)****
employment_nbh			*.264*	*.337*			*.816*	*.722*
			*(.014)****	*(.034)****			*(.103)****	*(.415)**
meanwage_nbh			*-.001*	*-.001*			*.000*	*.000*
			*(.000)****	*(.000)**			*(.000)*	*(.000)*
constant	*-.106*	*-.115*	*-.180*	*-.214*	*5.11*	*5.11*	*4.56*	*4.54*
	*(.010)****	*(.011)****	*(.017)****	*(.031)****	*(.138)****	*(.138)****	*(.183)****	*(.356)****
experience	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*
year	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*
corop	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*	*yes*
observations	*306200*	*306200*	*176296*	*176296*	*41377*	*41377*	*27018*	*27018*
r-square	*.153*		*.160*		*.291*		*.300*	

a. Table represents estimation outcomes using OLS and IV techniques with dependent variables probability of employment and annual gross wages, where employment is defined as min. annual wages of €1000 and 80 working days.

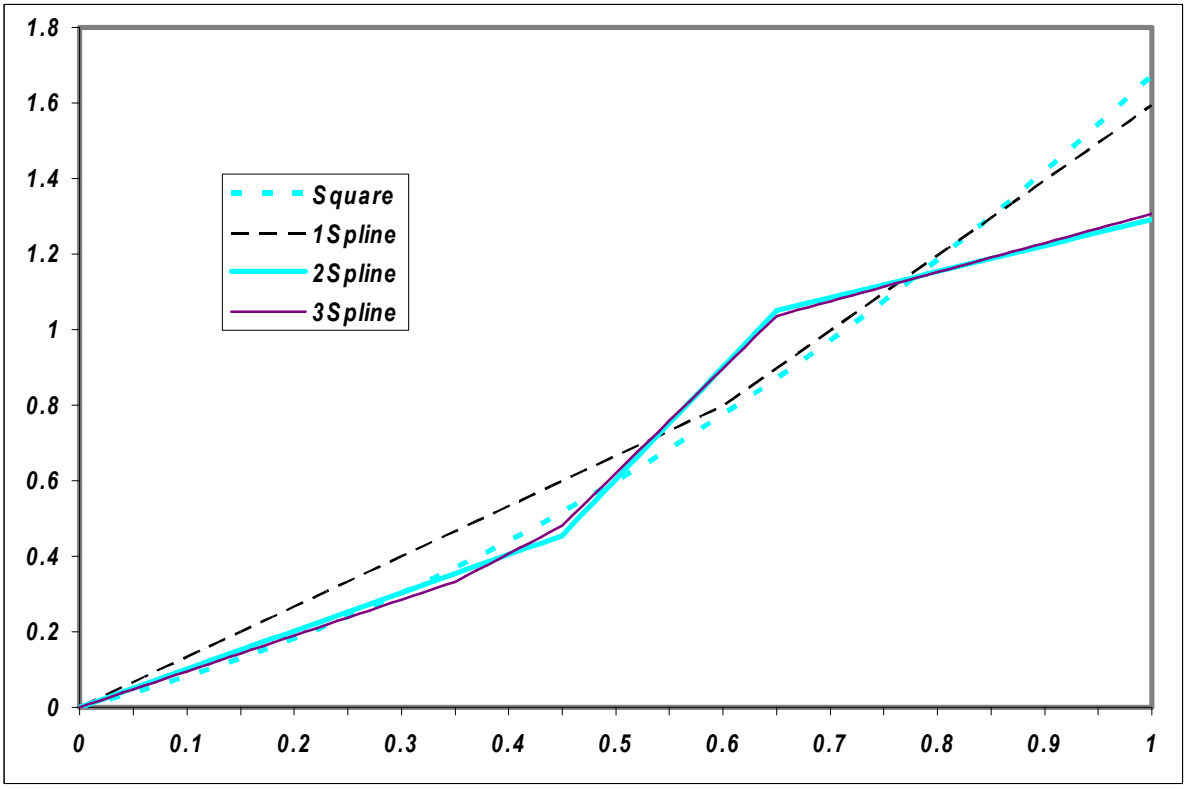
b. urbanization is the natural logarithm of the degree of urbanization of neighbourhoods, which is measured as the number of addresses per 1km radius of the neighbourhood.

c. heteroskedasticity-consistent standard errors are in parentheses. They are corrected to account for multiple observations of individuals over time. Asterisks indicate significance level: * at 10%, ** at 5%, *** at 1% respectively.

d. In the IV regressions, initial neighbourhood concentrations are used as instruments for annual neighbourhood concentrations.

e. All regressions include dummies for level of experience (levels: 1-4 years, 5-7 years, 8-10 years), year (1999-2004), corop (40 areas). Regressions (3), (4), (7) and (8) moreover include neighbourhood fixed effects where employment_nbh is mean employment rate among the population aged 18-64 in the neighbourhood and meanwage_nbh is mean wage of the population 18-64 working of the neighbourhood.

Figure A2: Regression outputs for 1-4 years experience group, non-linear models, annual wages



Source: Netherlands Bureau of Statistics, SSB 1995-2004; own calculations

** Graphs plot the regression outputs of the OLS and IV estimations for the dependent variables employment chances and annual gross wages with non-Western neighbourhood concentrations on the horizontal axis and the dependent variables on the vertical axis.*

The UNU-MERIT WORKING Paper Series

2011-01 *Mitigating 'anticommons' harms to research in science and technology* by Paul A. David
2011-02 *Telemedicine and primary health: the virtual doctor project Zambia* by Evans Mupela, Paul Mustard and Huw Jones
2011-03 *Russia's emerging multinational companies amidst the global economic crisis* by Sergey Filippov
2011-04 *Assessment of Gender Gap in Sudan* by Samia Satti Osman Mohamed Nour
2011-05 *Assessment of Effectiveness of China Aid in Financing Development in Sudan* by Samia Satti Osman Mohamed Nour
2011-06 *Assessment of the Impacts of Oil: Opportunities and Challenges for Economic Development in Sudan* by Samia Satti Osman Mohamed Nour
2011-07 *Labour Market and Unemployment in Sudan* by Samia Satti Osman Mohamed Nour
2011-08 *Social impacts of the development of science, technology and innovation indicators* by Fred Gault
2011-09 *User innovation and the market* by Fred Gault
2011-10 *Absorptive capacity in technological learning in clean development mechanism projects* by Asel Doranova, Ionara Costa and Geert Duysters
2011-11 *Microeconomic analysis of rural nonfarm activities in the Kyrgyz Republic: What determines participation and returns?* By Aziz Atamanov and Marrit van den Berg
2011-12 *Immigration and growth in an ageing economy* by Joan Muysken and Thomas Ziesemer
2011-13 *State-led technological development: A case of China's nanotechnology development* by Can Huang and Yilin Wu
2011-14 *A historical perspective on immigration and social protection in the Netherlands* by Melissa Siegel and Chris de Neubourg
2011-15 *Promoting return and circular migration of the highly skilled* by Metka Hercog and Melissa Siegel
2011-16 *Voluntary agreements and community development as CSR in innovation strategies* by Vivekananda Mukherjee and Shyama V. Ramani
2011-17 *Strengthening the roles of political parties in Public Accountability - A case study of a new approach in political party assistance* by Renée Speijcken
2011-18 *The elusive quest for the golden standard: Concepts, policies and practices of accountability in development cooperation* by Renée Speijcken
2011-19 *Are health care payments in Albania catastrophic? Evidence form ALSMS 2002, 2005 and 2008* by Sonila Tomini and Truman G. Packard
2011-20 *On India's plunge into Nanotechnology: What are good ways to catch-up?* By Shyama V. Ramani, Nupur Chowdhury, Roger Coronini and Susan Reid
2011-21 *Emerging country MNEs and the role of home countries: separating fact from irrational expectations* by Rajneesh Narula and Quyen T.K. Nguyen
2011-22 *Beyond knowledge brokerage: An exploratory study of innovation intermediaries in an evolving smallholder agricultural system in Kenya* by Catherine W. Kilelu, Laurens Klerkx, Cees Leeuwis and Andy Hall
2011-23 *Dynamics of biosciences regulation and opportunities for biosciences innovation in Africa: Exploring regulatory policy brokering* by Ann Kingiri and Andy Hall

2011-24 *The when and where of research in agricultural innovation trajectories: Evidence and implications from RIU's South Asia projects* by Vamsidhar Reddy, T.S., Andy Hall and Rasheed Sulaiman V.

2011-25 *Innovation and Diffusion of Clean/Green Technology: Can Patent Commons Help?* By Bronwyn H. Hall and Christian Helmers

2011-26 *Technology alliances in emerging economies: Persistence and interrelation in European firms' alliance formation* By Rene Belderbos, Victor Gilsing, Jojo Jacob

2011-27 *Innovation pathways and policy challenges at the regional level: smart specialization* By René Wintjes and Hugo Hollanders

2011-28 *Innovation and productivity* by Bronwyn H. Hall

2011-29 *Mapping the interdisciplinary nature and co-evolutionary patterns in five nano-industrial sectors* by Lili Wang and Ad Notten

2011-30 *Assessment of industrial performance and the relationship between skill, technology and input-output indicators in Sudan* by Samia Satti Osman Mohamed Nour

2011-31 *Assessment of skill and technology indicators at the macro-micro levels in Sudan* by Samia Satti Osman Mohamed Nour

2011-32 *Education, training and skill development policies in Sudan: Macro-micro overview* by Samia Satti Osman Mohamed Nour

2011-33 *Estimating the rate of return to education in Sudan* by Samia Satti Osman Mohamed Nour

2011-34 *The importance (impact) of knowledge at the macro-micro levels in Sudan* by Samia Satti Osman Mohamed Nour

2011-35 *Angus Maddison and Development Economics* by Adam Szirmai

2011-36 *Managerial ownership and urban water utilities efficiency in Uganda* by Dorcas Mbuvi and Achraf Tarsim

2011-37 *Immigration and growth in an ageing economy* by Joan Muyskens and Thomas Ziesemer

2011-38 *The Development of Diaspora Engagement Policies in Burundi and Rwanda* by Sonja Fransen & Melissa Siegel

2011-39 *Understanding the changing role of the Turkish diaspora* by Özge Bilgili & Melissa Siegel

2011-40 *Understanding Ethiopian diaspora engagement policy* by Katie Kuschminder and Melissa Siegel

2011-41 *Engaging the diaspora in India* by Metka Hercog and Melissa Siegel

2011-42 *Protecting Vulnerable Families in Central Asia: Poverty, vulnerability and the impact of the economic crisis* by Franziska Gassmann

2011-43 *Innovation performance and embeddedness in networks: evidence from the Ethiopian footwear cluster* by Mulu Gebreeyesus and Pierre Mohnen

2011-44 *The power of the strong state: A comparative analysis of the diaspora engagement strategies of India and Ethiopia* by Katie Kuschminder and Metka Hercog

2011-45 *New insights on the role of location advantages in international innovation* by Rajneesh Narula and Grazia D. Santangelo

2011-46 *Preferences for conditioning and being conditioned - experimental & survey evidence from Zambia* by Esther Schüring

2011-47 *International migration and local employment: analysis of self-selection and earnings in Tajikistan* by Aziz Atamanov and Marrit van den Berg

2011-48 *Complementarity between in-house R&D and technology purchasing: evidence from Chinese manufacturing firms* by Jun Hou and Pierre Mohnen

2011-49 *The internationalization of R&D* by Bronwyn H. Hall

2011-50 *Missing the target: Lessons from enabling innovation in South Asia* by Sulaiman V. Rasheed , Andy Hall and T.S. Vamsidhar Reddy

2011-51 *Optimal public investment, growth, and consumption: Evidence from African countries* by Augustin Kwasi Fosu, Yoseph Yilma Getachew and Thomas Ziesemer

2011-52 *Size, competition, and innovative activities: a developing world perspective* by Abdul Waheed

2011-53 *What Changes Gini Coefficients of Education? On the dynamic interaction between education, its distribution and growth* by Thomas Ziesemer

2011-54 *Global Framework for differential pricing of pharmaceuticals* by Rutger Daems and Shyama V. Ramani

2011-55 *The effect of net immigration on economic growth in an ageing economy: transitory and permanent shocks* by Joan Muysken and Thomas Ziesemer

2011-56 *Research, higher education and innovation: redesigning multi-level governance within Europe in a period of crisis* by Jo Ritzen and Luc Soete

2011-57 *A renaissance for social mobility and its significance for the bridge towards postsecondary education* by Jo Ritzen

2011-58 *Arab Regional Systems of Innovation: Characteristics and Implications* by Samia Satti Osman Mohamed Nour

2011-59 *The use and economic impacts of ICT at the macro-micro levels in the Arab Gulf countries* by Samia Satti Osman Mohamed Nour

2011-60 *The Use and Economic Impacts of Information and Communication Technology (ICT) in Sudan* by Samia Satti Osman Mohamed Nour

2011-61 *Innovation and firm-level productivity: econometric evidence from Bangladesh and Pakistan* by Abdul Waheed

2011-62 *User innovation in the business enterprise sector of Maputo Province in Mozambique* by Júlia Eva Baltazar Zita & Avelino Hermíneo Lopes

2011-63 *Business spaces between entrepreneurs and opportunities. The impact of the local built environment and zoning regulations on businesses in Dutch cities* by Pascal Beckers & Robert C. Kloosterman

2011-64 *Exploring the role of the neighbourhood in firm relocation: differences between stayers and movers* by Bart Sleutjes & Pascal Beckers

2011-65 *Country terms of trade: Trends, unit roots, over-differencing, endogeneity, time dummies, and heterogeneity* by Thomas Ziesemer

2011-66 *Immigrant entrepreneurship on the move: A longitudinal analysis of first and second generation immigrant entrepreneurship in the Netherlands* by Pascal Beckers & Boris F. Blumberg

2011-67 *Neighbourhood spatial order and firm mobility in disadvantaged urban neighbourhoods of the Netherlands* by Pascal Beckers & Bart Sleutjes

2011-68 *Segregation in neighbourhoods and labour market outcomes of immigrants: Evidence from random assignment in the Netherlands* by Pascal Beckers & Lex Borghans