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Shadow Places: Patterns of Spatial Concentration and Incorporation of Irregular Immigrants in the Netherlands

Arjen Leerkes, Godfried Engbersen and Marion van San

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Summary. In Western countries, irregular immigrants constitute a sizeable segment of the population. By combining quantitative and qualitative research methods, this article describes and explains irregular immigrants' patterns of spatial concentration and incorporation in the Netherlands. So far these spatial patterns have not been described and explained systematically, neither in the Netherlands nor elsewhere. The article shows that illegal residence is selectively embedded in the (urban) social structure in various ways. The authors argue that irregular immigrants are likely to be spatially concentrated and incorporated in similar ways in other Western countries; now and in the foreseeable future.

Introduction

Irregular immigrants have become part-andparcel of the western European population. This is the case not only in the Mediterranean countries, but also in countries such as Germany, England and France (Sciortino, 2004; Cornelius et al., 2004; OECD, 2005). Despite the restrictive immigration policies in these countries, there does not seem to be any decline in the number of irregular immigrants in western Europe. The same can be said about the situation in the US (Cornelius, 2005). There are even indications that a restrictive immigration policy is counterproductive, as it is under such conditions much more difficult for irregular immigrants to return to their country of origin. In the Netherlands, 10 000 to 15 000 irregular immigrants are apprehended annually (Engbersen et al., 2002). We define irregular immigrants as people who stay in the country without official permission to do so at the time of the research, regardless of whether or not they have entered the country legally and regardless of whether they are economically active. Many of them came to the Netherlands on a tourist visa and stayed, others crossed the border illegally or became illegal when they were refused refugee status (Burgers and Engbersen, 1999; Staring, 2001). There are no official registrations of illegal immigrants in the Netherlands. Cruyff and van der Heijden (2004) used apprehension data to estimate that, in the period 1997-2003, between 125 000 and 230 000 illegal immigrants were residing annually in the Netherlands. In this article we assume, on the basis of the

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estimations of Cruyff and van der Heijden (2004) that the number of irregular immigrants in the Netherlands is about 150 000. This is equivalent to approximately 1 per cent of the regular Dutch population and 10 per cent of the foreign-born population (see Snel et al., Irregular immigrants 2005). in the Netherlands originate from more than 200 countries. The largest groups are Turks, Moroccans, Algerians and Surinamese. In addition, there is a growing number from eastern and central Europe. The dividing lines between asylum-seekers, commuting immigrants and irregular immigrants are sometimes diffuse and changing. Asylumseekers, for example, are often confused with illegal immigrants, whereas they only lose their residence rights when they are rejected and refuse to leave. Recently, the number of aliens that become 'illegal' after they have been rejected as asylum-seekers has increased. However, recent research indicates that the share of rejected asylum-seekers within the irregular population is about 15 per cent (De Boom et al., 2006). Most irregular immigrants cross the border on a tourist visa (and then overstay) or cross the border illegaly without applying for asylum.

Irregular immigrants are unevenly spread across the Netherlands. An explorative study indicated that they are mainly present in the large cities in the Netherlands (Amsterdam, Rotterdam, The Hague and Utrecht) and in a number of border and rural areas (Engbersen et al., 2002). In some places, irregular immigrants therefore make up a considerably larger part of the population than the national average of 1 per cent—locally probably increasing up to about 6-8 per cent (Leerkes et al., 2004). Studies in other countries indicate a similar pattern: irregular immigrants are concentrated in specific urban and rural environments (Chavez, 1992: Miller, 1995; Bade, 2003; Cornelius, 2005).

So far, there is no systematic empirical information on the spatial distribution of irregular immigrants. This does not only apply to the Netherlands, but also to other Western countries. The research questions of this article are

To what extent, and in what way, is illegal residence spatially concentrated within the Netherlands, and how can patterns of spatial concentration and incorporation be explained?

Unlike in previous studies, the spatial spreading of irregular immigrants will be described in quantitative terms. The central determinants of irregular immigrants' residential pattern will also be operationalised and tested quantitatively. Statistical results will be interpreted and illustrated with data from two ethnographical neighbourhood studies. Such a triangular approach is innovative in this research field.

This article focuses on illegal residence in urban environments, as most irregular immigrants live in (big) cities. More specifically, our fieldwork was conducted in two urban neighbourhoods in the cities of Rotterdam and The Hague, which are the second- and third-largest cities in the Netherlands.

First, we present the central theoretical concepts and assumptions that constitute this study. Next, the data sources and research methods will be explained. Then we briefly describe the spatial distribution of the illegal population across the Dutch municipalities and provinces. We then analyse (the determinants of) the spatial patterns of illegal residence in urban environments. Finally, we outline the implications of our findings for other western immigration countries, projected into the near future.

Spatial Opportunity Structure

There is a rich international literature on the spatial concentration of regular migrant groups. The American literature, where researchers from the Chicago School have continued to write about processes of spatial distribution among migrant groups, is particularly rich (see, among others, Park *et al.*, 1925; Massey and Denton, 1993; Jargowsky, 1997). In Europe, a comparable literature is emerging. Europe is now confrontated by similar processes of spatial and economic segregation, spatial, mobility, and the emergence

of 'residential enclaves' (van der Wouden and Bruinje, 2001; Musterd and Deurloo, 2002; van Kempen and Idamir, 2003; Musterd, 2004).

Various studies provide indications about the crucial factors of the spatial settlement pattern of illegal migrants. A first crucial factor is the embedding in (transnational) social networks. For this incorporation process, one can use the term 'social capital' as operationalised by Portes (1998). Social capital relates to the ability of irregular immigrants to mobilise resources (money, work, housing, information, documents and also possible marriage partners) from their ethnic and family networks. Social capital determines to a large degree the residential opportunities for irregular immigrants (Mahler, 1995; Engbersen, 2001; Grzymala-Kazlowska, 2005; Engbersen and Leerkes, 2006). The social capital that illegal migrants can mobilise, varies both between and within ethnic groups. Not every immigrant has access to a network of migrants. Dutch studies show that particularly the Turkish, Moroccan and Surinamese groups (and, to a lesser extent, African groups) can fall back established migrant communities on (Burgers and Engbersen, 1999). Lack of social capital is particularly found among rejected asylum-seekers who come from new immigration countries, but strongly marginalised irregular immigrants, who cannot depend on established migrant communities, can also be found in other groups. If they do not find a job, they will have to fend for themselves in most cases.

Labour opportunities constitute the second residential factor. Various authors assume that there is increasing room for low-skilled jobs (formal and informal) at the bottom of the labour market in large cities (Sassen, 1991; Miller, 1995; Bonacich and Appelbaum, 2000). In this part of the economy, the remains of industrial activities (such as the textile industry with its sweatshops) can be found and there is low-wage labour in all kinds of enterprises in the (personal) service industries (cleaning, security, catering, care for children and the elderly, home improvement). Furthermore, a sizeable 'ethnic economy' has evolved

in many large cities in which informal labour by illegal compatriots is a rather common phenomenon. By keeping the labour costs low, these businesses hope to achieve economic success. There is also considerable demand for irregular labour in agriculture and horticulture (Cornelius, 2005). Irregular immigrants are very important for this sector in western Europe (see Cornelius *et al.*, 2004).

A third relevant factor is the presence of cheap and accessible accommodation. In some city districts, there is a favourable local housing market for irregular immigrants, because there are many private landlords who are willing to rent out flats, rooms or beds to irregular immigrants. Building on Mahler's views (Mahler, 1995), Burgers (1998) noted the existence of 'parallel housing markets' in Dutch city districts—i.e. informal markets that are largely similar to the formal housing market. He points to two parallels. On the one hand, there is social housing in the Netherlands (with its 'rent ceilings'), which makes it possible for irregular immigrants to live in with compatriots for free or in exchange for a modest rent. On the other hand, there is a private housing market to which irregular immigrants have access if they can afford to pay higher rents. By now, there are also a number of hybrid forms in which regular migrants sub-let or re-let their council houses to irregular immigrants (Leerkes et al., 2004). Offering accommodation to irregular immigrants can be a welcome source of income for regular migrants (and also for established illegal ones). Those who have been in the Netherlands for a longer period of time can thus start a career as a landlord. These landlords thus link the formal and informal housing markets. Due to governmental regulations, the rents—particularly in the social sector are often lower than market prices. This makes informal sub-tenancy lucrative. Our study also indicates that the active dispersal policy of asylum-seekers has some effects on the spreading of irregular immigrants (see Leerkes et al., 2004). These effects are limited. First, most of the irregular immigrants do not have an asylum history and were

therefore not subjected to a policy of dispersal. Secondly, failed asylum-seekers often appear to leave rural and small town areas and head to the big cities.

The three central dimensions of the opportunity structure of illegal residence—social capital, labour and housing—are often connected. People who have much social capital often have easier access to labour and housing (Engbersen, 2001). Others are more dependent on commercial intermediaries (irregular temporary employment agencies and landlords) for obtaining work and housing. Various ethnographic studies conducted in Dutch cities and in cities such as New York, Athens, London, Berlin and Brussels make it clear that the dimensions of the opportunity structure for irregular immigrants have a clear spatial component (Mahler, 1995; Romaniszyn, 1996; Burgers and Engbersen, 1999; Alt, 2003; Grzymala-Kazlowska, 2005). Opportunities for illegal residence are limited to certain urban environments. It is the spatial proximity of labour, social networks and housing that seems to determine why irregular immigrants live and work in particular city regions.

The three dimensions that can be discerned in the literature, have now been mentioned. Our study yields as a new insight that the presence of (poor) singles also contributes to the opportunity structure of illegal residence. Single households represent a fourth, independent dimension of this opportunity structure. This dimension has a clear spatial component as well.

Research Methods

This study is based on the registered home addresses of all irregular immigrants apprehended in the Netherlands between 1 January 1997 and 1 October 2003. The data have been provided by the 25 Dutch police forces and are taken from the so-called Vreemdelingen Administratic Systeem, a national database in which all known aliens are registered. For each municipality and neighbourhood (postcode area), we counted the number of addresses where, according to

police data, irregular immigrants were living (hereinafter called 'absolute concentration'). This measure, which gives an indication of the local density of the illegal population, was linked to a database containing information on various demographic and socioeconomic characteristics of the neighbourhood and the share of private homeownership in the neighbourhoods. This database with neighbourhood characteristics is from the Dutch Central Bureau for Statistics and is called Kerncijfers Wijken en Buurten 1999. The data on private homeownership were supplied by the Ministry of Housing and are taken from the research Geomarktprofiel 1998. As a measure of the relative number of irregular immigrants (hereinafter called 'relative concentration'), we divided the absolute concentration of irregular immigrants by the number of legal local residents. Next, we identified the socioeconomic characteristics of the neighbourhoods where illegal residence is quite widespread. By means of multiple regression analysis, the relative concentration of irregular immigrants was predicted on the basis of such neighbourhood characteristics.

The fieldwork was conducted in Bospolder-Tussendijken in Rotterdam and de Schilderswijk in The Hague in 2003. These neighbourhoods were selected because police data indicated that illegal residence occurs regularly there. Both neighbourhoods are part of multicultural districts populated by many non-Western immigrants. The former neighbourhood has 65 per cent immigrants, including many Turks, Moroccans, Cape Verdeans and Surinamese. The latter neighbourhood comprised 85 per cent immigrants, including many Turks, Surinamese, Moroccans and Antilleans. We interviewed 20 key informants—from various professional groups who regularly come into contact with irregular immigrants and who could indicate why, and how, irregular immigrants reside there. These were employees of the (alien) police, the municipal authority and housing associations, as well as community and social care workers. The interviews were conducted with the help of a short topic list.

In addition, we interviewed 65 irregular immigrants (from Morocco, Turkey, Bulgaria, Somalia, India and Pakistan) and 45 providers of accommodation (from a Dutch, Moroccan, Turkish, Surinamese or Somali background). We also spoke with five mixed couples of whom one of the partners stayed in the Netherlands illegally. The interviews with irregular immigrants and providers of accomodation were carried out by a team of interviewers. Selection of the interviewers was based on ethnic background (the interviews were held in the respondent's mother tongue), experience with the research groups concerned and interviewing skills. All interviewers attended, or had completed, higher education. The interviewers recruited respondents with the help of key informants (police, social workers, etc.), or searched for respondents in cafes, teahouses, mosques, or in the street. Respondents were asked to bring the interviewer into contact with other irregular immigrants or with their accomodation providers. The interviewers made use of a questionnaire with open and closed questions. Irregular immigrants that took part in the research were given a financial reward.

Limitations

Our study has some limitations. First, the quantitative data primarily give a picture of the illegal population that ran a certain risk of being apprehended. Although the number apprehensions was substantial (N = 107 322), it was impossible to determine the extent to which the home addresses of apprehended irregular immigrants constitute a correct representation of the home addresses of all irregular immigrants that lived in the Netherlands between 1997 and 2003. Futhermore, in a number of apprehensions, no home address was registered and sometimes the stated home address proved to be the address where the person was apprehended or the address of a police station or detention centre. We could solve most of these complications by checking and cleaning up the database. 1 Registrations without home address, for

example, often involved irregular immigrants who were apprehended at the border and therefore had not yet taken up residence in the Netherlands. The addresses of police stations and detention centres could be identified. In addition, we examined how often the police may have recorded the place of apprehension as the 'home address' while the arrested person was actually living somewhere else. It is not likely that this happened very often. When the address was not registered, we could sometimes use the place of apprehension as an indication of the home address (such as in the case of house raids). Bias as a result of incomplete or inaccurate registration of home addresses may therefore be said to be limited.

Local police priorities naturally influence the number of local apprehensions. Increasingly, specific raids take place in Amsterdam, Rotterdam and the Hague, as well as in some concentration areas. Increasingly, employers are also subjected to checks by the labour inspection. However, most irregular immigrants are still apprehended during regular police work—i.e. as crime suspects or because of minor offences such as driving too fast or dodging fares (van der Leun, 2003). This is probably the reason why we do not find indications for substantial geographical differences in the risk of arrest.²

Although the results of the neighbourhood studies cannot be generalised as such, we aimed at 'qualitative completeness' (Hammersley and Atkinson, 1995; Lofland and Lofland, 1995). We kept looking for additional respondents until we found no more new types of accommodation and appeared to have obtained a complete picture of the reasons why irregular immigrants resided in these neighbourhoods. The limitations of the separate research methods and sources were met as much as possible by triangulation. We could compare the information provided by the professionals, landlords and immigrants. irregular The information obtained from the people involved was compared with the quantitative results. This gave us more confidence in the validity of the findings.

Results

The Distribution of Irregular Immigrants across Dutch Provinces and Municipalities

Illegal residence is not merely an urban phenomenon, for the highest relative concentrations of irregular immigrants were found in both the *most* and *least* densely populated areas. There are also irregular immigrants in

rural areas in the north of the province of North-Holland (A), and in the provinces of Brabant (B) and Groningen (C) (see Figures 1 and 2). In rural areas, illegal residence is primarily connected with the demand for seasonal workers in the horticultural and agricultural sector (De Bakker, 2001). The registered addresses suggest that the presence of asylum-seekers' centres, Chinese

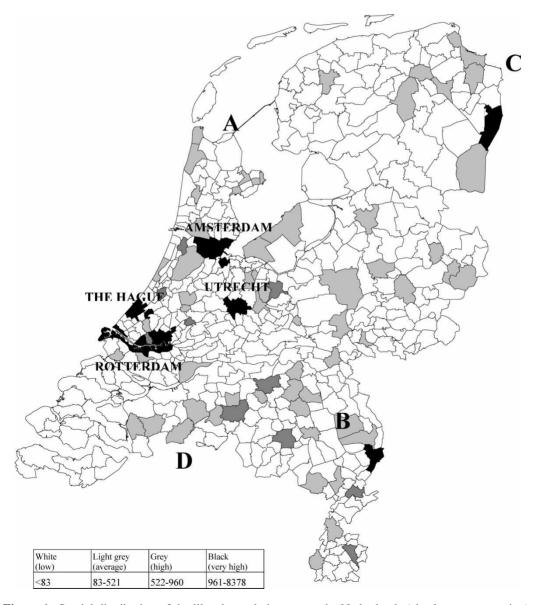


Figure 1. Spatial distribution of the illegal population across the Netherlands (absolute concentration). *Sources*: Central Bureau for Statistics; Vreemdelingen Administratie Systeem, 1997–October 2003.

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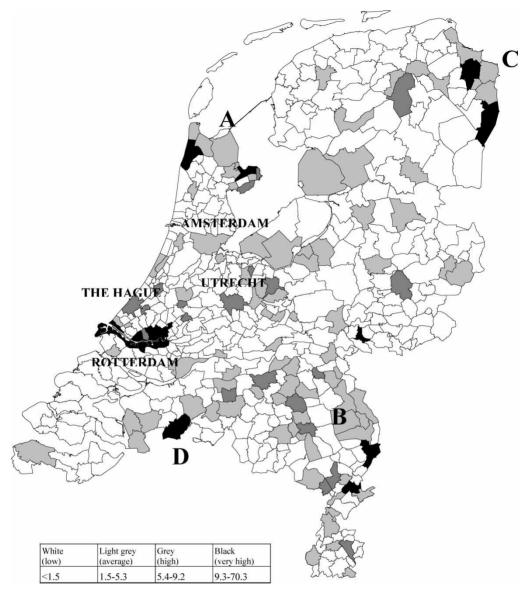


Figure 2. Spatial distribution of the illegal population across the Netherlands (relative concentration). *Sources*: Central Bureau for Statistics; Vreemdelingen Administratie Systeem, 1997–October 2003.

restaurants and brothels are also important, albeit to a lesser extent. The increased degree of illegal residence in the south of the province of Limburg (D) is, in part, due to drug tourism from bordering EU member-states. Many illegal aliens there have French, Belgian or German nationality and have usually lost the right of residence in the Netherlands since they were declared

'undesirable aliens' after they had caused a (drug) nuisance. Finally, a substantial proportion of the irregular immigrants is found in municipalities with detention and deportation centres for irregular immigrants and rejected asylum-seekers—for example, in Zevenaar (north of B), Ter Apel (near C) and Rijsbergen (near D). Apprehended irregular immigrants often stay in these

institutions for months and often more than once (van Kalmthout, 2004).

In the description that follows, we will confine ourselves to illegal residence in urban environments, not in detention. In addition, we focus on illegal residence by (non-Western) 'third country nationals' (i.e. people from outside the EU who are not nationals of states in North America or Oceania).

The Spatial Incorporation of Irregular Immigrants in Urban Environments

It is common practice to use segregation indexes (S) to measure the extent to which two groups are spatially segregated from one another. (Strictly speaking, the term dissimilarity index should be used when two groups do not constitute the total population.) The index indicates the percentage of the group that should move in order to bring about a complete mutual mixing. The higher the

index, the lower the extent of mixing and the stronger the extent of residential segregation. The results are calculated at the level of postcode areas and should be interpreted with some caution for postcode areas differ somewhat in size. Figure 3 shows the extent to which the illegal and legal populations are spatially segregated. Three curves can be distinguished which respectively, from top to bottom, indicate the mixing with the Dutch native population (S = 52), the total urban population (S = 48) and the immigrant population (S = 33). What becomes clear is that, compared with ethnic minority groups, Dutch natives less often have irregular immigrants as neighbours. Sixty per cent of the irregular immigrants live in city districts that house 13 per cent of all Dutch natives, 41 per cent of all the non-Western immigrants and 17 per cent of the total legal urban population. Furthermore, 80 per cent of the illegal urban population live in districts that house

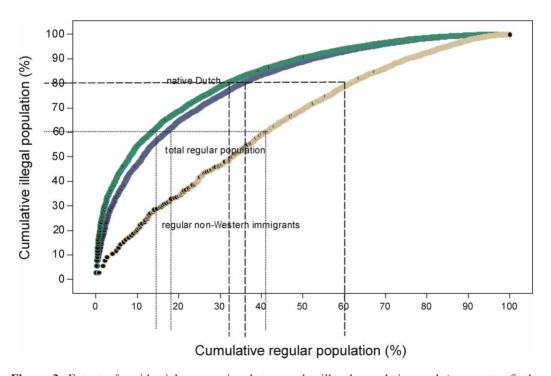


Figure 3. Extent of residential segregation between the illegal population and (segments of) the regular population. *Sources*: Central Bureau for Statistics; Vreemdelingen Administratic Systeem, 1997–October 2003.

31 per cent of the native population, 61 per cent of the legal non-Western immigrants and 35 per cent of the total urban population (see the dotted lines in the figure).

As expected, the illegal population is *selectively* incorporated in the urban landscape. Whereas some city districts house relatively large numbers of irregular immigrants, most neighbourhoods house none or only a few. This observation implies that irregular immigrants usually constitute a much smaller proportion of the local population than the estimated national average of 1 per cent and sometimes substantially higher—probably up to about 6 or 8 per cent (see Leerkes *et al.*, 2004).

The question is how the selective spatial incorporation of irregular immigrants can be explained. Table 1 gives a ranking of 20 neighbourhoods that house the most irregular immigrants. The table contains only a few Amsterdam and Rotterdam neighbourhoods, but that is mainly because the local police record the home addresses of irregular immigrants less often than in other cities. The police in The Hague, on the other hand, record them quite accurately. In the Hague (48 per cent) the percentage of registered residential addresses is almost twice as high as in Amsterdam (24 per cent) and Rotterdam (21 per cent). Nationally, this figure is 30 per cent. If the police registration had been better, the Amsterdam and Rotterdam neighbourhoods would have been featuring prominently in this top twenty list (see Leerkes et al., 2004).

The characteristics of the neighbourhoods provide a first confirmation of the theoretical expectations. Irregular immigrants are often housed in poor immigrant districts. (The average proportion of non-Western immigrants for the 20 districts is 57 per cent versus 11 per cent for all the city districts.)

Table 2 contains five linear regression models.³ The models show that differences between neighbourhoods as to the percentage of irregular immigrants depend on neighbourhood differences in the concentration of legal non-Western immigrants, the socioeconomic status, the size and form of the neighbourhood

economy, the share of private homeownership and the concentration of single-person households. The first four models test the extent to which the spatial distribution of the illegal population corresponds with our (initial) theoretical assumptions. The independent variables are indicators of the extent to which neighbourhoods contain non-Western migrant communities (percentage of non-Western immigrants), economic opportunities (the relative number of establishments in commercial services, manufacturing and non-commercial services) and housing opportunities (socioeconomic status of the neighbourhood and percentage of homeownership). We examined whether the fourth model could be improved with additional independent variables. The percentage of single people did indeed have an additional effect (fifth model).4 In what follows, the quantitative results in Table 2 are discussed and interpreted with findings that are of a qualitative nature.

The Presence of Non-Western Migrant Communities

Two statistical observations suggest that legal immigration tends to bring about illegal (chain) migration. First of all, as Table 2 shows, the effect of the proportion of immigrants in the neighbourhoods on the relative concentration of irregular immigrants hardly decreases when other neighbourhood characteristics are incorporated into the model. A second indication is the settlement pattern of irregular immigrants from countries for which there are large established ethnic groups (such as Turkey, Morocco and Suriname). This pattern can be quite well illustrated with the help of a number of maps of The Hague (see Figures 4 and 5). It turns out, for example, that a relatively large number of illegal Turks live in the districts where legal Turks live and that irregular Moroccans usually end up in the districts with many regular Moroccans. This effect is somewhat stronger for the Turks than for the Moroccans, which has to do with the stronger social

Table 1. Urban neighbourhoods with the highest (absolute) concentration of illegal residence

					<u> </u>					
Postcode	Municipality	Apprehensions (1997–2003)	Regular residents	Relative concentration of illegal immigrants	Regular non- Western immigrants (percentage)	Singles (percentage)	Average annual income among income receivers (euros)	Average value of real estate (euros x 1000)	Private home	Commercial services (establishments per 100 residents)
_	Average urban neighbourhood	14	7 471	2	11	28	15 115	76	45	6
_	Average top 20		1 1813	21	57	37	12 716	40	22	4
2572	The Hague	493	11 030	45	76	32	11 591	33	16	
2525	The Hague	486	15 090	32	79	25	12 364	45	16	2 2
2562	The Hague	351	11 180	31	44	49	13 091	40	48	5
2512	The Hague	253	13 090	19	45	50	13 364	41	20	4
1102	Amsterdam	227	21 130	11	75	41	13 091	40	2	3
2526	The Hague	224	13 790	16	82	25	11 545	41	11	2 3 2 2 2 2 2 2
2571	The Hague	223	9 640	23	64	33	12 318	38	25	3
2515	The Hague	216	11 090	19	54	42	12 318	38	18	2
1104	Amsterdam	170	14 200	12	67	35	13 091	37	4	2
3081	Rotterdam	158	11 400	14	50	42	12 545	31	28	2
1103	Amsterdam	155	13 660	11	66	38	14 045	38	22	2
3073	Rotterdam	151	14 880	10	54	31	12 273	36	13	2
3021	Rotterdam	135	11 780	11	49	46	13 636	50	25	5
3027	Rotterdam	131	10 710	12	73	27	11 818	36	10	1
2573	The Hague	128	9 740	13	28	32	13 545	46	64	2 3 2
2516	The Hague	118	8 560	14	60	35	12 227	37	13	3
2522	The Hague	117	11 640	10	28	36	13 045	37	61	
5705	Helmond	114	1 190	96	12	31	13 818	61	26	18
3014	Rotterdam	113	9 110	12	64	38	12 227	43	7	6
1094	Amsterdam	107	13 350	8	58	45	12 364	35	4	2

 $\it Note$: The table contains unweighted averages.

Source: Central Bureau for Statistics (Kerncijfers wijken en buurten 1999); Ministry for Housing, Vreemdelingen Administratie Systeem, 1997-October 2003.

Table 2. Determinants of the relative concentration of illegal immigrants

	Model 1	Model 2	Model 3	Model 4	Model 5			
Percentage of non-Western immigrants SES Commercial services Manufacturing Non-commercial services Percentage of private homeownership Percentage of single residents	0.13*** (0.62)	0.12*** (0.59) -0.16*** (-0.07)	0.12*** (0.58) -0.26*** (-0.11) 0.12*** (0.57) -0.26*** (-0.25) 0.08 (0.05)	0.13*** (0.66) -0.42*** (-0.18) 0.14*** (0.42) -0.28*** (-0.27) 0.06 (0.04) 0.02*** (0.18)	0.13*** (0.66) -0.35*** (-0.15) 0.10*** (0.31) -0.17*** (-0.17) -0.07 (-0.01) 0.03*** (0.24) 0.04*** (0.20)			
Constant N R ²	0.16** 1240 0.39	0.20*** 1237 0.39	-0.12 1202 0.46	-1.34*** 1202 0.47	-2.53*** 1202 0.50			

Notes: ** = p < 0.05; *** = p < 0.01.

Standardised effects (betas) are shown in parenthesis.

Source: Central Bureau for Statistics; Ministry for Housing, Vreemdelingen Administratie Systeem, 1997–October 2003.

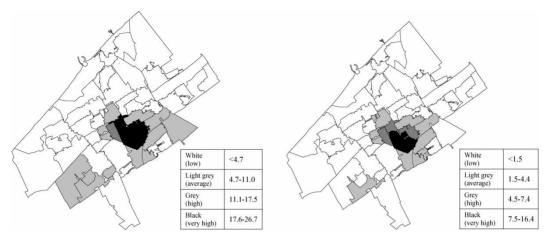


Figure 4. Distribution of Turks across The Hague. *Left*: Regular Turks (percentage of total population). *Right*: Illegal Turks (relative concentration). *Sources*: Central Bureau for Statistics; Vreemdelingen Administratic Systeem, 1997–October 2003.

cohesion and trust networks among Turkish immigrants (Engbersen, 2001; Staring, 2001).

The fieldwork suggests that such causal connections can be direct and indirect. First, it turns out that many respondents live in these neighbourhoods because family or acquaintances, who usually took care of them after they arrived, live nearby. These established immigrants often help illegal newcomers in their primary network to find a room or flat in the neighbourhood later on. The indirect relations are mainly found among irregular immigrants

who have no family members in the Netherlands. It turned out that some had come to Europe with the help of human smugglers and/or had gone through asylum procedures to no effect, often elsewhere in the Netherlands. They told us they preferred neighbourhoods with an ethnic variety and where many people speak their language or dialect, which makes them 'inconspicuous'. In addition, they hope to benefit from the 'ethnic infrastructure' established by previous immigration flows: mosques (to pray and meet people, and

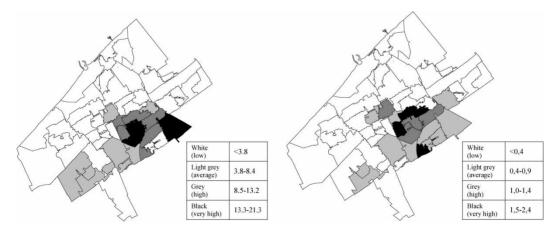


Figure 5. Distribution of Moroccans across The Hague. *Left*: Regular Moroccans (percentage of total population). *Right*: Illegal Moroccans (relative concentration). *Sources*: Central Bureau for Statistics; Vreemdelingen Administratie Systeem, 1997–October 2003.

where sometimes free food is served during Ramadan), ethnic shops (where they can buy products from the country of origin and can sometimes get a job) and coffee houses (to spend the day cheaply and come into contact with people). The tendency to seek accommodation near places where compatriots livealso coined 'ethnic self-segregation' (see Stepick et al., 2003)—is well documented for regular migrants (Musterd et al., 1998; van der Wouden and Bruijne, 2001). That the presence of legal compatriots tempts irregular immigrants to live in relatively homogeneous 'urban villages' (Gans, 1962/1982) is aptly illustrated by the following excerpt from an interview

I went to live in Bospolder-Tussendijken because my brother lived here and because there are many Moroccans with a valid residence permit in this neighbourhood who help me with all kinds of things when I need them. This neighbourhood mainly has a social function for me. I meet a lot of people with whom I make appointments and chat about all and sundry (illegal Moroccan).

Certain groups of irregular immigrants do not take up residence in deprived immigrant neighbourhoods because they have family members or compatriots who live there, but rather because of the 'favourable' supply of housing. This becomes more evident when we include the effect of neighbourhood socioeconomic status in the analysis.

The Socioeconomic Status of the Neighbourhoods

Illegal residence is associated with low income in two ways. First, low skilled potential immigrants have little chance of obtaining a legal residence permit because the Dutch government has strongly discouraged low-skilled labour migration for some time now (van der Leun, 2003). Secondly, it is practically impossible to earn a high income without a residence (and working) permit. Therefore, it is understandable that irregular immigrants often end up at the bottom of the housing market.

Table 2 indicates that the socioeconomic status of the neighbourhoods yields an independent negative effect on the degree of illegal residence. Two additional maps of The Hague confirm this observation (Figure 6). Illegal eastern Europeans usually live in neighbourhoods where many illegal Turks and Moroccans reside (near A) and are thus not spatially embedded in the legal eastern European community. The few legal eastern Europeans in The Hague (staff of embassies and international organisations) reside primarily in the more upmarket city districts (near B).

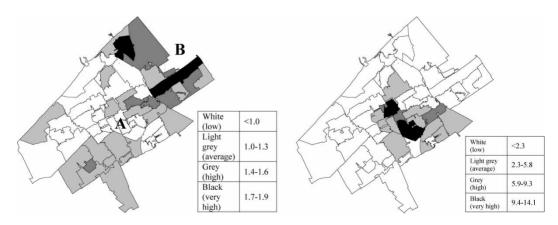


Figure 6. Distribution of eastern Europeans across The Hague. *Left*: Regular eastern Europeans (percentage of total population). *Right*: Illegal eastern Europeans (relative concentration). *Sources*: Central Bureau for Statistics; Vreemdelingen Administratie Systeem, 1997–October 2003.

In the neighbourhoods in which we conducted our fieldwork, an informal commercial housing sector has emerged. This informal sector is particularly important to irregular immigrants who cannot fall back on the support of family or friends in the Netherlands. Both in Rotterdam and in The Hague, landlords of mainly Dutch, Turkish or Hindu-Surinamese origin offer accommodation to indigent people in general and irregular immigrants in particular. They rent out floors, rooms and (bunk) beds. Premises where 10-30 people can rent a bed are also called 'sleeping houses' by the local residents. In the commercial circuit, the price for a bed turns out to be about €150-250, the price for a flat is €600 – 700. This is clearly more than what is paid by irregular immigrants who live in with their family or acquaintances (usually for free) or have a flat sub-let from a friend or family member ($\leq 150 - 400$).

Although irregular immigrants from eastern Europe often reside in rural horticultural areas. also found some Bospolderin Tussendijken and, more particularly, in de Schilderswijk. They were mainly Bulgarians. The men usually spent the night in sleeping houses and were picked up by minivans in the Schilderswijk and taken to the greenhouses in the nearby Westland area every workday (Engbersen et al., 2006). The men slept in sleeping houses because of their relatively modest incomes, but also because of the absence of established family members and compatriots in the neighbourhood. A lack of economic capital drives this group to deprived neighbourhoods, while a lack of social capital makes them dependent on the commercial within circuit these neighbourhoods. However, the men also stayed in these houses because they more or less chose to. The Bulgarians, for instance, told us that they had come to the Netherlands first of all to earn money for their families. These labour migrants, or 'birds of passage' (Piore, 1979), aim for a temporary stay in the Netherlands and hope to save as much money as possible. Therefore, they are willing to make a concession as to how they are housed. This phenomenon has also been observed among regular labour migrants. In the 19th century, there were 'migrant hostels' for country folk who had moved to town (de Regt, 1984; de Swaan, 1988). And many Mediterranean guest workers, who came to the Netherlands in the 20th century, initially lived in similar, simple guesthouses (Bovenkerk *et al.*, 1985; Bolt and van Kempen, 2002). The importance of cheap roominghouses and 'flop houses' ('flop' was slang for bed in the 1920s) is also documented by scholars from the early Chicago School (see Anderson, 1923/1967 and Zorbaugh, 1929).

Economic Activity

Our database enables us to examine to what extent illegal residence correlates with the neighbourhood economy. We found indeed an elevated concentration of irregular immigrants in neighbourhoods that contain more businesses in the commercial service industry. Activity in semi-government institutions (ministries, schools, hospitals, etc.) does not influence the number of irregular immigrants. The latter observation is not so remarkable. After all, if semi-government institutions do offer irregular immigrants chances of work, it will merely be indirectly (for example, through cleaning agencies).

These observations suggest that irregular immigrants more often work in the service industry than in the manufacturing industry-at least in their immediate living environment. There are several explanations for this selective labour pattern. First of all, it is common knowledge that irregular immigrants often perform jobs with a low social status, which do not appeal to the regular working population (Visser and van Zevensbergen, 2001; Engbersen et al., 2002). Whereas low-skilled industrial labour has been largely automated and transferred to low-wage countries over recent decades, such cost savings were often impossible in the more labour-intensive service industry. Small and medium-sized enterprises, such as most ethnic shops, often depend on cheap and informal labour in order to make their business pay (Stepick, 1989). Over recent decades, in the personal service industry in

the Netherlands, many new migrant enterprises have emerged that often have access to irregular immigrants in their personal networks, at least more so than Dutch industrial entrepreneurs (Kloosterman *et al.*, 1998; van Tillaart, 2001). According to some professionals, some irregular immigrants travel on a tourist visa as labour migrants to the Netherlands to find a job in an ethnic shop or small (family) business with the help of family and friends. Finally, the risk of getting caught may differ per sector. Industrial enterprises are generally larger than service companies. Checking small firms for illegal workers may be inefficient.

The place of residence and place of work of irregular immigrants are linked in several ways. Several respondents told us that they took up residence in the neighbourhood after they had found work there by asking around (Engbersen et al., 2006). Others were unemployed for a while and stayed in the neighbourhood after they had ultimately found work there. For specific groups of irregular immigrants, the place of residence and place of work are actually one and the same: they sleep at their workplace. Police data suggest this occurs primarily in businesses that cannot provide illegal workers with suitable accommodation in the immediate vicinity, such as Chinese restaurants, which are often located outside the migrant districts in the Netherlands, and brothels in the inner cities or rural areas. However, some professionals told us that these practices sometimes take place in migrant neighbourhoods as well. According to these informants, such housing practices may indicate human trafficking and exploitation (see also van der Leun and Vervoorn, 2004).

Economic activity may promote illegal residence, but the opposite may also be the case: the presence of irregular immigrants sometimes promotes specific types of economic activity. In particular, in de Schilderswijk, many small semi-legal and shady employment agencies have been recently started that recruit irregular immigrants (Zuidam and Grijpstra, 2004). The companies that make use of their services (such as the

Dutch horticulture greenhouses in the nearby Westland) are often located elsewhere. In this way, the clients can profit from irregular immigrant labour, in spite of the government regulations and the increased checks on illegal labour. These companies do not risk the increased fines, as the employees are formally employed by the employment agencies.

The effects of the neighbourhood economy on the concentration of irregular immigrants demonstrate the surplus value of multiple regression analyses. The 20 districts with the most irregular immigrants are characterised by a low number of businesses in the commercial service industry (see Table 1). Apparently, the elevated rate of illegal residence in these concentration areas is brought about mostly by the remaining dimensions of the opportunity structure of illegal residence, such as the presence of ethnic minorities. Hence, it is likely that the percentage of irregular immigrants there would increase further if more small businesses were set up. (After all, it would then become more attractive to have a family member come over illegally as it is more certain that the 'follow-up migrant' will be able to earn his or her own living and will thus not constitute a financial burden.)

Private Homeownership

The presence of private renting —in Table 2 indicated by the percentage of private homeownership, since geographical data on private renting were not available—exerts an independent effect on the degree of illegal residence as well. On average, we find more irregular immigrants in deprived neighbourhoods with many immigrants and private homeownership than in comparable neighbourhoods where the larger part of the housing stock is in the hands of housing associations (as is the case in most concentration areas)

It can be assumed that it is easier to house irregular immigrants in privately owned houses than in houses from housing associations (Burgers, 1998). There are two reasons for this. First, irregular immigrants

can no longer be the main tenant of houses of associations since the implementation of the so-called Koppelingswet (a law that made it possible to limit the access of irregular immigrants to public services in 1998). Housing associations are now obliged to check the residence status of potential tenants in the population register (see van der Leun, 2003). Private landlords do not have this obligation, so irregular immigrants can rent in the private sector, whereas they have only indirect access to housing association houses as (informal) sub-tenants or housemates. Secondly, private premises can more easily be made suitable for occupation by a larger number of people than intended (nowadays) (see Botman and van Kempen, 2001). It turns out that some landlords set up partition walls in their houses in order to rent out as many small rooms or beds as possible. A few landlords in districts such as Bospolder-Tussendijken and the Schilderwijk own hundreds of houses. In addition, there are many small private landlords who rent out one or two houses to irregular immigrants.

The positive effect of private homeownership is revealed using multiple regression analyses. In the 20 concentration neighbourhoods (see Table 1), most houses are owned by housing associations. Apparently, most irregular immigrants follow the residential pattern of legal, non-Western immigrants, with whom they live as housemates or subtenants. At present, most non-Western immigrants live in a housing association house (van der Wouden and Bruijne, 2001). Hence the rate of illegal residence would probably rise somewhat in these concentration areas (and in the Netherlands in general), if established non-Western immigrants would live in (the vicinity) of private homes to a greater extent.

Singles

So far, the relations between single people and irregular immigrants have not been given much attention in the literature. However, previous research has documented that irregular immigrants sometimes entered into

relationships with legal residents in order to obtain a residence permit (Staring, 1998; Engbersen, 2001). Furthermore, Burgers (1998) pointed to the reciprocal character of some relationships, which he often encountered among illegal prostitutes or ex-prostitutes. The presence of single people indeed appears to increase the rate of illegal residence even though we thought initially that the correlation was spurious. Irregular immigrants as well as singles are overrepresented in the poorer urban environments; just like irregular immigrants, many singles have lower incomes than people with families or people who cohabit. And indeed: the effect of the percentage of singles on the concentration of irregular immigrants decreases when the percentage of non-western immigrants and the socioeconomic status of the neighbourhood are controlled for. Still, the effect of the percentage of singles does not disappear.⁶ The positive correlation between the percentage of irregular immigrants and the percentage of singles therefore cannot be attributed entirely to the fact that as a rule irregular immigrants live in neighbourhoods with many singles and that the districts involved usually have a lower socioeconomic status.

The neighbourhood studies confirm that there are differing connections between singles and irregular immigrants. First of all, with singles, there appears to be an increased probability of sub-letting or partial subletting. The Dutch rent rebate system enables people with comparatively low incomes to rent relatively large houses, parts of which can be sub-let to third parties. Furthermore, there is also the possibility that someone who initially lived together with a partner continues to rent the house after separation and sub-lets parts thereof. According to some professionals, local residents sometimes rent a self-contained dwelling in order to become eligible for a (higher) unemployment benefit, whereas they actually do not live there, but re-let the dwelling to third parties. Supposedly, some local residents see renting a housing association house as a welcome opportunity to increase the family income. The formal tenant moves in with his or her

partner or relatives and sub-lets the housing association flat to a third party at a higher price. Informal sub-letting of social housing houses can be rather profitable as the official rent of these subsidised houses is lower than the market value (after deduction of the rent rebate).

Besides sub-letting practices, there is also the aspect of relationships between singles and irregular immigrants. Several professionals mentioned that some legal residents have illegal partners. In their view, (heterosexual) singles are at least providing accommodation for irregular immigrants of the opposite sex. These residents are in part older men who offer illegal young women a roof over their head. These are often indigent single men with relatively little chances on the 'primary' dating market. An employee of a housing association in The Hague told us that he encountered several cases each month involving singles—regular immigrants as well as Dutch natives—who had their partners come over illegally or who felt obliged to let their partners reside illegally in the Netherlands after their residence permit had expired (for instance, because they could not sufficiently prove that they would be able to support that partner). In the Netherlands, the criteria for having a partner come over from outside the EU have recently become increasingly restrictive (Snel et al., 2005). Furthermore, the local alien police regularly receive calls from people who claim to have ended their relationships and indicate that their partners are now probably residing illegally somewhere Netherlands.

Determinants in Combination and Interaction

So far, we have demonstrated that the spreading of the illegal population is related to the distribution of the non-Western ethnic minorities, the distribution of low-income and high-income households, the distribution of certain types of economic activity, the distribution of privately owned (cheap) houses and the distribution of (poor) single people. In other words: the patterns of spatial

incorporation of irregular immigrants follow the more comprehensive allocation patterns among regular migrants, economic activity and single households, and elaborate on them. And yet the socioeconomic nature of the forces that determine the spatial incorporation of irregular immigrants does not, as such, provide sufficient explanation for the high degree of spatial concentration of the illegal population. Illegal residence is primarily concentrated in a limited number of environments because the opportunity structure of illegal residence is itself spatially concentrated. The dimensions of this structure exhibit the strongest development in the cities (with the exception of private homeownership, which occurs relatively often outside the cities). In the cities, the separate dimensions are spatially concentrated in specific (residential) areas. After all, legal ethnic groups are not evenly spread over all city districts. And houses for indigent households, relevant types of economic activity and (indigent) singles are also spatially concentrated.

Secondly, the determinants of illegal residence are often concentrated in the same neighbourhoods. High concentrations of non-Western immigrants and single people are after all characteristic of city districts with a socioeconomic status. Furthermore. economic activity in the personal service industry is clustered in urban areas (inside these areas it is quite evenly distributed, though). Private homeownership is, at least in the Netherlands, concentrated in districts where the other dimensions of the opportunity structure of illegal residence are relatively weakly developed. Private homeownership is more often found outside the cities and. within the city, it is more scarce in poor districts than in affluent districts. This condition is in principle favourable for deconcentration of illegal residence. It might be the case that illegal residence in privately owned houses also occurs in the more well-to-do districts (see Mahler, 1995). However, it is unlikely that this variant, in which the high rent is paid by a large number of irregular immigrants, occurs very often in the Netherlands (see note 5).

Thirdly, there are interactions between the determinants. In the statistical analyses, we assumed that each neighbourhood characteristic had a separate effect and was independent of the other neighbourhood characteristics. This division into independent factors does not do full justice to the complex mutual dependencies in social reality (see Elias, 1978). For example, the cohabitation of a single person and an irregular immigrant presupposes mutual contact. The opportunities for that depend, among other things, on the extent to which single people and irregular immigrants fall back on the same neighbourhoods. Some respondents have met their partner in the neighbourhood

Said is a 29-year-old Moroccan man from Rabat who came to the Netherlands with a student visa in 1998. Family members who already lived in the Netherlands were willing to receive him. At first he lived with his uncle. Since 2000, Said has resided in the Netherlands without a residence permit. He had discontinued his education and therefore his temporary residence permit was withdrawn. Shorthly thereafer, Said met Marieke in a café in the neighbourhood where they both lived. Marieke is a Dutch woman aged 28, who works as a receptionist for a small company. They fell in love and after a year Said moved in with Marieke. As Said is unemployed, Marieke pays for their costs of living. They intend to get married before long. According to them, it is a marriage of love, but they also marry because they believe that Said will not have to worry about his residence permit any longer.

Furthermore, opportunities for illegal residence sometimes only occur when (potential) illegal migrants have family in the neighbourhood, more particularly, family who have connections with employers. An example of such a complex interaction effect is the establishment of illegal Bulgarians in the Randstad (urban agglomeration of Western Holland). They belong to a Turkish-speaking minority group in the east of Bulgaria. Particularly in the recent past, many Turkish agricultural

labourers worked in the greenhouses of the horticultural area called Westland (Braam, 1994). Currently, an informal process of 'ethnic succession' can be observed, in which some upwardly mobile Turks serve as a 'middleman minority' (see Bonacich, 1973) between the Dutch employers in the horticultural sector and the Bulgarian newcomers. The settlement pattern of these labour migrants presupposes the combined spatial proximity of established Turkish immigrants, Dutch horticulturists and cheap private houses in districts where such newcomers are inconspicuous.

There is a fourth reason for the spatial concentration of illegal residence. After some time, 'shadow institutions' (Scott, 1985) or 'bastard institutions' (Hughes, 1951/1994) begin to develop in the concentration districts, catering specifically for illegal residents in the neighbourhood. These institutions are sometimes legal, but more often illegal. They involve Dutch volunteers who teach languages in the community centres, unqualified 'doctors' who provide medical advice and medical drugs in coffee houses, quasi-legal agencies that provide advice on how to obtain a residential permit, temporary employment agencies that take care of the required documents and work, and so on. These informal institutions have developed as a result of the 'favourable' climate for irregular immigrants to establish themselves, but are now an additional element of it. Although it is difficult to perceive such complex effects with regression analyses, our statistical findings also suggest that the concentration of irregular immigrants is in part the result of the extent to which the independent variables reinforce each other. Note that the trend line in Figure 7—in which the number of registered home addresses of illegal aliens per thousand legal residents (the indicator for the relative concentration of illegal aliens) is compared with the predicted relative concentration of illegal aliens on the basis of the neighbourhood characteristics (fifth regression model; each circle in the figure represents an urban neighbourhood)—is not linear, but exponential. This suggests that in concentration areas the actual degree of illegal residence is

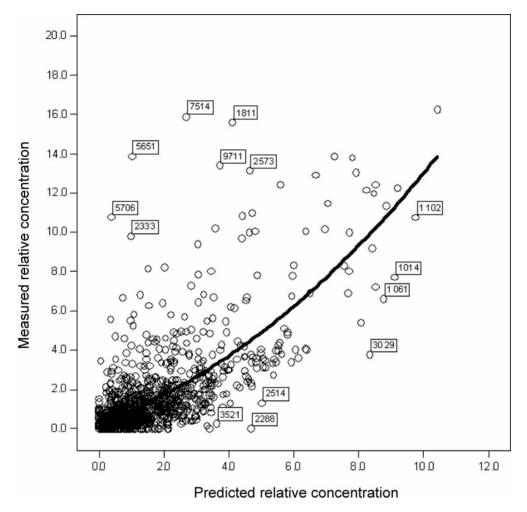


Figure 7. Predicted relative concentration in comparison with measured relative concentration. *Sources:* Central Bureau for Statistics; Vreemdelingen Administratie Systeem, 1997–October 2003.

somewhat greater than predicted on the basis of the sum of the effects of the separate independent variables. (Note also that Figure 7 shows some unexplained variance; it turns out, however, that the empirical 'anomalies' can be accounted for; they do not contradict our theoretical approach.)⁷

Discussion

On a theoretical and empirical basis, we have made plausible that the number of illegal residents in neighbourhoods is determined by the scale at which legal non-Western immigrants, specific economic activities, cheap housing opportunities and single people are present in neighbourhoods—as well as by the extent to which these dimensions of the spatial opportunity structure for illegal residence are coupled there with one another. Not only do the abovementioned neighbourhood characteristics facilitate illegal residence, they also generate a demand for it. Many irregular immigrants satisfy economic and other needs of family members, friends, partners and employers. Seen from this perspective, irregular immigration cannot be qualified as undesirable. It encompasses all types of migration that also have legal counterparts, such as chain migration, labour migration, family-forming migration and asylum migration. The foregoing warrants five hypotheses on the spatial distribution and concentration of irregular immigrants in other Western immigration countries (see Cornelius *et al.*, 2004).

First, there must be sizeable groups of irregular immigrants in other immigration countries as well. After all, most Western countries have had a migration surplus for several decades, which led to the settlements of a large number of ethnic minority groups. We have shown that there are direct and indirect causal relations between legal and irregular immigration. The other dimensions of the opportunity structure of illegal residence are also largely present in other immigration countries.

Secondly, it is likely that irregular immigrants are also spatially concentrated in other immigration countries. In Western societies—since industrialisation in particular—the social classes exist in relative isolation and the spheres of living, labour and consumption have become more segregated (Lofland, 1998; de Swaan, 1988; Jargowsky, 1997). Western countries have also always known ethnic segregation (Lofland, 1998). The spatial incorporation of irregular immigrants follows such class- and ethnicity-related separations among the regular population and builds on them.

Thirdly, the percentage of irregular immigrants will differ by country. Although it is hard to say exactly what the combination of factors will be in other countries, one can observe that the dimensions of the spatial opportunity structure are not equally well developed everywhere. For example, there are national differences in the size of the post-industrial service sectors (Musterd and van Kempen, 2000). And, whereas almost 50 per cent of the households in some northern European cities consist of singles—although an increasing proportion of these singles are in the final phase of life-married couples with children are still dominant in southern Europe (Musterd and van Kempen, 2000). Countries such as Japan and Greece have only recently become immigration countries.

Fourthly, we expect country-specific variation in the composition of the illegal

population. The ethnic background of minority groups is closely related to the European colonial past (Sassen, 1999). This explains, for example, why quite a few illegal Latin Americans live in Spain and Portugal, while the irregular immigrants in France and England are predominantly of African and Asian origin. The extent to which the bottom of the housing market is subsidised also differs, as does the degree of private homeownership. For example, in Belgium and France, a large part of the housing stock is in the hands of private owners (Musterd and van Kempen, 2000). The presence of private homeownership is particularly favourable for the illegal 'forerunners' without supportive social networks. They can rent directly from the landlords, some of whom have adjusted their houses specially for the purpose of leasing to irregular immigrants. Illegal newcomers are then less dependent on the goodwill of their extended families, friends or acquaintances for accommodation. Social democratic and corporatist welfare states such as Netherlands, Germany and the Scandinavian countries actually offer rather favourable housing conditions for illegal follow-up migration. Newcomers with established family or friends also benefit from this 'decommodification' of the housing market, as sub-tenants paying a 'friendly price' or as housemates (see Burgers, 1998). The official main tenants, who pay rather low housing costs, will of course be more readily inclined to re-let their houses or parts thereof to an illegal acquaintance or family member at a low price. They can also afford to have an illegal newcomer stay for free more easily.

Fifthly, national differences in the extent of the spatial concentration of the illegal population may also be expected (although it probably is a spatially concentrated phenomenon everywhere). The extent of spatial concentration depends on the degree of socioeconomic and ethnic segregation among the regular population. The Netherlands has a progressive tax system and pursues an egalitarian income policy on the housing market as well, with all kinds of rent rebates and buildsubsidies. These policies temper ing

residential segregation according to income and also promote, albeit indirectly and in unforeseen ways, a certain dispersion of the illegal population across a somewhat larger number of neighbourhoods. In countries such as the US and Belgium, where the state pursues a less progressive income policy (through the housing market), irregular immigrants will be less evenly distributed across the urban landscape than in the Netherlands.

In Conclusion

The social and economic opportunities for illegal residence and the willingness and necessity to make use of it will not disappear in the foreseeable future. Many developing countries will be facing an increase in the number of potential emigrants as a result of continuous population growth and limited economic prospects (Bauman, 2004; OECD, 2005). On the 'demand side', there are also developments that promote immigration (legal and illegal). For example, as a result of the globalisation of social and economic life in an increasing number of Western countries, more ethnic groups will maintain transnational relations (Portes, 1999; Snel et al., 2005). Yet this is certainly not the only determinant of illegal residence that has found a strong foothold in society. Paid personal services currently constitute one of the largest growth sectors in Western countries. Furthermore, due to the implementation of neo-liberal policies of privatisation, increasing part of the housing stock is going into private hands (see O'Loughlin and Friedrichs, 1996; Thorns, 2002). Finally, in Western city districts, more and more singles yearn (again) for a partner in life (Blok et al., 2000; Bauman, 2003).

It goes without saying that the uneven global distribution of life-opportunities in a time of intensified globalisation is the root cause of migration from poor countries to the Western world. Although emigration to a rich Western country remains a pipe dream for most of the people in poor countries, many will continue to try their luck in countries such as the Netherlands. Our study

shows that, although irregular immigrants are by law excluded from national territories and formal institutions (official labour markets and public provisions), irregular immigration has become firmly embedded in the social and economic structures of advanced societies.

The structural determinants of irregular immigration are often ignored in the current 'fight against illegal immigration'. However, it would be wise to take these structural determinants of irregular immigration into consideration and to redress current restrictive migration policies that contribute to the growth of 'shadow places'. For example, an expansion of temporary labour migration programmes will enable groups of irregular labourers to work legally and will counteract the development of informal labour markets (and the activities of the illegal sub-contractors involved). Similarly, the legalisation of specific groups of irregular migrants could be a relevant option. Significant regularisation programmes have been carried out over the past few years in countries such as Italy, Greece, Portugal and Spain, but they remain unthinkable options for advanced European welfare states (Germany, the Scandinavian countries, the Netherlands, the UK). Other options include realistic return programmes that stimulate people to go back voluntarily, in a sustainable manner. Such measures would contribute to the reduction of shadow places in the big cities of immigration societies. Furthermore, it would be advisable to create legal temporary housing for workers. Temporary temporary migration is increasing (OECD, especially from eastern Europe, but in many immigration countries there is no legal housing infrastructure that effectively deals with these labour migrants.

Notes

Of all apprehensions, 52 per cent lack a registered residential address. In approximately 20 000 of these cases it is likely that the apprehended immigrants concerned did not yet have residential addresses in the Netherlands because these apprehensions took place at

(air)ports, state highways and train stations, were carried out by the military police, or happened on the (registered) day of arrival in the Netherlands. If these apprehensions are left out of consideration, the percentage of missing values decreased from 53 to 42. Police stations have been identified with the help of the Internet. In order to check whether the registered home addresses described the place of apprehension rather than the place of residence, a sample was taken from the data (n = 1500). In 381 cases, the residential address was equal to the place of apprehension. However, these are not necessarily invalid registrations because at least 74 of the 381 cases pertain to centres for asylum-seekers, brothels, companies and market-gardens. It may well be that the arrested immigrants actually resided where they were apprehended. The analyses in the first part of the article (at the level of municipalities) are based on 28 857 apprehensions. The analyses at the neighbourhood level are based on 23 775 apprehensions.

- Cruyff and van der Heijden (2004) reported separate estimates for provinces and police districts of the four biggest cities. These estimates are based on the place of apprehension (and not, as is the case in this article, on the registered residential addresses). For the year 2002, we compared their estimates with the number of apprehensions in our database. For nearly all provinces, the number of apprehensions equals between 9 and 11 per cent of the estimated total number of irregular immigrants. Only the province of Utrecht deviates (5 per cent). This suggests that there are no big geographical differences in risk of arrest between urban and rural areas. When we compare the police regions in the big cities, we find that the risk of arrest appears to be elevated somewhat in Amsterdam (15 per cent).
- 3. The measure for the relative concentration of illegal residence shows a rather skewed distribution; therefore, 10 'outliers'—neighbourhoods where the relative concentration is more than three standard deviations higher than the average—have been excluded from the analyses. This did not affect the statistical significance of the analyses, as the total number of urban neighbourhoods is more than 1200 (see Table 2).
- 4. Next to the share of single persons, two additional neighbourhood characteristics had a significant effect on the concentration of irregular immigrants—i.e. the average size of families and the percentage of families with children. Both variables are, however,

- strongly correlated with the other independent variables (particularly with the percentage of non-Western immigrants). For statistical reasons ('collinearity') these variables could not be included in the model. The 'effect' of both variables is probably merely due to the effect of the percentage of non-Western immigrants.
- It is difficult, however, to isolate the effects of the presence of legal, non-Western immigrants from the effects of the socioeconomic status of the neighbourhoods, for ethnic segregation is, in part, due to ethnic group differences in income (see Farley, 1991, p. 288). The standardised effect of the socioeconomic status of the neighbourhoods diminished from -0.34, when the concentration of irregular immigrants is only predicted with the value of the housing stock and the average income of the residents (not shown in Table 2), to -0.07 when the share of non-Western immigrants was controlled for (see the second model). Still, it is possible that a small number of irregular immigrants live in upmarket areas-for instance, irregular domestic workers (see Mahler, 1995 on this topic for the US). We did not, however, find indications for it in the Dutch police data. In the Netherlands, with its cultural taboos on sharp class divisions, domestic workers usually do not live with their employers. In the Netherlands, it is also easier to find more suitable accommodation in cheaper areas at acceptable travel distance from the workplace, for neighbourhoods are smaller than in the US, and the rate of income segregation is substantially lower in the Netherlands than in the US; in Dutch neighbourhoods, cheap and expensive blocks are located much closer to each other than in the US.
- 5. The standardised effect drops from 0.29, when the concentration of irregular immigrants is only predicted on the basis of the percentage of single residents, to 0.24 when the percentage of legal, non-Western immigrants is added to the model, to 0.20 in the fifth regression model.
- 7. We obtained additional information on 12 neighbourhoods for which the model does not accurately predict the number of registered illegal aliens (these neighbourhoods are highlighted in Figure 7). It turns out that such anomalies can be quite well explained and do not contradict our theoretical approach. Neighbourhoods with more illegal aliens than predicted are either being used as prostitution areas, or house (or have in their vicinity) asylum-seekers' centres or market gardens. No suitable statistical data could be

found on these aspects of the first and third dimensions of the spatial opportunity structure for illegal aliens—i.e. the presence of compatriots in asylum-seekers' centres and the opportunities for illegal labour in prostitution areas. Neighbourhoods with fewer registered illegal aliens than predicted were mainly found in Amsterdam and Rotterdam (where the home addresses of illegal aliens are not very accurately recorded), or were affluent districts with many single people and much private homeownership. If we had had data on the concentration of single people with low incomes and private ownership of inexpensive houses, we would probably have predicted the concentration of illegal aliens for these neighbourhoods more adequately. If the 12 highlighted neighbourhoods are left out of consideration, the model's explanatory power increases from 50 to 60 per cent. The remaining unexplained variance, which is never zero in cases of empirical research, probably points to similar measurement errors, or to unmeasured variables such as the presence of churches, psychiatric clinics and institutions for the homeless. These institutions sometimes house illegal aliens, particularly those who are unemployed and have no supportive network of family and friends (the 'floating population').

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