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Ethnic congregation as a segregation factor in Göteborg, Sweden

A study of residential ethnic segregation amongst affluent and poorer immigrants



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Preface

The interaction between urban space, social status and ethnicity is a wide and fascinating subject matter. Little did I know, when deciding to dive into this topic area, how much interest this topic had generated lately and the vast amount of research already done and new methodologies proposed. Many are the research outlines I have formulated only to find that the questions already had been answered. I hope however that this study can contribute to the existing body of research by using a somewhat different perspective and methodology. It is my hope that by contributing to a fuller understanding of the ethnic segregation seen in Göteborg, this study, in some small way, may enable the development of discourse and policy which more effectively address the challenging situation facing the city.

I would like to thank my research mentor, Urban Fransson, for all good questions and guidance while working on this thesis, and specifically for introducing me to the wonderful art of SPSS syntax.

I would also like to thank photographer Håkan Berg, who has kindly allowed me to use his wonderful picture of the Carnival in Hammarkullen, a multi-ethnic neighbourhood in north-eastern Göteborg, to decorate the cover page of this thesis.

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Summary

Recent research into the Swedish urban residential segregation situation has moved towards an explanatory framework which, rather than taking the point of view that ethnic segregation is reducible to economic, migratory or demographic factors, takes its starting point in ethnicity itself and the actions of the Swedish host population in particular. Within this body of work, little has so far been done to establish whether co-ethnic congregation is one of the driving forces on the city-wide general level. This thesis aims to partially fill that gap.

The method deployed uses a data extract covering the total adult population of Göteborg in 2008. This is divided into ethno-cultural groups based on country of birth as well as income groups by splitting out those residents with a purchasing power enabling a relatively free choice on the urban housing market. The ethnic composition for each of the city's small scale neighbourhoods is calculated and projected as totals for these population groups using the segregation measure of exposure. The resulting figures show the ethnic neighbourhood compositions of the city on the general, systemic level based on the resident's own ethnic belonging and economic power. This allows an analysis of residential co-ethnic congregation, as well as possible avoidance/flight dynamics between ethnic groups, by looking at the character of the neighbourhoods chosen in the absence of significant economic constraints.

The results strongly support that Swedish self-segregation is a considerable factor driving the ethnic residential segregation of the city. It reconfirms that immigrant neighbourhoods are ethnically mixed. However, the results show clear indications of residential congregation along finer ethnic lines within this pattern. It establishes that co-ethnic congregation is not alleviated by sufficient income to enable a freer choice of residence.

The ethnic hierarchy reconfirmed and the flight/avoidance behaviours indicated support the recently developing framework within Swedish segregation research viewing residential segregation in light of structural racialization or more generally polarisation, with the qualification that co-ethnic congregation is an important dimension within these theory frameworks.

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1. Introduction

1.1 *Why research ethnic residential segregation?*

Segregation within urban areas have since at least the initiatives of the Chicago school in the 1920's been a subject matter central to urban social geography research. The spatial separation of the city's inhabitants based on for example economic, ethnic or occupational traits are, and possibly have throughout history, been a marked characteristic of human city life. This separation is however frequently considered a societal problem. One reason is possible effects such separation may have on the residents in specific areas through lower educational and career prospects, health impacts and unequal future life chances of other kinds. Another reason is a potential problem of society as a whole, as reflective of and enabling the reproduction of a discourse and practise of separation and inequality, on the spatial level, by systemic sorting on social, economic and cultural criteria (Knox & Pinch, 2006, pp. 168-187).

The city of Göteborg is generally considered to show a high level of socioeconomic as well as ethnic residential segregation, specifically in the Swedish context. Despite the continuously stated aim in physical planning to achieve residential neighbourhood compositions characterised by mixed forms of housing and tenure, and the political consensus around the aim of achieving ethnic and social mix on the neighbourhood level, the city is and remains significantly segregated along these very lines. Further, a surge in segregation researched since the 1990's has established that the housing market and socioeconomic factors related to specifically immigrant structural integration on the labour market does not sufficiently explain the ethnic sorting on the residential urban field. While an ethnic factor seems to play a role, the very nature of this ethnic factor in residential urban segregation has been somewhat less studied to date (Magnusson Turner, 2008).

A recurring finding in segregation research, as well as other studies into ethnicity in the Swedish context, shows an indication of an ethnic hierarchy which is not necessarily explained by demographic, socioeconomic or migration related factors such as family size, education levels or time of and since immigration. This has during the last few years lead to a forming body of theory within Swedish research approaching contemporary segregation as partially founded in racial discourse of otherness and the physical visibility of minority status (Socialstyrelsen, 2010, pp. 176-221).

The policy responses developed and currently in place for reducing segregation in Göteborg, as well as in other Swedish cities, are targeting improvements of conditions in specific neighbourhoods, namely those regarded as being the most deprived on various social and economic indicators. While this approach can, and has been, criticised for not addressing the character of urban segregation as relating to the city-as-a-system – that is, that the situation in one neighbourhood is related to the situation in other neighbourhoods – a recent body of policy evaluation has also shown that the area-based policy approach may have insufficient effect on the overall segregation situation. These studies have highlighted the dynamics of migration within and to/from the city, natural population change, and possible neighbourhood replacements

within the urban system (Bråmås, 2006a). Further, the social and economic expectations on counter-segregation policy efforts have somewhat implicitly, among policy makers and in public discourse, been assumed to go hand in hand with lower ethnic segregation. Specifically seeing the recent recognition of an independent ethnic dimension in Swedish segregation dynamics, this underlying assumption should be challenged. Put another way: can we reasonably expect area-based policy, even if it were successful in alleviating social and economic segregation, to have an impact on ethnic segregation? On the contrary: could possibly a successful policy implementation achieving a mixed composition of housing, amenities and socioeconomic environment in immigrant dense areas of Göteborg not rather lead to increased ethnic segregation, since the possibilities for a housing career in proximity to the own ethnic group is thereby facilitated?

To gauge whether the current ethnic residential segregation of the city is a cause for concern, as well as to re-evaluate the reasonable expectations of current policy against urban segregation, a more detailed understanding of the “ethnic factor” driving contemporary segregation patterns is needed. This study seeks to contribute to a better understanding of this factor.

1.2 This study

The overall, general, picture of residential ethnic segregation in Göteborg reflects the relatively economically weak status of immigrant households on housing market. This means a disproportionate share of immigrants are faced with a limited choice, and are therefore confined to the rental apartment segment. This segment is found disproportionately in the north eastern sector of the city. To gather an insight into the ethnic dimension driving ethnic residential segregation and possible co-ethnic congregation as a driving force, this study therefore switches the focus to immigrants who *do* have the economic resources to reside in other areas of the city, should they so wish. The residential neighbourhood choices of these immigrants, and the comparison with that of the not so well-off should prove informative. It is assumed that the actual residential location, given a household has sufficient economic resources, to a large degree is influenced by the household’s own preferences with regards to the neighbourhood chosen. The study aims to provide a preliminary insight into these households’ settlement patterns with regards to the ethnic segregation and congregation vis-à-vis the Swedish population, the own ethnic group, and immigrant from other regions of origin. The results should indicate whether ethnic congregation is one of the driving forces of segregation in Göteborg, as well as insight into any flight/avoidance dynamics. Supposing segregation by socioeconomic sorting will be successfully addressed by current or future efforts, this insight would significantly inform our expectations of future ethnic residential segregation patterns.

2. Purpose and questions

The **purpose** of this thesis is to contribute to the on-going effort of understanding the ethnic dimension of contemporary residential segregation in Göteborg, by analysing specifically the residential environment of those immigrants who do have the economic resources enabling a fairly wide choice of residential locations on the city's housing market.

The **main question** this thesis seeks to address is first and foremost:

- Do immigrants, who in economic terms would be able to choose otherwise, choose to live in neighbourhoods characterised by a high prevalence of the own group?

Other questions discussed based on the results include:

- What is the composition of neighbourhoods in which immigrants with reasonable economic strength choose to live?
- Does the level of residential segregation vis-à-vis the Swedish born population decrease with income?
- Does the residential segregation vis-à-vis other immigrants decrease with income?
- Are there differences in levels of residential segregation depending on region of origin? Also among immigrants with economically relatively strong positions?
- Is there a connection between the level of segregation and the “cultural distance” as perceived by the Swedish charter group?

3. Theory and Context

3.1 Introduction

In general, ethnic segregation has been showed to be attributable to socioeconomic differences among groups and the availability and distribution of housing, but also as having an inherently ethnic component on the structural level. Time-place specific, the patterns relate to time and size of settlement of groups in the city and the relation with urban extension and planning. Steering also has an impact, from the tenant side depending on the own networks for information and housing opportunities, and on the landlord side in biased provision of information and housing offers. The context in terms of politics, discourse, attitudes, economic structure et cetera highly influence these matters. All this is in turn specific in time and place while dependant on historical as well as global developments. The mechanics of production and reproduction of segregation can be viewed from how and where urban physical and institutional changes take place, or how the population changes and moves both in terms of numbers and categories in the urban room. Analyses can put the focus on why such changes are or are not seen, or what the consequences are, both in terms of pressure on local area resources and on future prospects for residents. Within this very broad field, where also a lot of research has blossomed lately, any overview of theory approaches or current research can only attempt to present a few touch-downs at best. This chapter starts with the reason this author, amongst others, considers ethnic segregation a concern. This will hopefully contribute to an understanding of the

selection made of theory frameworks then presented and commented. Thereafter the focus shifts to the Göteborg, Sweden, context and recent research is presented from a number of aspects – selected, presented and commented with the stated concern and theory background in mind.

3.2 Residential ethnic segregation as concern

While residential segregation frequently in the public discourse concerns problems related to specific areas, characterised by a high prevalence of residents with immigrant background, high levels of poverty, unemployment, crime and other social concerns, segregation in itself is a relational concept. It implies the difference of, for example, prevalence of immigrants or economic deprivation between different areas in the urban space. In these cases, it is however the city itself which is rightly to be denoted as segregated in ethnic or economic terms, to the extent in which its component parts differ on those measures. It is the opinion of this author that urban segregation should be understood as a systemic socio-spatial sorting within the city-as-a-system. As such, investigation of the dynamics and mechanisms of how, in which ways, and to what extent, the spatial and social dimensions of this sorting and separation conflate and interact is a key concern for urban social geography. It is my hope that such investigations not only produces an understanding of the structures and processes present, but also enables a discourse and public policy needed to counteract not only the situation within specific deprived areas but more importantly the system (re)producing them. Specifically, should minority ethnicity or race – which arguably is not an individual's choice – be a socio-spatially sorting criterion through the actions and attitudes of the majority group, than this would constitute a serious societal concern in itself. Urban geography, in my opinion, arguably has a moral obligation to investigate if this is the case to enable the search for solutions. The focus and methodology chosen for this thesis, it should be stated, is influenced by this critical geography point of view.

On the local level, segregation has been considered a matter of concern in politics and research due to possible neighbourhood effect. These are to be considered as contextual effect, namely that an individual is affected by the neighbourhood composition in which he or she resides, so that for example income, future prospects, language development or voting patterns cannot simply be reduced to other underlying factors (Strömblad, 2008). The underlying mechanism why neighbourhood characteristics would impact the persons living in the neighbourhood can be explained with starting points taken in processes of socialisation, information flows and personal networks (R. Andersson, 2008; Strömblad, 2008). The identity and reputation of the neighbourhood itself is also impacted by the composition of the neighbourhood, which through processes of stigmatisation within public discourse impacts the perception of and opportunities given to the neighbourhood's resident population. (R. Andersson, 2008). The topic has taken on a higher priority in Swedish public debate much due to these actual or potential threats perceived as stemming from a high or increasing level of residential segregation (Franzén, 2008). There is evidence of some neighbourhood effects occurring in Swedish cities. The scale which seems to matter is the small local neighbourhood, and specifically income levels are an important factor. However there is also an indication that ethnic residential congregation itself, specifically when in combination with high unemployment levels, impacts future

incomes of residents negatively (R. Andersson, Bråmås, & Hogdal, 2009, pp. 44-47). Understanding ethnic congregation processes in Swedish cities is therefore also relevant in terms of explaining and counteracting possible negative neighbourhood effects.

3.3 Theory frameworks in ethnic segregation research

3.3.1 Ecological approaches

A long standing tradition of viewing ethnic segregation stems from the Chicago School of urban human ecology. The school approached the city as an organic system within which the competition for space among groups played out through processes of neighbourhood *invasion* and *succession*. The framework and metaphors used should be seen in the context of the general scientific environment within social sciences which existed in the first few decades of the 20th century and within which these researchers worked. Based on investigation into the settlement patterns and their changes over time of the US city of Chicago, models still acting as reference points for today's research emanated. Specifically noticeable is Burgess' concentric zones model, where newly arrived immigrant groups are explicitly finding initial settlement within the central zone of transition, surrounding the central business district. The assumption in this model is that, with time and increased social, economic and cultural assimilation into the host society, immigrant groups move further out where housing and social status is of a higher level, while also showing signs of dispersal. The housing thereby made vacant in the zone of transition neighbourhoods allow newer arrivals to take up residence there as first port of entry into the urban housing market. The model was further developed by amongst other van Hoyt recognising a sectorial pattern to social and ethnic segregation. These models have been criticised for both their theoretical frameworks as well as their universalist aspirations while based on – and possibly best applicable to – a specific historical and locational context. More relevantly to the topic of this thesis, these models build on an understanding that ethnic segregation would be a spatial expression of the stage of social, economic and cultural assimilation an immigrant group finds itself in, primarily as a somewhat simple function of time past since point of immigration. Further, the normative implication that ethnic congregation in its various stages are somehow ecologically “natural” can arguably be criticised as a too passive approach to the phenomenon. Indeed, lower levels of residential segregation may not be an open alternative given to a specific minority, or might possibly not be what the community itself aspires to (E. Andersson & Fransson, 2008, pp. 91-92; Bråmås, 2006a, pp. 15-16; 2008, pp. 16-17; Knox & Pinch, 2006, pp. 78-83).

3.3.2 Structuralist approaches based on political economy

Classical structural approaches, specifically structural Marxism, links residential segregation patterns to the overarching needs of the urban and global political economy. Urban social segregation is seen as the spatial expression and organisation supporting the mode of production and its related organisation of power. Current theories building on this broad framework which has been internationally studied in

relation to urban segregation are especially S. Sassen's theory of urban polarisation and W. Wilson's spatial mismatch theory. While linking economic restructuring to residential segregation, when explicating the spatial outcomes by focussing on political economy the approach can be criticised for essentially lacking in sensitivity to ethnic explanatory factors. In other words, while for example Sassen's proposed assumption that the current shift in urban economies towards a split between very high versus very low value services explicates an increased socioeconomic residential segregation, it does not in and by itself explain why a race or ethnic group would predominate within only one occupational stratum and residential neighbourhood (E. Andersson & Fransson, 2008, pp. 93-96).

3.3.3 Managerialist approaches

Managerialist approaches instead focus on the limitations households are faced by on the urban arena, as set by other actors. Of most direct concern are the gate keepers on the housing market, such as housing agencies, real estate agents, mortgage brokers and banks. The explicit or implicit policies such actors apply in regards to the candidate household's housing ambitions constrict its choice on the urban housing market. Recent research into these areas in the Swedish context has shown not only that social and economic criteria without explicit ethnic references function as ethnically sorting, but that there also is tacit direct ethnic sorting and locational steering enacted by such actors (Bråmås, 2006a, p. 18; Popoola, 2008). It should be noted however that these actors are in turn operating within a context of restrictions set by other actors, such as legal and policy frameworks set by governmental organisations and decisions and restrictions enacted by commercially operating organisations (E. Andersson & Fransson, 2008, pp. 94-95). Due to its nature, research with this approach usually takes the form of case studies, and may, in my opinion, be difficult to operationalize for a study into the overall, general segregation situation. Managerial studies are however, as I see it, essential in any evaluation whether any ethnic congregation noticed is primarily of voluntary character or rather the effect of steering.

3.3.4 Behaviouralist approaches

Shifting to focussing on the individual household, the behaviouralist approaches focuses on the household residential needs as explanatory factor for residential segregation (E. Andersson & Fransson, 2008, p. 94). A traditional model was designed by Rossi and takes its starting point in the family life cycle. From an initial phase as married without children, the needs the household has on its accommodation and local neighbourhood environment shifts as the household enters a phase with small children, and so on until the ages of retirement and old age. Relocation is seen as a response to these needs, and the spatial distribution of housing types, neighbourhood environments and local services interacts with these needs to produce social, economic and demographic residential segregation within the urban area. While this model may seem somewhat biologically focussed, Robson has reconceptualised and possibly generalised the approach. In Robson's model, a household relocation occurs when the *stress* incurred by the difference between the needs, expectations and desires of the household on the one side, and the actual

accommodation and residential area on the other hand, becomes too high (Knox & Pinch, 2006, pp. 254-264). It is my opinion that this reconceptualization better captures the possibly explanatory factor ethnic neighbourhood composition might play in household relocation decisions. When current residential environment mismatches the household's preference it would explain *flight*. When specific neighbourhoods are "written off" as potential new home location, it would explain *avoidance*. Insights, theory and research results gained from behavioural studies therefore offer, in my view, valuable theoretical depth to the understanding of any general, systemic, picture of segregation patterns and processes.

3.3.5 Structuralist approaches based on ethnicity or race

Efforts to approach and explain ethnic residential segregation can also see ethnicity or race in and by itself as an explanatory factor. It was in recognition that African Americans in the US did not follow the assumed development of assimilation and dispersal in American cities predicted by the Chicago School models, that focus shifted towards the issues of race. The construction and operation of race, ethnicity, community and racial discrimination as societal sorting structures is a wide and complex area of theory and research, and it is outside the scope of this thesis to provide an overview of the subject matter. A couple of points directly related to current theory and research specifically into residential segregation in Swedish cities, and relevant to the validity of this study shall however be made. Firstly, there is a connection to the visibility of minority status within the host community. That is, there is a link to for example skin colour or dress codes which can be readily seen by a member of the Swedish ethnic group. Secondly, there is a connection with categorisation as made by, and possibly value judgement assigned to, these cultural groups by the Swedish charter group in historical discourse, and an interaction with the Swedish historical discourses concerning social and housing hygiene, deviation and othering. That is, the historical legacy of grouping Blacks, Muslims and Orientals into distinct categories may not be irrelevant. The existence of an "ethnic hierarchy" where more visible groups, historically assigned lower values in Swedish and Western discourse, have also been shown to take a worse position and higher levels of segregation within the housing market, as well as on a number of other indicators such as labour market participation, incomes and health within Swedish society (Bråmås, 2006a, pp. 18-21; Molina, 2008; Popoola, 2008; Socialstyrelsen, 2010). Clearly, residential ethnic segregation explained from ethnicity or race as a driving force may not necessarily be through processes of discrimination leading to forced clustering to some degree. There are many reasons why ethnic congregation serves as supporting the community at hand, for defence and support, to enable maintenance of identity and enable control of the process of integration into host society. As such, ethnic segregation explained by ethnicity itself may also be a reflection of a more or less a voluntary choice (Knox & Pinch, 2006, pp. 172-177).

Whether ethnic residential congregation is a reflection of primarily voluntary or forced circumstances, the resulting direction of community and neighbourhood physical, social and cultural identity development will be impacted by the fact such congregation exists. While Swedish research of late has analysed the ethnic segregation between Swedish on the one hand and immigrant population on the other in many aspects, there is to my knowledge not much known whether congregation

takes place along ethnic lines within the immigrant population, nor whether those immigrants who reasonably can be assumed to face few limitations regarding residential location actually choose co-ethnic proximity or not. The outcome of such a study should be informative as to both the explanatory force of this theoretical starting point and its exact nature.

3.4 The Göteborg, Sweden, context

3.4.1 Housing market

For an understanding of residential segregation within a city, a description of the housing market in question is necessary. Three aspects are specifically noticeable regarding the specificity of this market in Göteborg.

Firstly, as in the Swedish housing market in general, it is dominated by three kinds of tenure: the home ownership segment, the rental segment and cooperative housing. The rental segment is the largest of the three and accounts for over half of the approximately 250000 housing units in Göteborg city. It is primarily dominated by municipal or quasi-governmental agencies which hold a social responsibility for the provision of affordable housing in the city, and the apartments available through this system are also the most accessible for low income households. The privately operated share of the rental segment is relatively small. Cooperative housing has the smallest, but currently increasing, share of the three segments. It takes the intermediate socioeconomic position, and frequently forms an intermediate step in a household's residential career as the right of residence, which is purchased, is more affordable than full home ownership. These apartment estates also display a longer duration of tenancy and lower turnover rates than the rental segment. Home ownership, while accounting for over 70% of market share in the surrounding metropolitan region, is only the tenancy form for about 28% within the city of Göteborg proper (R. Andersson et al., 2009, p. 18) (Göteborgs Stad, 2010a).

Secondly, the large housing estates on the fringes of the city which are heavily associated with discussions about distressed areas and residential segregation are closely associated with the One Million Homes Program. This was a government initiated program which ran 1965-1974 and aimed to alleviate housing shortage through the construction of one million new units. While successful in achieving this aim, and despite that a significant share of construction, especially during the later period, was of other types of housing, the program has come to symbolise and often be assigned as the cause for the situation in distressed housing estates (R. Andersson, 2008, pp. 132-134). For Göteborg city, the period marked the end of a longer period of rapid expansion of the housing stock. Indeed, of the current stock 55% were constructed during the rapid expansion 1950-1975 (Göteborgs Stad, 2010a, p. 13). In this context it should also be noted that the housing estates planned and built in the north eastern sector of Göteborg, which feature a high concentration of immigrants and low income households, were part of a comprehensive expansion plan for the establishment of a satellite city. However, due to a lower than expected urban population growth, these areas were only partially build, and therefore feature an urban design and lack of services, work places and amenities unintended by the

program at that time and which have proven difficult to compensate (Johansson, 2000, pp. 54-55). Indeed, the coincidence of lower than expected population growth in these areas and an institutional shift enabling the better established (Swedish) middle and working classes to move to other housing types at affordable costs were instrumental in generating the vacancies and lack of continued urban development forming the basis for today's distressed position of these neighbourhoods.

Thirdly, and arguably most importantly, Göteborg displays a very high level of geographic separation between housing types. It is noted that rental apartments dominate in the distressed neighbourhoods on which urban regeneration policy and much public debate has focussed. However, the one-sidedness of the areas with owner-occupier tenure, globally seen in the south western sector of the city, is even more pronounced. Indeed, in 2006, 35.7% of the city's population lived in neighbourhoods where home ownership accounted for at least 90% of the housing stock (R. Andersson et al., 2009, p. 24). The reason for this situation cannot be simply conferred to a lack of mixed neighbourhoods as a political goal, as this has continuously been part of Swedish housing policy aims since the mid 1970's (R. Andersson et al., 2009, p. 46).

3.4.2 Immigration history

Sweden before the world wars was characterised by net emigration and a very low proportion of residents were born in another country. Despite a pause in emigration during the first world war, the situation did not really change until immigration restrictions were introduced in America in the context of the economic collapse in the 1930's. During the second world war there was an influx, however this was not registered in official statistics at the time. Analyses in the years after the peace indicated few war-time immigrants remaining in the country; however some immigrants from the Baltic states had remained. In the years immediately following the end of war, immigration from Poland, Germany and the Nordic states increased. The 1950's and 1960's was a period of labour shortage for the expanding manufacturing sector, and foreign workers were actively recruited for relocation to Sweden. Apart from the Nordic countries, the recruitment initially focused on Italy, Hungary and Austria. During the 50's Germany, the Netherland, Austria, Belgium and Greece were in focus, which then, during the late 60's, shifted towards Yugoslavia. Over half of these immigrants remained, and the number of foreign born in the population tripled during these two decades. In the late 1960's Sweden introduced immigration restriction for non-Nordic citizens, however immigration from Yugoslavia, and especially Finland, which went through a restructuring of the agricultural sector, was very high around 1970. In addition, the upheavals in Hungary 1956, in Greece 1967 and in Czechoslovakia 1968 saw bursts of immigration from these specific countries. The period 1970-1985 saw the transition to immigration characterised by humanitarian and family reasons. The geographic reach of flows increased. Sending countries Turkey, Syria, Iran, Lebanon, Chile and Poland accounted for cohorts of immigrants due to political circumstances in the country of origin. Immigration rates however, were low. This changed after 1985, which again saw a high rate of immigration, while retaining the character of being for humanitarian and family reasons. At the end of the 1980's the main originators were Iran, Chile, Lebanon, Poland and Turkey. During the following 15 years influxes from

Western Asia and South East Europe continued. Especially the break-up of Yugoslavia in the early 1990's generated a significant influx, as did the instability in Iraq during the end of the 1990's. Immigration from Africa, especially the horn of Africa, also started in this period. The entry of Sweden into the European Union also saw a sharp increase in immigration from (and, even more, out-migration to) this region. It should be noted that migrants in these flow, as previously was the case only for Nordic citizens, are characterised by high levels of temporary residence, return migration and transmigration. This is in contrast to specifically immigration on humanitarian grounds, where return- or transmigration ratios are low (Nilsson, 2004). Looking at data for reasons for immigration among immigrants in the 1997-2007 period, excluding returning Swedes, family bonds form the largest component, followed by migrants from the Nordic/EU immigrants (who do not necessarily need to provide a reason), followed by bases for asylum. Work, study, and retirement reasons (EU/Nordic citizens excluded) are relatively uncommon. Also in this data, immigrants for family and asylum reasons are shown to be much more likely to still be residing in the country 5 years after time of immigration than immigrants who immigrated for any other reason (SCB, 2008b, pp. 17-24). The latest data shows the continuing reorientation towards EU/EES immigration (Socialstyrelsen, 2010, pp. 26-47).

The labour market participation, and thus the economic status, of immigrant groups reflect not only the reason for immigration, but also demographic factors such as age and family status, as well as education levels etc. Whether the economic situation in Sweden at the point of immigration is more or less influential than time since immigration has been debated and results differ (Nilsson, 2004; Socialstyrelsen, 2010, pp. 26-47). However, it should be noted that apart from these factors an ethnic component to labour market integration prospects has been established in recent integration research. There is a connection between ethnic group and income status. While immigrants from the western countries in general have relatively high income, immigrants from especially Africa and Western Asia have low incomes (R. Andersson et al., 2009, pp. 27-28). Accounting for time since immigration does not fully explain differences in labour market participation levels between immigrants from different regions (Socialstyrelsen, 2010, pp. 65-68).

3.4.3 Settlement patterns

During the period of labour migration, immigrants to Sweden settled to a large extent in medium and smaller sized cities with substantial manufacturing basis. However, since the 1970's, the largest metropolitan areas have been the primary recipients of migration flows, together with the border regions functionally integrated with the neighbouring Norwegian, Finnish and Danish labour market areas (Nilsson, 2004, p. 30). In the period 1997-2007, immigration was highly concentrated to the large metropolitan areas. Only asylum seekers had a distribution more like the native population, mainly due to the influence of the Swedish Migration Board in the management of these migration streams. It should be noted however, that these immigrants display high frequencies of movement during the first few years after immigration and as a result of these secondary internal relocations the proportion residing in the largest cities increase (SCB, 2008b, pp. 25-38).

At the end of the first decade of the current millennium, the share of the total population in the Göteborg metropolitan region born abroad stood at 15% as compared to a country-wide average of 10%. This metropolitan foreign population is in turn heavily concentrated to the core city, where 70% of it resided. The population increase of Göteborg since 1990, around 51000 persons, is almost fully explained by an increase of residents who were either born abroad or with both parents born in other countries (R. Andersson et al., 2009, p. 10). Of the city's population in 2008, 107201 persons, or 21% of the total population, were born in another country. In the foreign born population, 47% were born in another European country, out of which the Nordic countries account for 12 percentage points. An overview of the largest immigrant groups, having over 1000 residents in the city in 2008, is provided for reference in table 1 below, which also indicates the net changes seen since 1985.

Table 1: Development of number of immigrants in Göteborg by country of birth

Country of birth	1985	1990	1995	2000	2005	2008
Iran	1001	5207	8471	9408	9850	10402
Iraq	..	..	2583	5483	7495	9896
Finland	12972	11351	10124	9039	8171	7620
Yugoslavia	5268	5941	7285	7385	7118	6862
Bosnia-Hercegovina	-	-	3634	5207	6054	6393
Poland	2970	3307	3426	3479	3727	4764
Turkey	2080	2644	2903	3124	3475	3758
Somalia	..	..	1847	2619	2703	3455
Norway	4620	5333	3927	3498	3275	3060
Germany	2504	2373	2267	2346	2497	2601
Lebanon	..	..	1810	2021	2141	2261
Chile	891	1656	1804	2011	2129	2138
China (mainland)	..	..	782	1136	1707	2093
Denmark	2909	2814	2419	2229	2071	1913
Romania	..	..	830	916	1085	1889
UK	1067	1208	1325	1455	1699	1720
Ethiopia	..	..	1710	1619	1478	1502
Hungary	..	..	1525	1437	1392	1447
India	421	538	660	797	1192	1333
Thailand	..	..	422	602	1013	1290
Russia/USSR	..	..	*	*	1197	1283
Syria	..	..	618	934	1093	1209
USA	855	900	953	1078	1166	1159

Source: Statistik årsbok Göteborg 2010, table 4.12, own edits

* The values reported for Russia/USSR 1995 and 2000 have been removed by this author due to suspected error in source

The point in time at which immigrant groups expand in the city has some bearing on the zonation of immigrant population within the city. As the city expanded outwards, immigrant groups settled in the newly build areas sequentially further out from the city centre. Based on the extensive cartographic inventory made by de Geer of the city residents with foreign citizenship in 1984, this can be seen. The Italian group was at that time located more centrally than the Finnish, which in turn resided in a more

central zone than the Latin American population (De Geer, 1989, p. 116). Bearing the slowdown of urban expansion since 1975 in mind, one may however question the validity of sequential zonation by point of immigration for groups such as the Middle Eastern or African, which have primarily seen an increase after 1985. Rather, the underlying explanatory factor may possibly, in my opinion, better be sought in the geographic distribution of vacancies at the point of immigration.

Due to the costal line, the harbour and city airport and the administrative boundaries the expansion of the city has been concentrated to the northern and north eastern sectors. A very clear sectorial pattern also exists for the immigrant population. 37% of the foreign born population lives in the north eastern sector, following by the northern Hisingen island sector with 27%. The city centre accounts for another 22% while the western sector only has 14% of the city's resident immigrants (Göteborgs Stad, 2010b).

Although the previously mentioned analysis on 1984 data highlighted a strong variation in geographic distribution when mapping individual groups based on citizenship, it also showed that certain socioeconomic and ethnic generalisations were visible in the city. Areas with low scale housing had a low proportion of foreign citizens. The central areas of the city with primarily smaller apartment disproportionately catered for residents with citizenship of north western European and other economically highly developed countries. Immigrants from other regions resided in the later built urban areas with larger apartment blocks (De Geer, 1989, pp. 147-155). On the ethnic dimension, the western group displayed greater dispersal and lower levels of concentration than the south and east European groups, which on these measures took the middle positions between the westerners and the non-European immigrant group. Further, this difference, identified in that study as based on *cultural distance*, prevailed also when accounting for group size (De Geer, 1989, pp. 133-146).

It is important to note that no neighbourhood in Göteborg city, as defined by SAMS-levels boundaries¹, is overwhelmingly dominated by one single immigrant group. Based on 1995 data, no immigrant group makes up more than 60% of the population in any neighbourhood, even when immigrants are grouped into only six groups based on region of origin. By this definition, there are indeed no ghettos or ethnic enclaves in the city (Bråmås, 2008, p. 106). In contrast 69% of neighbourhoods are highly isolated Swedish communities, where the total proportion of immigrants, regardless of origin, is lower than 20%. The proportion of Swedish born living in such Swedish ethnic enclaves is around 75%. In just over 6% of neighbourhoods, the Swedish born population does not form an absolute majority. These are exclusively located in the north eastern and northern Hisingen sectors of the city, with the exception of a small area in the south west around Frölunda Torg which is (also) characterised by lager scale rental apartment housing. 13 areas, or 2% of the grant total, located exclusively in the north east with the addition of a small section of the Biskopsgården development on Hisingen, hold less than 30% of Swedish born among its residents². These few neighbourhoods may arguably be denoted as having a "sparse" Swedish presence, to use the conceptualisation and terminology introduced by Roger

¹ The standard small area division for Swedish neighbourhood statistics, see Geographic Subdivision in the Methodology section of this paper for further information.

² Calculations made by the author of this paper, based on data presented in (Bråmås, 2008, pp. 106-108).

Andersson, and which is gaining ground in Swedish segregation research (R. Andersson, 2008). An ethnic hierarchy is visible as well. While the majority of immigrants live in neighbourhoods with a Swedish majority population, the proportion of immigrants living in neighbourhoods where immigrants form the majority ranges from 12.5% for immigrants from western countries, to 46.7% for West Asian / North African origin and 61.5% for the group coming from Africa south of the great desert (Bråmås, 2008, p. 108).

As mentioned, the distribution of housing types is very uneven in the Göteborg urban space. Ethnic segregation relates to this in two ways, as has been last shown based on analysis of residents born abroad or with both parents born abroad in 2006. Firstly, the Swedish population is overrepresented in the home ownership segment and underrepresented in the vast municipal rental segment. The opposite is true especially for residents with African and West Asian background. For persons with other backgrounds, westerners show a distribution most like the Swedish group, while non-western Europeans, Latin Americans and Asian fall in between. The period 1990-2006 saw an increase of foreign background tenants in all segments. However there was a pronounced shift in the public rental segment caused by loss of Swedish tenants. As the tenure segments are unevenly distributed in space this directly impacts ethnic neighbourhood segregation. Secondly, the proportion with foreign background is not geographically evenly distributed within each tenure segment. Regardless of tenure form, tenants with foreign background are overrepresented in the north eastern city sector and underrepresented in the city centre (R. Andersson et al., 2009, pp. 24-27). This implies that ethnic spatial segregation, in a manner of speaking, goes over and beyond the spatial distribution of tenure forms.

The overall segregation levels between persons born in Sweden and persons born abroad in Göteborg city has remained more or less stable in the period 1997-2006, as measured by the dissimilarity index of segregation (SCB, 2008a, p. 61). This measure can be read as the percentage of the group which would need to relocate from a neighbourhood with overrepresentation to an area with underrepresentation in order for the distribution to be completely even over neighbourhoods in relation to the reference group.

The index of dissimilarity within the Göteborg metropolitan region for select main ethnic groups defined by background – that is being born abroad or having both parent born abroad – and its recent changes is given in table 2 below.

Table 2: Dissimilarity values 1995-2006 in Göteborg metropolitan region by foreign background

Background	1995	2006	Change
Sweden	reference group		
Norway	25.8	24.6	-1.2
Germany	23.2	26.5	3.3
Denmark	28.6	27.9	-0.7
Finland	40.4	34.9	-5.5
Poland	41.4	38.6	-2.8
Iran	57.2	45.5	-11.7
China (greater)	68.9	53.4	-15.5
Yugoslavia	55.6	54.4	-1.2
Chile	63.1	56.4	-6.7
Turkey	75.0	68.4	-6.6
Bosnia-Hercegovina	80.6	68.6	-12.0
Lebanon	74.7	73.1	-1.6
Ethiopia	74.7	74.1	-0.6
Viet Nam	84.5	74.3	-10.2
Iraq	77.6	77.2	-0.4
Somalia	83.5	85.0	1.5
Total foreign backg.	41.2	43.3	2.1

Source: Andersson, Bråma & Hogdal (2009), table 12, p. 28, own edits

Although this table is based on SAMS-level defined neighbourhoods within the larger metropolitan area, the overwhelming majority of the minority population resides in the core city. There is in my opinion no substantial reason to assume that the general ethnic hierarchy displayed, or the direction or strength of change, would differ much if the table was to be reproduced for Göteborg city proper only. It is interesting to note that while the groups from China, Bosnia-Hercegovina and Somalia all have increased in the latest period, as seen in previous table, the segregation of Somalis have increased while immigrants from Bosnia and even more so China have become less unevenly distributed vis-à-vis the Swedish population.

As previously mentioned, the ethnic hierarchy is also visible in, among other things, income distribution. However, the residential settlement pattern in Göteborg is not explained fully by differences in income. One remarkable figure will serve to highlight this, taking the population aged 20-64 in the metropolitan region 2006, by country of birth. Of the top quintile of Swedish income earners, 6% live in the bottom quintile of neighbourhoods by income level. The corresponding figure for West Asians is 52%. More generally, looking at lowest two quintiles of individuals based on household total disposable income in the same population, living in the poorest neighbourhoods, taking foreign background by region as ethnic indicator, the same ethnic bias persists. This is illustrated below in figure 1.

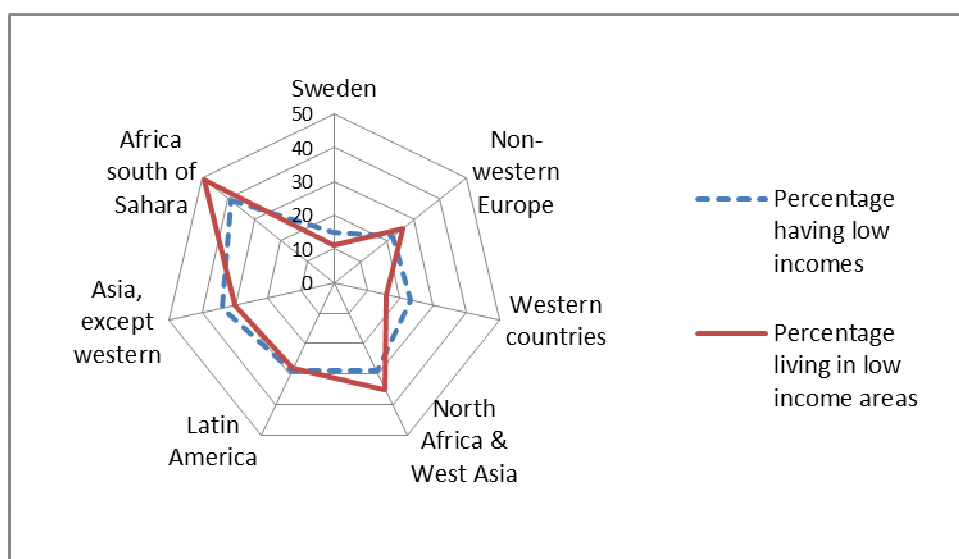


Figure 1: Over/under-representation of poor residents in poor neighbourhoods in Göteborg 2006 by regional background

Source: made by author based on data in Andersson, Bråma & Hogdal (2009), table 14, p. 29.

Based on an analysis of neighbourhoods in Sweden's three largest metropolitan areas in 1990-2006, it is concluded that the economic strength of a neighbourhood, as defined by SAMS-boundaries, is strongly linked to the presence of visible ethnic minorities. With *visible minorities* are meant ethnicity, based country of birth, which are deemed as being both visible in terms of skin colour, dress codes et cetera, and seen by the Swedish population as significantly distant from Swedish culture. The period saw both contraction and growth in the general economic business cycle, and the share of visible minorities living in the most economically distressed areas decreased during the economic expansion period. However, the overall picture is that the economic polarisation between neighbourhoods increased, and that the correlation between neighbourhood visible minority presence and economic deprivation increased as well. It should also be noted that neighbourhoods displaying a relatively high degree of both socioeconomic and ethnic mix are located primarily in the city centres. The wider contrasts between visible minority / poor on the one hand, and Swedish, Western / rich on the other, are found in outer zones. The overall segregation between Swedish born, non-visible and visible minorities born abroad, as measured by the entropy index of segregation, increased in the period. Göteborg and Malmö throughout display higher levels of segregation than Stockholm. The increase by this measure was strong 1990-2000, and levels have remained relatively stable since for all three cities (Socialstyrelsen, 2010, pp. 183-196).

3.4.4 Segregation dynamics

Population in a country, region, city or neighbourhood is determined by natural population changes – that is: births and deaths – together with migration flows. The current composition at any point in time is hence the result of the preceding changes in these components. Looking at the population with foreign background in the sense of being born abroad or with a mother born abroad, the natural population change factor is indeed an important component for this population's segregation dynamics in Göteborg 1995-2000. Specifically, ethnic concentration of the African group, but also of the West Asian / North African as well of the East European groups found partial explanation in relatively high birth rates. Net natural population decline occurred in the Swedish and Western groups, whose increased orientation to host community dominated neighbourhoods was sustained by substantial net migration only (Bråmås, 2008, pp. 110-114).

Even if overall numbers remain stable or the net migration rates are low, there may be an underlying trans-migratory dynamic to a population. For example, while the number of Finnish residents in Sweden has remained quite stable 2000-2008 and the net migration rate is very low, the actual amount of immigrants from Finland in the period constitutes the fourth largest inflow by country of origin. This is however compensated by an equally large outflow. While an analysis of this is not possible here, (nor any linkage to what de Geer noted about large immigrant groups in the city showing both extensive settlement in the city as well as areas of high concentration – possible entry points?), the point to keep in mind is that, when speaking of “old”, “established” or “stable” immigrant groups, a non-negligible number of the individuals making up this group may well have just recently arrived (Socialstyrelsen, 2010, pp. 26-47).

The level of segregation versus Swedes does not however seem to be diminishing substantially with time since immigration, when controlled for economic status, family configuration, education, metropolitan area, sex and country of birth. As measure by exposure to immigrants, on SAMS-level division in the three largest Swedish metropolitan regions in the period 1985-2006, there is an increase of the proportion immigrants in the neighbourhood during the first 5 years, reflecting secondary migration towards higher concentration levels, to a level of just over 3 percentage points more immigrants in the neighbourhood than at the point of immigration. Thereafter follows by a gradual decline to just over 1 percentage point less immigrants in the neighbourhood than at the point of immigration, at 18 years of residence, where the available series ends (Nordström Skans & Åslund, 2010, pp. 24-25).

The immigrant population as a whole displays higher frequencies of residential relocation between labour markets within the country than non-immigrants. Secondary, internal, migration movements are mainly directly towards the large three cities (SCB, 2008b, pp. 40-48). Socioeconomic and demographic factors attributable to movers such as family size, and to the regions of origin and destination such as unemployment level, play similar roles for immigrants and Swedes in determining propensity to move and direction of migration flows. However, controlled for these and compared to Swedes, there is a lower propensity for immigrants to leave a region

with a large immigrant community, and a greater propensity to move to destinations with larger immigrant communities. Further, this ethnic vector in internal migration flows is stronger the more “culturally distant” the immigrant group in question is, as perceived by the Swedish community. Conversely, an increase in the share of immigrant population at the destination lowers the propensity for Swedes to move there (Rephann & Vencatasawmy, 1999).

Mobility is higher in the rental segment than other forms of tenure. The mobility is also highly correlated to the proportion visible minorities in the neighbourhood. Between 1990 and 2006, based on data for the three large metropolitan areas and 15 larger cities, the number of Swedish households defined as containing no adult born abroad, was reduced by half in neighbourhoods with very large concentrations of visible minorities. It should also be noted that of the married or co-habiting immigrant households living in neighbourhoods with primarily Swedish born population, the absolute majority are immigrants with a Swedish partner and many have children. In contrast, Swedish households in neighbourhoods with high levels of visible minorities are primarily single adult households without children (Socialstyrelsen, 2010, pp. 201-203).

Since the “zone of transition” concept in Burgess’ Chicago-based urban model, segregation and migration literature has looked at neighbourhoods functioning as points of entry for persons moving into the city. The One Million Homes Program areas of generally speaking high rise rental apartments, high levels of vacancies, and high numbers of immigrants, have globally been assumed to take this role. However, an ethnic breakdown of settlement patterns for inflows from outside Göteborg city in the period 1995-2000 shows a strong variation on ethnic base. While the neighbourhoods with an immigrant population majority do receive many more newly arrived, in proportion to the population of these areas though not in absolute numbers, Swedes, and in even higher degree Westerners, settle in areas with an absolute majority or more of Swedish residents. Africans and West Asians are strongly oriented towards accommodation in the minority dominated areas, while Latin Americans, non-Western Europeans and Asians are less skewed on the immigrant/Swedish neighbourhood composition scale for first point of entry into the city (Bråmås, 2008, pp. 110-114).

Within Göteborg, the local migration patterns have also recently been put under the microscope. The resulting pattern for 1995-2000 is a very clear direction of relocation of all ethnic population groups as based on region of origin. Residents in the city move away from neighbourhoods with a higher share of immigrants towards neighbourhoods with a lower share. The only diversion from this pattern is for immigrants from Africa south of Sahara who, exceptionally, saw small net relocation flows away from more mixed areas to areas with the highest percentage of immigrant population (Bråmås, 2008).

When relocating within the city, short distance are more frequent than longer distance moves, as has been shown for example by investigation into the out-movements from Göteborg’s poorer, immigrant dense areas (Johansson, 2000, pp. 32-43). The actual neighbourhood chosen as destination however, differs between Swedes and immigrants as well as between immigrants with different origin (R. Andersson et al., 2009, pp. 32-36).

An ethnic component is also at play when looking at who leaves the poor, immigrant dense One Million Homes Program estates in Sweden. Based on a case study of such estates in Sweden it can be seen that while single member households, of young age and high education, having lived a short time in the neighbourhood are more likely to move, the destination of these flows differ based on ethnicity even when controlled for socioeconomic and demographic life cycle variables. Persons born in Sweden in particular take the step to other types of areas, while specifically non-Europeans settle in a different area of the same type (R. Andersson & Bråmås, 2006). While the selection of areas from which flows emanated from did not include any within Göteborg city, there is in my opinion no reason to assume Göteborg's examples of such estates would be exceptions.

The behaviour of the Swedish population, being the most numerous and best economically endowed, has strong influence on ethnic segregation (re)production processes. By looking at neighbourhoods which saw a sharp decrease or continuously low proportion of Swedish residents, a strong tendency to *white avoidance* by the Swedish population has been established in household relocation patterns. The study was based on persons born in Sweden with at least one parent also born in Sweden, versus the rest of the population, in the larger SAMS-level defined neighbourhoods in the country between 1990 and 2000, but one can assume it is applicable to the situation if limited to Göteborg only. While showing no evidence of any tipping points for neighbourhood ethnic shifts, both neighbourhoods undergoing a rapid loss of Swedish population, and those maintaining a low level, showed this to be mainly attributable to a low level of Swedes moving into these areas. Some evidence of *white flight*, that is overrepresentation of Swedes in the out-flow, was also seen but to a much lower degree. Rather, it seemed Swedes had "written off" these areas as potential destinations during the household relocation decisions (Bråmås, 2006b).

The Swedish group has a higher degree of choice on the housing market due to higher incomes, which certainly is one factor behind these differences. However, if the ethnic composition of neighbourhoods is indeed *one* cause for Swedish white flight/avoidance behaviours, we may also ask as if ethnicity is a driving factor explaining settlement patterns among immigrants. Are there signs that co-ethnic congregation plays *any* part in these residential segregation processes on the systemic, city-wide level? To date there has, to my understanding, not been much research into this in the case of Göteborg city or the overall Swedish context. This question, by looking at those immigrants who *do* have economic resources on the housing market, is the focus of the new analysis carried out in this study.

3.4.5 Policy responses

The Swedish government has since 1998 had a policy to "break" (sic) social and ethnic residential segregation in the large cities. The metropolitan initiative, which took its course between 1999 and 2006, has since been replaced by a governmental policy for urban development. Through this change, the policy was broadened, and the central government had in 2010 established local development agreements with 21 municipalities under the urban development umbrella. Within the contracted municipalities, the policy is recognising specific neighbourhoods as suffering from

deprivation or exclusion, and local partnerships are established with both central and local agencies to work together to improve the situation in those targeted areas (Statskontoret, 2010, p. 15). It should be noted that while the policy has increased in number of areas covered, it remains an area-based policy targeting only specific neighbourhoods deemed deprived, and as such do not take neighbourhoods of high status and wealth into explicit account. Nonetheless, within the city-as-a-system these neighbourhoods form the counterpart which together with the policy-targeted deprived areas build and sustain residential segregation within the city as a whole. In this aspect, these latest policies regarding urban segregation follow the tradition of preceding efforts during the 1990's, where economic resources were also earmarked for development in specific deprived neighbourhoods (Johansson, 2000, p. 9). This approach has been criticised for not taking into account the dynamics of segregation processes, namely that within the city-as-a-system, segregation is (re)produced through processes of household relocation movements (R. Andersson, 2008, pp. 152-155). In researching and understanding these movements, the underlying factors explaining household locational decision within the urban space are in my view essential for understanding these processes and therefore evaluating the efficacy of the current policy approach.

4. Methodology

4.1 Methodological approach

The interest of this author lies primarily with understanding the systemic, city-wide factors driving ethnic segregation in the city. This interest is linked to a normative position that possible ethnic or racial discrimination could be an overarching sorting structure and therefore should be investigated by urban geographers in order to reveal and address the situation. As the subject matter of discrimination is not neutral for respondents, the validity of approaching the issue using surveys or interviews can be severely impacted. For questions of voluntary ethnic congregation, asking respondents to themselves indicate whether ethnic composition matters in residential locational choices face difficulties both in terms of respondents not necessarily recollecting a past decision making process correctly, and because ethnic neighbourhood composition or co-ethnic network proximity may not necessarily be a conscious factor in the choice of neighbourhood. I have therefore chosen to approach the topic through a quantitative analysis based on actual residential patterns. Further, as the systemic situation is in focus, an analysis should preferably be based on the largest data set available. For this reason, the total population of Göteborg has been used as base data for the analysis. The area division used reasonably reflects natural neighbourhoods in the city, and aligns to other research in this domain. The population is divided into two income groups, where the higher income group can reasonably be assumed to relatively freely choose neighbourhoods which is not marked by any high degree of immigrants or the own ethnic group, should they so wish. A city-wide measure of neighbourhood ethnic composition is then calculated for the main ethnic/cultural groups in the two different economic positions. The results are qualitatively analysed and compared

4.2 Delimitations and definitions

4.2.1 Geographic area of investigation

This study investigates the situation in Göteborg city. That the municipality has been chosen is primarily for two reasons. Firstly, existing segregation research and official reports primarily use the municipality borders for delimitation, and the choice of the same in this thesis therefore enables a direct comparison and contribution to the existing body of work. Secondly, policy formation and planning in areas of integration, segregation and urban physical space is primarily a task for the municipal authorities. Therefore, by aligning the geographical area within this study to the municipality, results can be of interest and informative for current and future policy formation. It should however be noted that actual household relocation decisions and hence segregation processes operate on different scales. Well-resourced households may well be assumed to operate on a scale including many surrounding municipalities within commuting distance, while households marked by limited economic resources and transportation means may possibly not view the remote or rural parts within Göteborg municipality as viable housing locations.

4.2.2 Geographic subdivision

In Sweden, neighbourhood statistics as well as contemporary segregation research and official reports are almost exclusively using the officially defined Small Areas for Market Statistics (SAMS) division. Maintained by Statistics Sweden (SCB), the national office for official statistics, these areas are defined to try to capture areas with relatively homogenous physical design, accounting for natural boundaries, and with an average population of around 1000 inhabitants. It should be noted however, that the SAMS-areas in Göteborg, some 816 in total, have fewer inhabitants on average, which impacts any comparison between Göteborg and other cities. But as this is the neighbourhood definition used in contemporary segregation research, as well as other social science research and official statistics related to the neighbourhood level, it has been selected for use in this study. As such, the P* values calculated in this paper, should be easy to set into context with other research and official reporting while limiting boundary or scale issues at such comparisons.

4.2.3 Population

The study utilises the full record of total population registered as living in the city in 2008, the latest date for which data is available. The target population is those who can be assumed to have the option of forming, heading or otherwise reasonably be influencing residential locations decisions. For the purpose of this study, an age limit has been imposed excluding children of 15 years of age or under. The age limit is justified by excluding individuals who may in general arguably not be establishing or heading households and therefore not be decision makers in regards to residential (re)location. The age limit also serves an additional function of removing from the data set the otherwise resulting large proportion of population with low or no income due to simply being children and hence the concern that the income based segregation

comparison would misleadingly reflect the geographic distribution of children, directly by incorrectly inflating the Swedish born population classified as poor and indirectly through inflating poor populations in neighbourhoods with larger housing units.

4.2.4 Income variable and income groups

The choice has been made to utilise the individualised family disposable income statistic, as defined and published by Statistics Sweden, for this study. While segregation in this study is measured on individual level, reflecting that ethno-cultural classification is a categorical variable belonging to the private individual in his/her specific societal context, the residential location decisions made, moves undertaken (or not), and the faced constraints and limitation, of structural as well as economic character, pertain to households. The income measure utilised needs to transpose the household's economic room for manoeuvre on the city housing market into an individually based figure. Disposable income has been selected over individual work and capital related income to capture the impact taxes and transfers have on household economic power. A person's individual disposable income however fails to reflect a household's economic resources. To illustrate, a high income earner may well be part of a household with limited economic freedom, for example when married with children while being the only person in the household with any income at all. As the purpose of this study centres on immigrants who do have the actual economic capacity to make relatively free choices, as households, on the housing market, such a measure would be unnecessarily imprecise. Analogously, assigning the total family household income to each of the household members would lead to imprecision, as the same total family income means very different economic freedom on the housing market if that income is for one person or supporting the housing needs and livelihood of a large family. The individualised family disposable income measure overcomes these concerns by aggregating the individual disposable income components to the household, then dividing the resulting household sum back onto the constituent family members, taking family composition into account. Further, by choosing this variable, this study aligns better to the standard for reporting household economic purchasing power as chosen by the Swedish National Board of Housing, Building and Planning (Boverket) in its reporting of integration and segregation development in Sweden (Boverket, 2005, pp. 95-96).

For comparison between richer and poorer immigrants, the population is divided by income into two categories. While division into quintiles is more common for income breakdowns, the categories have here been limited to two only. This is due to a concern that total numbers within each ethnic group might otherwise become very small, as well as for keeping the resulting amount of statistics in the resulting tables limited. The break-off point selected is the median income of the total city population. As income in Göteborg has a skewed distribution with outliers and extreme values (see Appendix A), as indeed is the common case for this kind of statistic, the median has been chosen as a better value of central tendency than the mean (Körner & Wahlgren, 2002, pp. 67-92). The city-wide median for the total population is justified as the population shares a common, city-wide, housing market. The assumption is that an income above the city average suffices for the immigrant's household to, in

economic terms, be able to choose a residential location not in or even close to any immigrants concentrations or the own ethnic group, should they so wish.

4.2.5 Ethnic variable and ethno-cultural groups

Immigrants are grouped by region of origin, based on country of birth. Country of birth is used as approximation of ethno-cultural group, as country of birth is seen as determinant of ethnic group belonging by the Swedish born population and in European discourse more generally, and is used in European ethnic segregation research (Musterd, 2005). While any grouping necessary involves loss of detail, a division has been made in an attempt to facilitate answering the questions of this thesis while keeping the number of computations manageable and results relevant. The guiding criteria used for the division has been a) to keep the number of regions manageable for the scope of this study, b) to ensure a grouping aligned with the purpose of this investigation, c) to cater for the number of persons in such a way that no region would form an absolute majority of immigrant population while ensuring no region would cater for very few persons only, d) to follow the ‘ethno-cultural’ regions as explicitly or implicitly defined in Swedish public debate, and e) to align to common and specifically emerging divisions made in other Swedish segregation and integration research for comparative purposes.

The city’s population is hence grouped by geographic region, based on country of birth, into the following groups, which may, with discretion, be denominated ethno-cultural groups:

1. Sweden (charter group)
2. The West (Western and Northern Europe, Canada, USA, Australia and New Zealand)
3. North East Europe (including Poland, the Baltic states, Russia)
4. South East Europe (the Balkan peninsula, including Romania, Bulgaria and Greece)
5. Latin America (including Spanish speaking Central America, Mexico and the Caribbean)
6. Middle East and North Africa (including Turkey, Iraq, Iran, and Afghanistan)
7. Asia (Eastern, Southern and South-Eastern)
8. Africa (south of Sahara, including Horn of Africa states)

4.3 Segregation measure

There is no consensus or standard or ”correct way” to measure residential segregation. Qualitative as well as quantitative approaches have both been applied, and many interesting analyses come from the integration of approaches. The most used single measure of segregation however, is the index of dissimilarity, or D. This measure, presented as the most useful for the evenness dimension of segregation, has been present in segregation research since Duncan and Duncan’s analyses of alternative measures in the segregation body of work in 1955. The development of new measures however did not stop, and there is now, specifically with the recent development of geographic information system analysis capabilities, too many methods and measures

to be listed in any simple overview. There are however some consensus that D remains, not least for the reason of being able to compare with a vast international and historical literature, a useful measure. This index can be interpreted as the share of a population that would need to move from areas where they are overrepresented to areas where they are underrepresented in order to achieve an even distribution compared to the reference group. When D is measured towards the total population, it is sometimes simply referred to as the *segregation index*. When focusing on the experience of segregation, social, demographic or ethnic composition of neighbourhoods or looking for reasons for segregation among categories of population within a city, the *exposure* dimension of segregation is more intuitive. If there is any inclination towards a standard measure here, it would be P*, which was introduced by Bell in 1954 and saw a resurgence since the early 1980's. When P* is measured towards the own group, indicating co-ethnic congregation or concentration, it is sometimes called the *isolation index*. It should be noted that while conceptual and methodological differences exists between D and P*, the two are both generally regarded as standard indexes of residential segregation and are also highly correlated to each other. For dimensions of residential segregation such as level of pure concentration, clustering and localisation/centralisation, no common ground can be found within the scientific community. Since 2005, on the recommendation of the Swedish National Board of Housing, Building and Planning, D is now one of the then defined standardly reported measures in official governmental reports on the topic, being the only measure on overall geographic segregation in this set. It is also used for example by the US Census bureau, which however also reports P* as a standard measure for overall segregation side by side with D (Boverket, 2005; Massey & Denton, 1988; US Census Bureau, 2002). Due to the focus of this study, which links to the ethnic composition as cause for segregation which is conceptually better illustrated through exposure, and with a side note that D-based analysis is already available in Swedish public reporting, P* has been chosen for this study.

As with any index of overall segregation, there are issues of patterns, scales and boundaries which are either not caught and/or influence the measures (E. Andersson & Fransson, 2008, pp. 104-112). Specifically, neither D nor P*, while being calculated from and express geographic information in themselves, capture whether one discrete neighbourhood is close or far from another discrete neighbourhood. While a plethora of measures have been developed to compensate for this, frequently through quite complex GIS-based geo-statistics, there is no consensus on any other measure meaning transposition to existing research is difficult, nor are these measures free from other issues. While recognising the downsides, D and P* in my opinion hold the advantage of being relatively easy to interpret, are feasibly computational within the limited time and scope available for a study on this level, while having a solid standing and tradition within urban geography and segregation research. For the issues of influences by scales and boundaries on the segregation measures, I am using the SAMS-division which is the standard in current research. My hope is that using a well-known measure and standardised area divisions enables the resulting values to be translatable, comparable and combinable with the existing body of knowledge, and thus contribute to a fuller understanding of this complex socio-spatial phenomenon.

The formula for xP^*y is:

$$\sum_{i=1}^n \left[\left(\frac{x_i}{X} \right) \left(\frac{y_i}{t_i} \right) \right]$$

where

n is the number of neighbourhoods (SAMS) in the city

x_i is the population of group x living in neighbourhood i

X is the sum of all x_i (the total population of group x in the city)

y_i is the population of group y living in neighbourhood i

t_i is the total population of neighbourhood i

The measure is calculated from SAMS-level neighbourhood whereby it expresses the overall geographic level of segregation/congregation in the city based on that subdivision. By design, the measure takes each neighbourhood into account and weights the neighbourhood contribution to the resulting value by the proportion of the group exposed actually residing in the neighbourhood. (This level of sensitivity to the geographic distribution of a population group is not captured by D). The resulting P -value is influenced by the total size of the group exposed to and its geographic distribution. Calculations are done for covering the total population by cross calculation on the ethnic group variable, and then re-performed for the lower and richer segments respectively within each ethnic group. Values for each subdivision are computed against the total population as divided into ethnic groups in order to generate a total of 100% of the neighbourhood composition. Syntax for these procedures is written and the operations are then performed in SPSS.

4.4 Data source

To acquire a dataset suitable for the purpose of this thesis, a dataset has been extracted from GILDA, a longitudinal database held at Göteborg University containing the entire population resident in Sweden, and holding a number of variables of economic and social character on the individual level, with the geo-coded locations for registered household residential property required by the geography-based topic at hand. The GILDA data comes from the databases maintained by Statistics Sweden. The economic variable used in this thesis is from the Statistics Sweden LISA database, which holds socioeconomic and labour market indicators for the population of over 15 years of age resident in Sweden. The extract in question comprises the subpopulation with registered residential address in the municipality of Göteborg. The reference year is 2008, which is the latest data available in GILDA. As such, the income variable used refers to the calendar year 2008, and residential location to the registered address on 31 December 2008. The income variable extracted from the database is within GILDA/LISA labelled `DispInkPers04`. For reference, the overview of how this variable is calculated and the composition of its component parts has been included in this study (in Swedish) as Appendix B. The aggregations and processing of this extensive data set is done in SPSS.

4.5 Reflections on the methodology - concerns

While a cartographic element would have been welcome, the geographic data layer with the Swedish statistics area divisions has unfortunately not been available during the work on this thesis. While Swedish statistics are produced, reported and analysed in official governmental reports and as well as academic research on this SAMS-level division, as it is in this thesis, unfortunately the very data set holding this geographic division necessary for cartographic production in GIS is proprietary and not available in the public domain, nor through the university for which this thesis is written. While the topic of this thesis is strongly within the field and tradition of human geography, the methodology utilises a measure based on and expressing geographic data, and the purpose, questions and analysis is about a clearly geographic phenomenon, the absence of complementary maps is to be regretted. However, as in much of international human geographic research, the focus is on the socio-spatial dialectic and interaction between possible explanatory frameworks and spatial urban patterns and phenomena, and cartography, while often informative, is not always included in other human geography academic research of this variety.

A general question to be asked with any population register extract is the extent to which it covers the intended target population for the study at hand. The GILDA/LISA database used holds registered household addresses of the Swedish population with residence status per the last day of each year. As such, a comment needs to be made regarding its potential deviation versus the intended target population of all residents of the city in terms of over- and undercoverage. The dataset may exclude de facto residents. Firstly, the requirement of legal residential status implicates any asylum seekers in process of acquiring right of residence are excluded, as well as any immigrants who for other reasons, such as having entered the country through informal channels or having been denied right of residence, and as such lack the papers necessary for inclusion in the official population registers. Secondly, cases of exclusion from the dataset relates to the voluntary non-reporting of residential address. Examples would be immigrants from EU/EES countries who during their first period of residence are not faced with any strong needs to register with the authorities, as well as newly arrived Swedish residents from other municipalities who may keep their official registered address at another location for various reasons, such as students residing in the city while registered at the parental address. The dataset can also be assumed to include individuals who do not actually reside in the city. The main cause of this can be assumed to stem from underreporting at point of emigration. It is not uncommon that emigrants do not report to the authorities that they have left the country, or report it late, for a number of personal as well as legal and technical reasons (Körner & Wahlgren, 2002, pp. 19-20, 36-38; SCB, 2011, pp. 23-24).

This thesis concerns ethnic congregation/segregation. As such, the concept of ethnicity needs attention. The very concept of ethnicity should be regarded as a social construct, created and reproduced through human discourse and practices. As such, ethnicity is a relational categorisation, which emanates from and is provided meaning through interaction between people. Therefore, there is a certain situational component to what, at a specific time and place, is considered an ethnic group. Further, who and why is considered part of an ethnic group varies over time and between places, as well as if considering assigned ethnicity by the charter group or

ethnicity as self-identification. Ethnicity is essentially cultural groupings related to markers such as language, religion, physical appearance, habits et cetera. Which markers are used vary. There is therefore significant fluidity of ethnic “labels” and “boundaries”. Further, while denoting contrast between population groups, ethnicity is not necessarily exclusive in the sense of a person having a single ethnic belonging. In contrast, multiple and nested belongings are common. Within the Swedish contemporary context this study is carried out, ethnicity is frequently conferred by the Swedish population onto minorities based on country of birth. This may be seen in context with the Swedish ethnic self-identification which to a great extent is based on territorial nationality. Further, as interaction is essential to formation of ethnicity groupings, labels and boundaries, the categorisation of immigrants performed by the Swedish ethnic group can be linked to the size and persistence of immigrant communities within the host society. As such, Africans or Muslims may arguably be considered ethnic groups in some sense when studying Swedish society in Sweden, while maybe less so in other geographical locations (Hylland Eriksen, 2001, pp. 261-293). It should be noted that the very concept of ethnicity is therefore very complex and problematic, and the validity of any attempt to quantify or count people based on this concepts should be considered problematic. Nevertheless, it is highly relevant for urban segregation processes, and so research should be carried out. In this study, each person is assigned a single ethnic belonging based on country of birth grouped into geographic world regions, which to the best of my understanding reflect the cultural ordering of the world as reflected in Swedish general discourse. It follows that when this study speaks of ethnic group, cultural groups, or regions of origin, the same general ethno-cultural groups are intended, as constructed by social discourse and practices in the city of Göteborg around the year 2008.

On a more general note, the thesis may be also, depending on the scientific theory approach and interest of the reader, be criticised among other things for lacking a strictly falsifiable hypothesis, for showing tendencies to circular argumentation, for applying an ethnocentric classification scheme, for incorrectly trying to quantify non-countable social phenomena, for not delimitating the geographical area of research based on analyses of actual household relocation scales, for using neighbourhood boundaries not explicitly based on social practices, for trying to inform our understanding of processes based on pattern analysis, for risking ecological errors, and for using aggregation levels which may counteract the analysis intended. It is however my hope that this study will, by utilising a in the Swedish context slightly less explored methodological approach to the subject of ethnic segregation, to some small extent contribute to the existing body of research and in that way enable a fuller understanding of ethnic segregation as urban spatial phenomenon or possibly raise questions which future research can address.

5. Results

5.1 General remarks

The database extract contains 498730 persons. Disposable income information is missing from 83375 persons, a 16.7% share of the total. As noted in the methodology section, part of this missing data would stem from overcoverage of persons no longer de facto resident in the country. However, as the indicator used is partially based on tax return information, non-submission or submission of this information after database population porting time can be expected to play a role. It should be noted that the missing data is overwhelmingly by the Swedish born group. See Appendix E for a more detailed breakdown.

The median income established on this set, taking valid cases only into account, is SEK 148.4 thousand.

For 24 persons the country of birth is unknown. These are, after the city-wide median income has been established, removed from the sample. The remainder is aggregated to region of origin groups. The constituent parts – that is: how many individuals from each separate country of birth make up the totals for these groups – can be seen in Appendix D.

The total population of Göteborg, age 16 or over, region of origin can be found in table 3 below.

Table 3: Population by region of origin

Region of origin	Population	Percentage
Sweden	392147	78.6%
Middle East & N Africa	30380	6.1%
Western countries	23078	4.6%
South East Europe	18234	3.7%
North East Europe	10590	2.1%
Asia	9986	2.0%
Africa	8473	1.7%
Latin America	5818	1.2%
<i>Total</i>	<i>498706</i>	<i>100.0%</i>

Two income groups are then assigned. For simplicity, a disposable income at or above median income qualifies as “rich”, while below median income is denoted “poor”. The assumption is that any individual with a disposable income at or above the city average has the economic ability to choose residence in a neighbourhood not characterised by a concentration of any specific ethnic group, or immigrants in general, should he or she so wish.

The number of persons in the total population, per income group and ethnic origin can be seen in the table 4 below. As can be seen, Swedish born and Westerners have a higher proportion of relatively wealthy persons among themselves than specifically the African and Middle Eastern immigrants, where a situation of relatively low economic resources seems to be a noticeably common. A more granular report of median income per country of birth is provided for reference in Appendix C.

Table 4: Proportion high income by region of origin

	Rich	Poor	Percentage rich
Sweden	175502	139069	56%
West	10535	11317	48%
Latin America	2080	3444	38%
NE Europe	3433	6575	34%
SE Europe	6139	11705	34%
Asia	2450	6618	27%
Middle East & N Africa	6179	22536	22%
Africa	1437	6316	19%
<i>Total</i>	<i>207755</i>	<i>207580</i>	<i>50%</i>

n = 415335

5.2 Overall ethnic segregation versus Swedish population

The population was aggregated onto SAMS-level for total population per region of origin group. P* was calculated per region of origin, versus the total population of Swedish born and other regions of origin. This produces a set of overall measures of inter-ethnic segregation before income is taken into account.

The general picture of ethnic residential segregation versus the Swedish-born population, based on the regions of origin and SAMS-level neighbourhoods in Göteborg 2008, as measured by the P* exposure value, can be seen in table 5 below.

Table 5: Exposure towards Swedish born by region of origin

Persons born in	Percentage Swedish-born in neighbourhood
Sweden	81.99%
West	77.02%
Latin America	70.66%
Asia	70.36%
North East Europe	69.60%
South East Europe	62.64%
Middle East & N Africa	59.93%
Africa	55.69%

As can be seen, the type of neighbourhood varies strongly by ethnic origin. Persons born in Sweden and immigrants from the Western world live in residential neighbourhoods where Swedes form the overwhelming majority. On the opposite side of the spectrum, immigrants from Africa and the Middle East have indeed relatively few Swedish-born neighbours. That said, even the typical African's neighbourhood is dominated by the Swedish host community, who form an absolute majority. In that sense, it would be arguably incorrect to categorise any immigrant group on this aggregation level as living in an "immigrant dense" or "Swedish sparse" residential environment.

5.3 Overall ethnic neighbourhood compositions

The compositions for the total ethnic population groups, cross-calculated towards each other, without taking income into account, are provided in table 6 below.

By looking at each row in the table, the exact average ethnic neighbourhood composition experienced by each ethnic group in Göteborg in 2008 can be seen. As the values are calculated for each ethnic group towards all other ethnic groups, the total neighbourhood environment is captured. The percentages seen are the average as based on each registered individual residing in every neighbourhood in the city, as outlined in the methodology section.

Although to my knowledge not previously produced for Göteborg, this table is a standard production in especially American segregation research. Usage includes for example the U.S. census bureau segregation reports. The inclusion here I hope will enable a possible comparison between cities, as well as future analysis of development over time into whether, and which ethnic groups in that case, decrease or increase exposure to each other on the geographic neighbourhood level. In other words: is inter-ethnic interaction in the neighbourhoods increasing or decreasing? Who is becoming less segregated towards whom? Are tendencies towards integration between specific immigrant groups or inter-ethnic avoidance visible in such a time series? The table is therefore included here mostly for reference purposes. One may however note that while the percentage of western immigrants among neighbours is more or less the same, regardless of region of origin of the person is question, the number of immigrants from especially the Middle East – North Africa region as well as from sub-Saharan Africa varies to a much higher degree.

Table 6: Ethnic neighbourhood compositions, total populations

Neighbourhood composition by region of origin, all residents

The resident is born in:	Percentage of neighbourhood is born in:									
	Sweden	West	Latin America	Asia	North East Europe	South East Europe	Middle East & N Africa	Africa	SUM	
Sweden	82.0%	4.5%	1.1%	1.8%	1.9%	2.9%	4.6%	1.2%	100.0%	
West	77.0%	5.5%	1.2%	2.2%	2.3%	4.1%	6.0%	1.7%	100.0%	
Latin America	70.7%	4.7%	2.2%	2.6%	2.6%	5.2%	9.3%	2.7%	100.0%	
Asia	70.4%	5.1%	1.5%	3.9%	2.8%	4.9%	8.8%	2.7%	100.0%	
North East Europe	69.6%	5.1%	1.5%	2.6%	3.6%	5.6%	9.3%	2.8%	100.0%	
South East Europe	62.6%	5.2%	1.7%	2.7%	3.2%	9.2%	11.9%	3.5%	100.0%	
Middle East & N Africa	59.9%	4.6%	1.8%	2.9%	3.2%	7.1%	16.0%	4.5%	100.0%	
Africa	55.7%	4.6%	1.8%	3.2%	3.5%	7.6%	16.2%	7.3%	100.0%	

5.4 Income effect on co-ethnic congregation

For this section, the population was aggregated onto SAMS-level for 1) total population at or over median income per region group, and 2) total population under median income per region group. P* was calculated for rich and poor, per region of origin, versus the total population of the same region of origin. In addition, the previously generated figures for each total ethnic groups' P* versus itself was used.

The version of the exposure measure which measure exposure towards the own group is often called isolation index. These P* values, by region of origin and income level, are listed below in table 7. The measure has been calculated for poor, rich and total ethnic group separately, in all three cases towards the total own ethnic group population. As the group *exposed* is not of the same size, a comparison between values by row is not feasible. Instead, as the group *exposed to* is held constant, namely the total group with that region of origin, the table should be read to compare the values within the same column, hence describing how level of ethnic congregation changes with personal income, and to indicate possible differences between the noticed changes between the ethnic groups.

Table 7: Income effect on isolation values by region of origin

Income	Sweden	West	Latin America	Asia
Rich	0.847	0.054	0.019	0.031
Total pop	0.820	0.055	0.022	0.039
Poor	0.808	0.056	0.024	0.044

Income	North East Europe	South East Europe	Middle East & N Africa	Africa
Rich	0.031	0.080	0.108	0.057
Total pop	0.036	0.092	0.160	0.073
Poor	0.038	0.098	0.169	0.076

Looking at the isolation values for the total populations, it is clear that no immigrant group dominates their own neighbourhoods in the sense of the group forming residential neighbourhoods on the SAMS-level where many of the immigrants from the region live and few others live. If that was the case, values should have been much higher. It is also clearly shown that the level of isolation, that is the number of neighbours from the same region of origin, is lower among immigrants who have the economic resources to more freely choose neighbourhood. However, it must be noted that the Swedish born population, given the income needed to operate more freely on the housing market, actually increases its ethnic residential isolation, in contrast to all other groups.

5.5 Segregation and congregation among poorer residents

The population was aggregated onto SAMS-level for total population under median income per region group. P* was calculated for these poorer residents, per region of origin, versus the total population of same and other regions of origin.

Table 8 below shows the complete ethnic exposure in the neighbourhood for the residents of Göteborg 2008 with an income below average, listed by region of origin. It can be read in two ways. Looking at each row, the table answers the question of the ethnic composition of a typical poorer resident of a specific origin. Comparing rows provides the information of how neighbourhoods differ between members of the poorer population depending on ethnic background. It can be noted that even with relatively fewer choices on the housing market, persons born in Sweden and immigrants from the Western countries live in areas where many Swedes live. In contrast, the poorer segments of African and Middle Eastern origin, as well as, to an extent, the Balkans, are relatively strongly segregated against the Swedish born population compared to poor immigrants from other regions.

Table 8: Ethnic neighbourhood compositions for poorer residents

The resident is born in:	Percentage of neighbourhood is born in:									
	Sweden	West	Latin America	Asia	North East Europe	South East Europe	Middle East & N Africa	Africa	SUM	
Sweden	80.76%	4.65%	1.12%	1.96%	1.99%	3.21%	5.00%	1.32%	100%	
West	74.82%	5.62%	1.30%	2.46%	2.51%	4.50%	6.78%	2.01%	100%	
Latin America	68.27%	4.73%	2.43%	2.73%	2.79%	5.72%	10.34%	2.99%	100%	
Asia	67.39%	5.19%	1.59%	4.41%	2.95%	5.34%	9.93%	3.20%	100%	
North East Europe	67.36%	5.11%	1.52%	2.74%	3.80%	6.00%	10.27%	3.20%	100%	
South East Europe	60.11%	5.07%	1.75%	2.81%	3.40%	9.75%	13.10%	4.01%	100%	
Middle East & N Africa	58.23%	4.51%	1.83%	2.99%	3.32%	7.41%	16.88%	4.84%	100%	
Africa	54.39%	4.62%	1.86%	3.34%	3.58%	7.80%	16.77%	7.64%	100%	

Neighbourhood composition for poorer residents

Comparing instead at the values within each column, the table answers the question of how likely a less well-off person, depending on ethnic background, is to have a specific group of ethnics among his or her neighbours. For legibility, the highest number in each column has been highlighted.

The pattern discernible is that, among the poorer population, the person who has the most neighbours from a specific region of origin is a person from that same region. This is a very clear pattern of co-ethnic congregation. Indeed, if ethnicity was not a factor at all the probability of this pattern occurring, for every group analysed, can in my opinion be assumed to be very low. That co-ethnic congregation is a factor of inter-ethnic residential segregation among poorer immigrants has, at least to the knowledge of this author, not been proven as a general, systemic, feature of segregation in previous studies of Göteborg. While anecdotal indications, case studies and cartographic mapping may have indicated cases of ethnic congregation among (poor) immigrants on the very local level, the finding that this is indeed a general, overarching, pattern qualifies the notion that poor, immigrant dense, neighbourhoods would generally not be subject to ethnic congregation processes but forming essentially multi-ethnic deprived areas, wherein ethnicity as a segregating force is not at play. Indeed, co-ethnic congregation among poor immigrants seems to be a clearly discernible aspect of residential segregation among the less well-off population within this poor segment.

Looking instead at the lowest values per column, for all less well-off persons, Swedes stand out in the fact that they show the lowest exposure to any immigrants, regardless of region of origin.

5.6 Segregation and congregation among richer residents

Moving on to the residents who, due to a disposable income at or above the city average, have the economic resources to choose not to live in neighbourhoods characterised by many immigrants or co-ethnics. The population was aggregated onto SAMS-level for total population at or over median income per region group. P* was calculated for these richer residents, per region of origin, versus the total population of same and other region of origin. We can produce the same kind of table as before for this sub-segment of population - table 9 below.

Table 9: Ethnic neighbourhood compositions for richer residents

The resident is born in:	Percentage of neighbourhood is born in:									
	Sweden	West	Latin America	Asia	North East Europe	South East Europe	Middle East & N Africa	Africa	SUM	
Sweden	84.66%	4.51%	0.95%	1.63%	1.72%	2.34%	3.41%	0.78%	100%	
West	79.25%	5.41%	1.11%	1.94%	2.17%	3.69%	5.09%	1.34%	100%	
Latin America	74.10%	4.80%	1.90%	2.31%	2.43%	4.60%	7.70%	2.16%	100%	
Asia	75.63%	4.94%	1.32%	3.09%	2.46%	4.21%	6.56%	1.81%	100%	
North East Europe	75.55%	5.03%	1.28%	2.24%	3.07%	4.42%	6.63%	1.79%	100%	
South East Europe	67.80%	5.36%	1.52%	2.43%	2.90%	7.97%	9.44%	2.58%	100%	
Middle East & N Africa	68.86%	4.87%	1.58%	2.48%	2.78%	5.75%	10.76%	2.92%	100%	
Africa	61.82%	4.85%	1.73%	2.83%	3.26%	6.84%	13.02%	5.65%	100%	

Neighbourhood composition for richer residents

As was the case with less well-off residents, the most Swedish of all neighbourhood environments are experienced by persons born in Sweden and other Western countries. It should be noted, that even with the economic resources enabling a relatively free choice on the housing market, the segregation versus the Swedish born remains remarkably high for immigrants from Africa, the Middle East and the Balkans.

As was the case with poorer Swedes, the richer Swedes are more segregated versus all immigrant groups than residents with any other country of birth. Indeed, given economic resources, the Swedish residents seem to settle in neighbourhoods where exposure to immigrants is very low. Specifically there seems to be almost no African immigrants in the Swedish richer population's neighbourhoods of choice.

Interestingly, the most likely immigrant to have a neighbour from the Middle East or North Africa, as well as a neighbour from North East Europe, is an African immigrant. That said, the second most likely to have a neighbour from Middle East – North Africa is an immigrant from that same region. Likewise, the second most likely to have a North East European neighbour is someone born in North East Europe. For all other groups, the most neighbours from a specific area of origin are found for persons from that same group. As such, the general picture among these residents who do have the economic capacity to choose otherwise is that the residential settlement pattern shows clear signs of ethnic congregation. The general rule is thus that richer inhabitants of Göteborg do, to some extent, choose to settle in proximity to other members from the same region of origin, even when economically not having to.

5.7 Differences between segregation levels among richer and poorer residents

Notwithstanding that richer residents congregate along ethnic lines, comparing the values between the table for richer and poorer residents, it is however interesting to note that the degree of ethnic congregation is higher among the poor. The exception is the Swedish population, who shows an increase in ethnic congregation given more freedom on the housing market. Further, with more income, the segregation of all groups towards other immigrant groups increase. The exception here is immigrants from Latin America, South East Europe, and the Middle East and Africa, whose exposure to Western immigrants (and only to Western immigrants) in the residential neighbourhood increase with more choice on the housing market. This is not unlikely to be an effect of the above presented general result that the Western group has a significantly higher percentage rich residents than any other immigrant group, so a move up the socioeconomic housing scale would arguably to some extent also increase the probability of having neighbours born in Western countries. It should however also be noted that exposure to Western immigrants change very little with increased income, whether towards a higher or lower level.

6. Analysis

The main purpose of this investigation was to see if co-ethnic congregation is a factor in ethnic segregation in Göteborg. The results clearly indicate that this is the case. Among immigrants who have the economic resources to choose otherwise, the picture emanates that neighbourhoods are chosen with an overrepresentation of the own ethnic group.

A possibly surprising result as the current discussion paint the picture of poor, immigrant dense areas as essentially multi-ethnic where co-ethnic congregation does not play a role, is that the results indicate that co-ethnic congregation among poorer immigrants is clearly present, possibly more so than among the better off. Whether this is an effect of managerial steering among housing agencies, the effect of ports of entry for newly arrived (trans)migrants (also applicable to “established” minority groups), has its root cause in discrimination or voluntary clustering, or simply a statistical effect due to the lower proportion of the numerous Swedish group in poorer neighbourhoods, cannot be answered with this data. It is however clear that under the Swedish/immigrant spatial dichotomy lays a mosaic forming general dynamic of residential congregation along finer ethnic lines.

The results do not have much direct bearing on the classic urban ecology framework, however by revealing that dispersal takes place in line with structural integration, here reflected in income and purchasing power, the results are not contradictory to that approach’ assumptions. The relation between the results and the structural Marxist explanatory frameworks, especially as presented by the current polarisation proposition, is arguably of more concern. The results when looking at income by ethnic group supports a qualification of the proposition, namely that the socio-economic polarisation has taken on a specifically ethnic character in contemporary society. The spatial expression of this polarisation exceeds the socio-economic division. As mentioned earlier, it has been shown in other segregation research that African and West Asian minorities live in low income areas to a greater extent than motivated by the proportion low income earners within these communities. The results of this study add that the spatial co-ethnic congregation within these communities also seem to be the highest, and that socioeconomic capacity does not change this situation. On the other side of the polarisation scale, the Western immigrants have in previous research been shown to settle directly amongst the most Swedish-dominated areas of Göteborg, and also that the proportion living in poor neighbourhoods is lower than can be expected based on the proportion low income earners in this group. The results of this study confirms that the Western immigrants hold the highest average incomes and highest proportion of wealthy immigrants, but also that the segregation vis-à-vis the Swedish born is the lowest and, while maintaining a similar exposure to the own group, more income means slightly higher residential integration with Swedes but clearly higher segregation vis-à-vis African and Middle Eastern immigrants. This is the same patterns as shown by the Swedish born group when gaining economic power on the housing market. As such, an implication for the polarisation approach which can be seen as supported by these results is that current socioeconomic polarisation takes on an ethnic dimension, and

that dimension may be interpreted as a conflated socioeconomic-ethnic structure driving increased division between Wealthy/Swedish/Western on the one hand and Poor/African/Middle Eastern on the other, where ethnicity form an additional independent factor in increased spatial urban segregation. Although this framework suggest increasing polarisation, which in economic segregation terms has been noticed for Swedish cities, it substantially helps understand the current conditions of conflated ethnic and social segregation, which also was noticed by de Geer in the case of “distant cultures” level of congregation and settlement patterns in the One Million Home Program areas of Göteborg already in the mid 1980’s.

The results of this investigation also contributes to an understanding of the intra-urban moves analysed in recent research, which showed Swedish avoidance/flight behaviour as having a large explanatory value for the (re)production of deprived and immigrant dense residential areas. As noted above, the classic household relocation model based on family life cycle is unable to explain these moves, as ethnic segregation prevails when controlling for life cycle and demographic factors. The amended household relocation decision model by Robson built on stress in view of the contrast between actual and desired accommodation and neighbourhood characteristics, can however serve as an explanatory link between the neighbourhood composition values presented in these results and Bråmås revealed propensities and directions for household relocation. The results here show that Swedes, given the opportunity, choose neighbourhoods with fewer immigrants, and Bråmås has shown that the direction of relocations of Swedes is away from, and especially not towards, immigrant dense areas. The “stress” experienced for the average Swedish household when viewing an immigrant dense neighbourhood and contrasting this to a desire of fewer immigrants helps link the established patterns and neighbourhood compositions with the processes of intra-urban relocation and the finding in this thesis that such action is indeed taken once resources therefore are available. As was found in that study, the group most avoided by the Swedish population, namely the African immigrants, were the only group showing net relocation steams towards the more immigrant dense areas of Göteborg. The implication possible is that the same ethnic bias – Swedes avoiding immigrants and immigrants opting for congregation within that context – as has been shown to happen on the scale of relocation between Swedish labour markets, plays out on the intra-urban scale as well.

The co-ethnic congregation factor shown in this study also helps explain why as previously noted immigrants do not necessarily leave the large housing estate clusters when moving. Indeed, as has been presented in the results specifically the African and Middle Eastern group has a lower income and, as mentioned in earlier research, tend to live disproportionately in the rental segment of the market. The relatively high levels of ethnic co-location shown in this paper may then be a factor providing explanation why, as previous research has shown, these immigrants do not leave the large rental housing estates when labour market status so allows. Indeed, the finding in this thesis that African richer immigrants have remarkably high numbers of neighbours also from other immigrant groups supports that analysis of relocation movements and the co-ethnic clustering explanatory framework.

Regarding neighbourhood effects the finding of this investigation has implications. As has been noted, there seem to be indications of effects of residing within ethnic clusters. Seeing that ethnic co-location takes place also among wealthier immigrants,

interesting questions arise as to how such effects take place, for example in a situation of relatively well-off immigrants co-locating, or a situation where wealthy and poorer immigrants of same background remain in residential proximity. The importance of role models has been suggested, and the results in this study indicating the better off living in proximity to the own group, should open potential future research into neighbourhood effects. Neighbourhood effects from ethnic concentration should also be taken a bit more seriously seeing that increased affluence, frequently considered to follow in time as structural integration into the labour market takes place, does not fully alleviate the residential tendency of co-ethnic congregation.

While this thesis has shown ethnic congregation to be a general phenomenon in Göteborg anno 2008, the level and differences in congregation problematizes the assumption that time since immigration determines structural integration and segregation levels. As has been presented regarding immigration history, flows have increased and population numbers increased lately not only from the African and Middle Eastern region but also East Asia and the European Union / EES area. Despite these all being “new arrivals”, segregation vis-à-vis Swedes amongst even the structurally integrated, wealthier, segment of these groups show a vast difference between EU/Western on one hand and African / Middle Eastern on the other, with noticeably Asians (as well as the “old” Latin American group) somewhere in between. This opens the question whether ethnicity may be a more important factor than previously recognised, which also goes hand in hand with the earlier reported D-values which showed increased spatial evenness vis-à-vis Swedes for Chinese but not Somali immigrants (both recently increasing in numbers) during the last decade.

The results presented here reaffirm that the Swedish population is both the most numerous and wealthy, and that it displays what can be seen as a tendency for avoidance of immigrants in its residential areas. This thesis therefore strongly supports the growing body of work approaching the subject of residential segregation as mainly driven by the Swedish charter group’s actions. It further reaffirms the similarity between Western immigrants and the Swedish group, and the bottom position of the ethnic hierarchy held by African and Middle Eastern immigrants, while Asians and Latin Americans – despite being seen as “culturally distant”, but traditionally held in higher esteem – take a middle position. As such, I cannot conclude otherwise than that the findings here in the case of Göteborg support the proposed framework by Molina explaining contemporary Swedish urban segregation from a framework of structural cultural racism. It does however qualify the framework with the notion that co-ethnic congregation would take place within such greater context of charter group discrimination and the racialization of the Swedish urban landscape. That said, the methodology utilised here cannot reveal the extent to which ethnic congregation is indeed a response to discrimination or better explained by voluntary action, such as the wish to at least have *some* with the same ethnic background in your vicinity. Managerial approaches investigating the actions of housing market actors, and in view of the co-ethnic congregation seen among richer immigrants in these results, possibly with real estate agents and mortgage brokers in focus, would provide more information into that question.

The impact on the expectations of areas-based anti-segregation policy measures is rather clear. While in public discourse an assumption has been made that such measures may alleviate the social and economic deprivation of the targeted areas, as

well as the character of sparse Swedish population, the findings in this thesis of Swedish avoidance of immigrant neighbours as well as co-ethnic congregation among immigrant groups themselves given better economic status, adds another critique to this assumption. On top of analyses indicating a significant level of relocation out from deprived areas once resources allow, performed in earlier research, there is, based on the finding in this report, reasons to assume that even if area-based policy succeeds in alleviating social and economic segregation, the results should not necessarily be assumed to lead to a removal of ethnic spatial separation in the urban landscape.

7. Conclusions

The purpose of this thesis was to contribute to the on-going effort of understanding the ethnic dimension of contemporary residential segregation in Göteborg, by analysing specifically the residential environment of those immigrants who do have the economic resources enabling a fairly wide choice of residential locations on the city's housing market. In doing so, a number of questions were asked.

The main question was whether immigrants, who in economic terms would be able to choose otherwise, choose to live in neighbourhoods characterised by a high prevalence of the own group. The results of this investigation have shown this to be the case, with the important additional finding that poorer immigrants possibly show even higher degrees of ethnic congregation.

The questions regarding which composition neighbourhoods have in which immigrants with reasonable economic strength choose to live, and what happens to segregation vis-à-vis Swedes and other immigrants have also been answered. For all immigrant groups, given economic resources, the segregation versus Swedish born is lowered, and the proportion neighbours from the own group as well as other immigrants is also lower. Given income enough, all immigrants choose less immigrant dense, more Swedish-dominated environments. The exception is neighbours who are immigrants from other Western countries, whose proportion of the residential neighbourhood seem to have little impact.

In regards to the question if there are differences in levels of residential segregation depending on region of origin, also among immigrants with economically relatively strong positions, the conclusion is that there is. Even among the more affluent immigrants, those of African and Middle Eastern origin, as well as immigrants from the Balkan region, stand out as highly segregated from the Swedish population, while Western immigrants are the least segregated. These same differences by ethnicity in residential segregation are also seen among the poorer immigrants. Thus is this ethnic hierarchy to be seen as a separate sorting structure on the housing market and in the urban segregation of Göteborg which is not impacted by or reducible to limited economic resources and thereby limited choice of housing.

On the question whether there seem to be a connection between the level of segregation and the cultural distance as seen by the Swedish charter group, the answer has to be yes. Firstly, both among poorer immigrants and those who have the

resources to choose other residential areas, the level of segregation vis-à-vis the Swedish group follows an ethnic hierarchy which unfortunately needs to be pointed out follows how culturally distant the group is perceived by the Swedish population and unfortunately not unrelated to the valuation of distant cultures in historical Western discourse. Secondly, the Swedish group is the only one which increases its residential ethnic isolation given economic resources to do so. There are indications in the results that this avoidance may possibly be more directed towards immigrants of African and Middle Eastern origin than any other cultural groups, including the “distant” but in historical discourse higher valued, Latin American or South/East Asian cultural groups.

The overall conclusion of this investigation is a strong support for the emerging point of view within contemporary Swedish segregation research that the actions of the Swedish group in terms of self-segregation is a primary driver of overall ethnic segregation patterns in Göteborg. This flight/avoidance behaviour is directed towards all immigrant groups, however more so towards cultures seen as distant and historically lesser valued in the Swedish discourse. In an important qualification of this general framework, this thesis has however also showed that there is, underlying the main fault line between Swedes and immigrants, also a clear factor of co-ethnic residential congregation among immigrant groups themselves, further explicating residential patterns as viewed from an ethnic structuralist approach. This tendency to congregate on ethnic lines is lowered, but not alleviated, by sufficient economic resources not to congregate. If this ethnic congregation, also among the more affluent immigrants, is purely voluntary or to some extent a response to discrimination, is not a question which can be answered based on the methodology and results of this thesis.

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Appendices

Appendix B – Extract of LISA documentation regarding variable DisplnkPers04

DisplnkPersF04 Disponibel inkomst (individualiserad från familj, 2004 års vikter och enl. 2004 års definition)

Från 2004 finns nya konsumtionsvikter, se sid 46. Som tidigare fås den individualiserade disponibla inkomsten genom att summan av samtliga i familjen ingående medlemmars disponibla inkomst multipliceras med individens konsumtionsvikt och divideras med familjens totala konsumtionsvikt. Beloppet anges i hundratal kronor. I förekommande fall har negativa värden för Disponibel inkomst (individualiserad från familj) ersatts med värdet noll.

Exempel. En familj 2004, bestående av en vuxen, ett barn 0–3 år och ett barn 4–10 år.

Familjens totala konsumtionsvikt = 1,00 (vuxen) + 0,42 (barn 0–3 år) + 0,52 (barn 4–10 år) = 1,94

Familjens disponibla inkomst = 200 000 kr

Individens (den vuxnes) disponibla inkomst = $200\,000 * 1,00 / 1,94 = 100\,310$

Statistiken försvagas av att RTB-familjen i vissa fall skiljer sig från det faktiska hushållet. I övrigt se under Disponibel Inkomst.

Disponibel inkomst (individens delkomponent, enligt 2004 års definition) Displnk04

Ny Disponibel Inkomst (individens delkomponent) där Kapitalvinst minus kapitalförlust numera kan ge ett minus (förut gav en kapitalförlust som var större än en kapitalvinst resultatet noll). Ytterligare någon mindre förändring avser innehållet i Displnk.

Från och med år 2004 anger variabeln summan av:

Faktorinkomst

- + Kontant bruttolön, semesterersättning, provision m.m.
 - + Andra skattepliktiga förmåner än kontant lön
 - + Erhållen kostnadsersättning
 - Kostnadsavdrag
 - + Inkomst från aktiv näringsverksamhet
 - + Inkomst från passiv näringsverksamhet
 - + Skattepliktig inkomst t.ex. hobby verksamhet
 - + Egen pensionsförsäkringspremie i näringsverksamhet
 - + Utnyttjat underskott från tidigare år
 - + Kostand för resor bostad – arbete
 - Sjukpenning m.m. för annat arbete än anställning
 - Underskott i näringsverksamheten (Årets verkliga underskott)
 - + Inkomst från fåmansföretag, inkomst av tjänst
 - + Andra inkomster som inte är pensionsgrundande
 - + Deklarerad inkomstränta och utdelning
 - + Positiv räntefördelning, kapital
 - + Uthyrning av privatbostad, kapital
 - + Skattefri utdelning för fåmansdelägare
 - + Kapitalvinst, aktier fastighet m.m. – brutto
 - Kapitalförlust, aktier fastigheter m.m. – brutto
- Skattepliktiga positiva transfereringar
- + Tecken språkundervisning för föräldrar
 - + Övriga positiva transfereringar

- + Pension, livränta, skattpliktig del.
 - + Ersättning från AGS och TFA, skattepliktig
 - + Rehabiliteringsersättning, skattepliktig
 - + Sjukpenning, havandeskapspenning, smittbärrpenning och sjuklönegaranti
 - + Arbetsskadeersättning, skattepliktig
 - + Sjuk- och aktivitetsersättning
 - + Egen arbetsskadelivränta, samordnad
 - + Delpension
 - + Barntillägg
 - + Tjänstepension
 - + Summa allmän pension/tjänstepension
 - + Summa privat pensionsförsäkring/skattepliktig livränta
 - + Deklarerad pension som ej motsvaras av KU
 - + Deklarerad pension som ej motsvaras av KU, privat
 - + Föräldrapenning, skattepliktiga bidrag
 - + Arbetsmarknadsstöd
 - + Bidrag från Sveriges författarfond
 - + Dagpenning vid frivillig krigsförbandsövning eller särskild övning
 - vårdbidrag
 - + Dagpenning vid repetitionsutbildning och civilförvarsutbildning
 - + Närståendepenning (sjukpenning för vård av närstående)
 - + Utbildningsbidrag för doktorander
 - Skattefria positiva transfereringar
 - + Ersättning i samband med sjukdom, skattefri.
 - + Frivillig pension
 - + Barnpension
 - + Efterlevandestöd till barn
 - + Livränta inkl privat pension
 - + Särskilt pensionstillägg
 - + Äldreförsörjningsstöd
 - + Barnbidrag (allmänt barnbidrag och flerbarnstillägg)
 - + Bostadsbidrag
 - + Bostadsbidrag för värnpliktiga
 - + Bostadstillägg till pensionärer
 - + Särskilt bostadstillägg till pensionärer
 - + Familjepenning för värnpliktiga
 - + Socialbidrag inkl. introduktionsersättning för invandare
 - + Mottaget underhållsbidrag
 - + Rekryteringsbidrag
 - + Studiehjälp, studiebidrag
 - + Extra tillägg (4 månader hösttermin och 5 månader vårtermin)
 - + Studiemedel, högskolan, bidrag
 - + Studiemedel, högskolan, lån
 - + Dagersättning
 - + Utryckningsbidrag
 - Negativa transfereringar
 - Slutlig skatt (exkl. egenavgifter, allmän löneavgift för egenföretagare, särskild löneskatt på förvärvsinkomster, avkastningsskatt, skogsvårdsavgift, särskild löneskatt på egna och anställdas pensionskostnader, inbetald utgående moms, och avdragsgill fastighetsskatt)
 - Återbetalt studielån
 - Underhållsbidrag givet
 - Allmänt avdrag avseende premie för pensionsförsäkring/pensionssparkonto
 - Egen pensionsförsäkringspremie i näringsverksamhet
-

Appendix C – Median income by country of birth

For country codes see Appendix F: Country code key

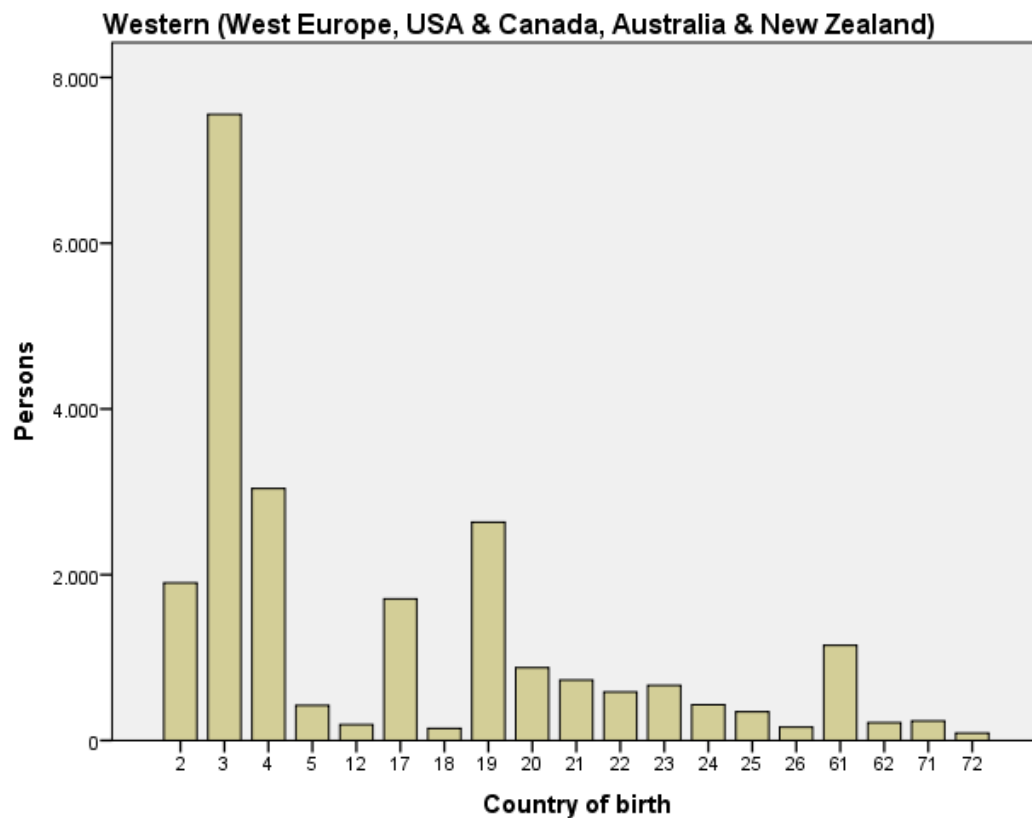
Country of birth	Median income, '000 SEK
1	161.6
24	161.1
12	158.5
25	154.2
57	153.6
17	153.1
3	149.1
26	149.0
2	147.6
59	147.4
4	146.1
19	140.2
23	138.9
61	138.0
29	137.8
14	136.1
7	135.1
15	134.8
18	134.4
8	132.7
5	131.8
21	131.6
69	131.3
70	129.4
72	129.1
67	128.4
64	128.4
6	126.5
53	126.0
22	125.1
62	123.6
11	123.3
68	122.6
16	120.0
56	118.1
71	117.7
66	116.7
63	115.4
47	115.2
9	114.8
27	112.4
65	111.6
38	110.4

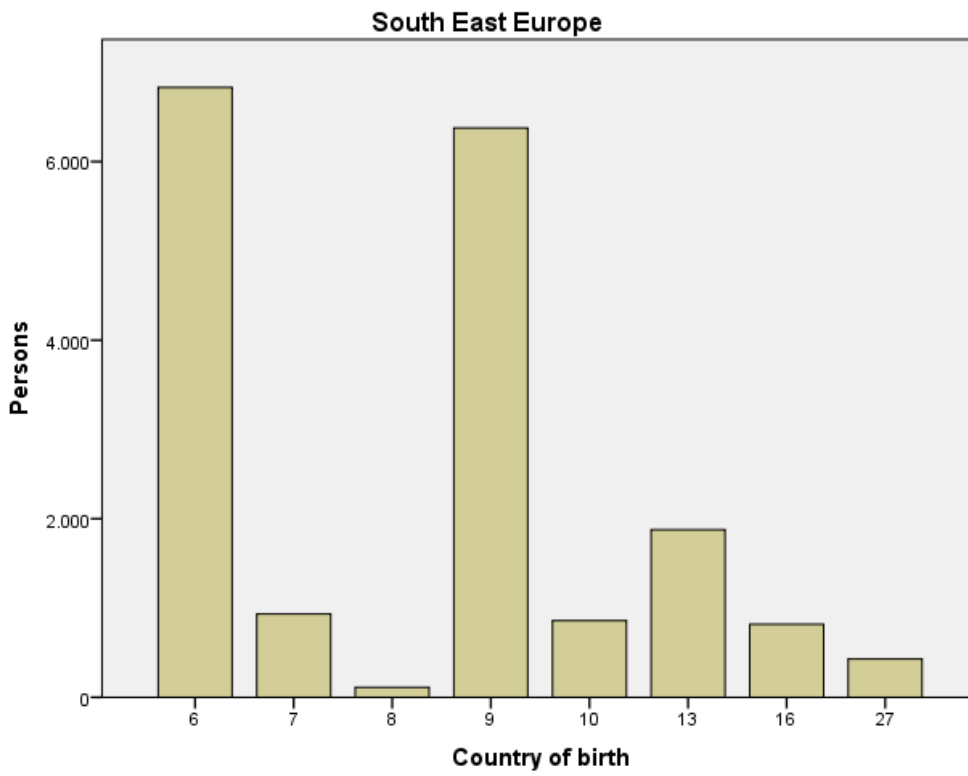
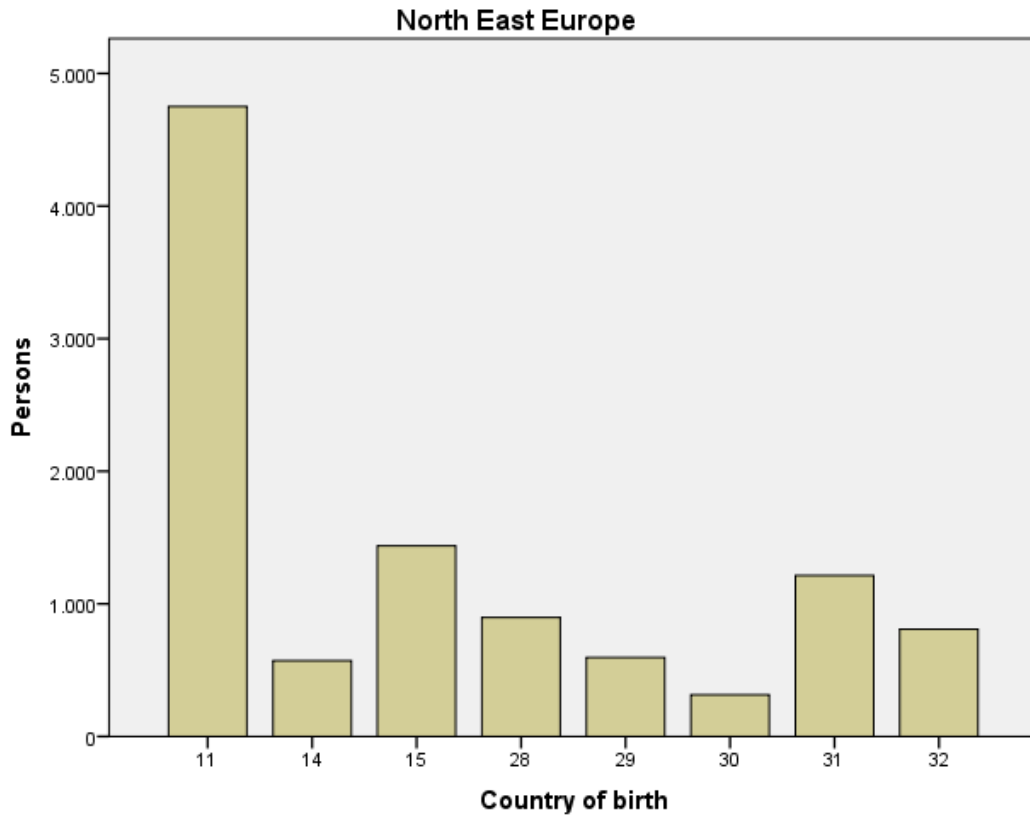
10	109.6
39	109.3
60	108.0
33	107.5
41	107.0
30	106.1
20	105.6
31	105.5
52	102.5
32	102.4
73	99.6
36	97.6
35	97.4
42	97.2
37	97.2
45	96.4
49	95.4
50	94.0
13	93.0
48	92.7
43	92.5
44	86.6
46	84.6
28	83.2
54	76.4
40	76.1
34	73.4
55	63.9
51	63.4
58	55.8

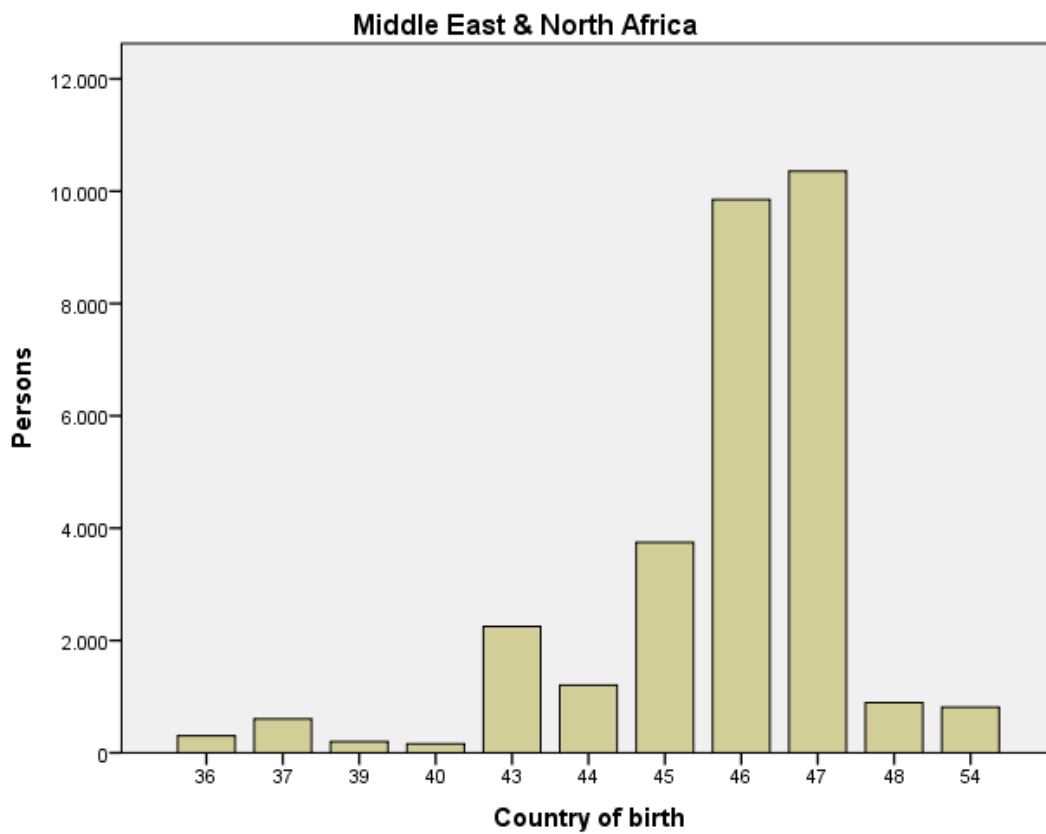
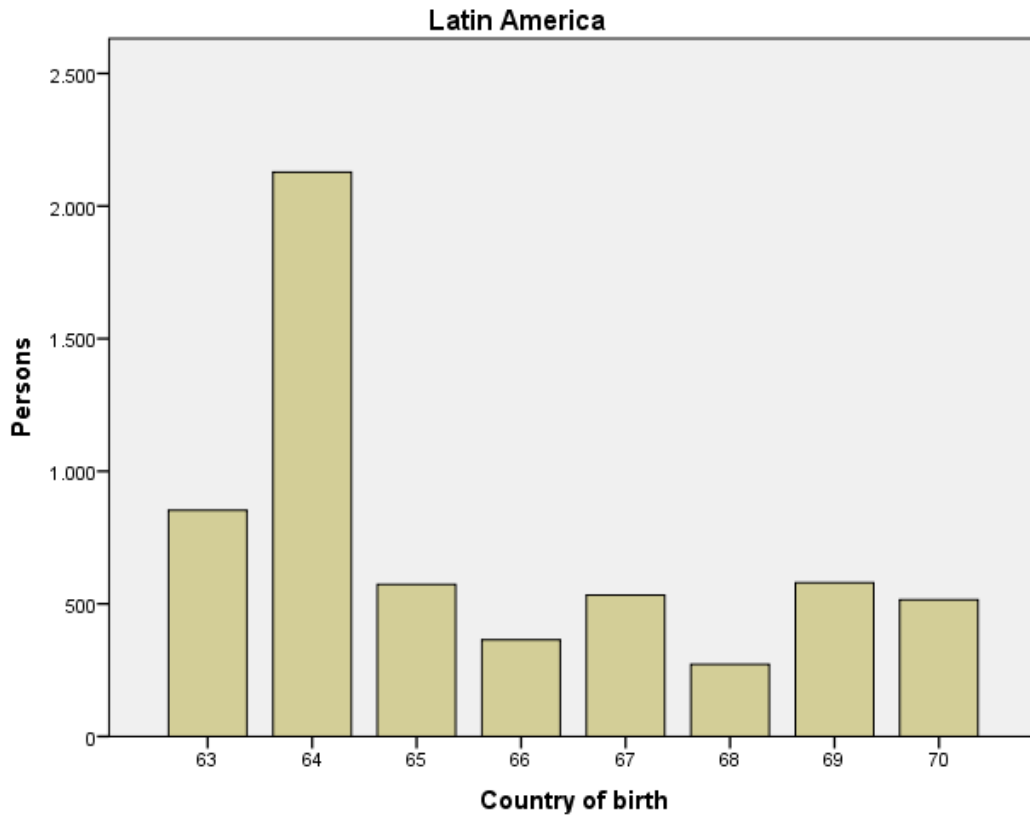
Appendix D – Components of region of origin groups

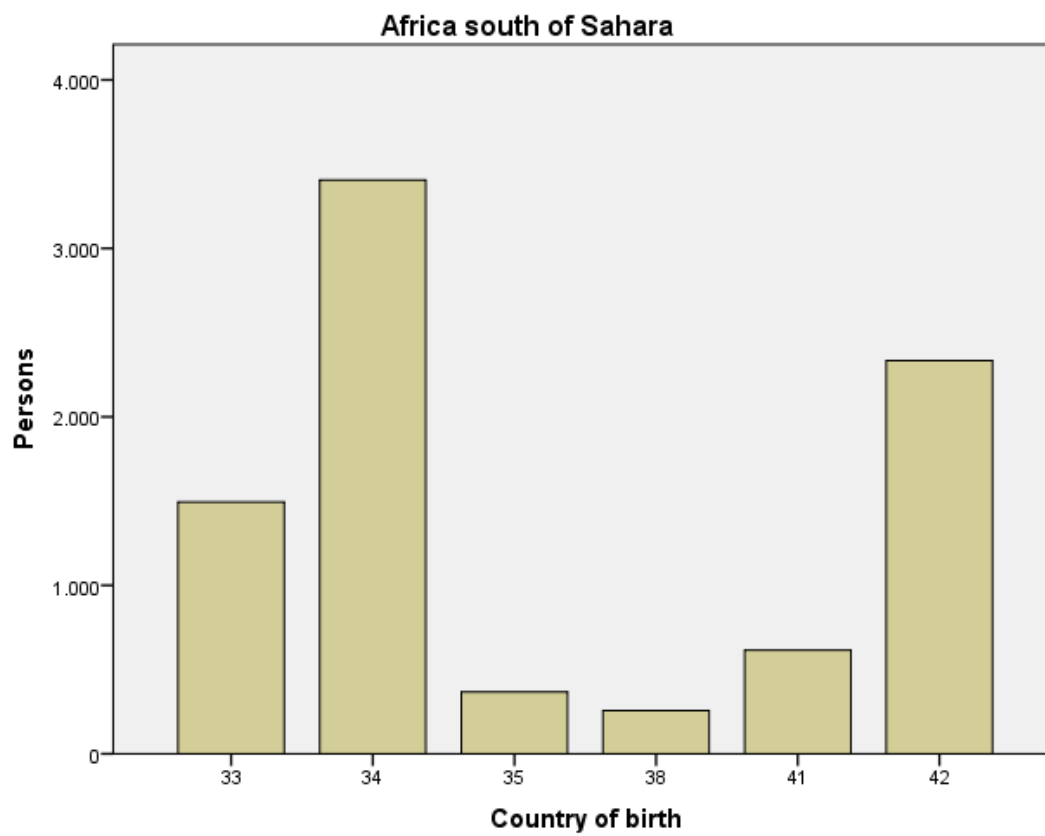
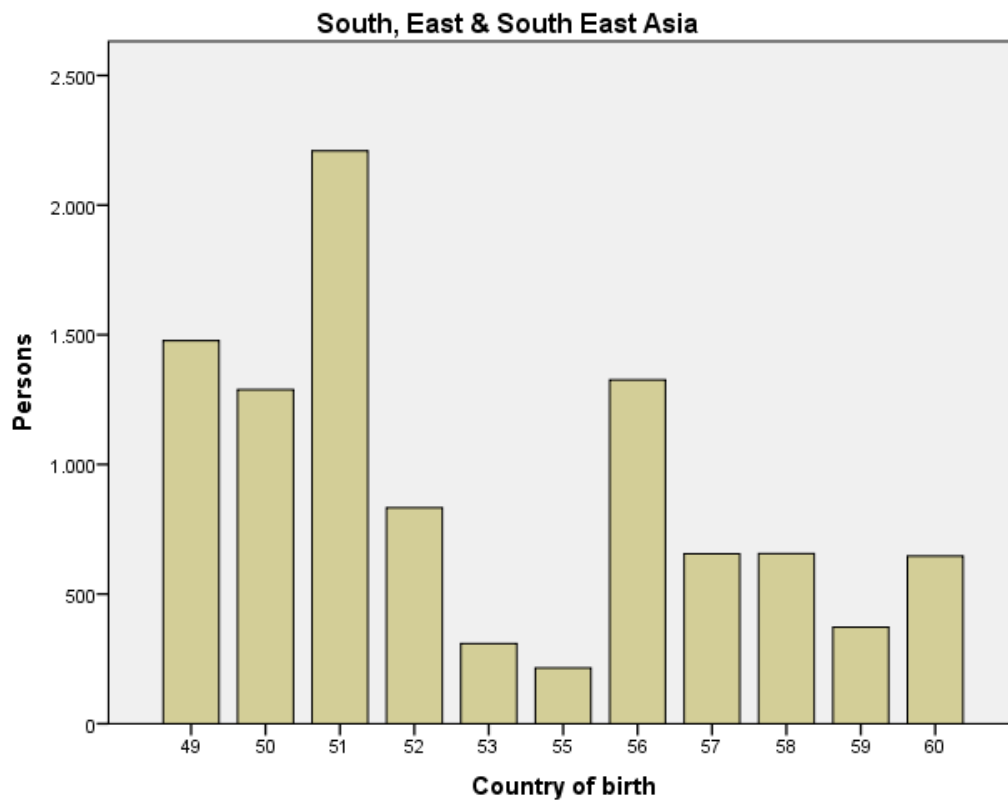
For country codes see Appendix F: Country code key

Region of origin	N	Percent
Sweden	392147	78.6%
Western	23078	4.6%
North East Europe	10590	2.1%
South East Europe	18234	3.7%
Latin America	5818	1.2%
Middle East – North Africa	30380	6.1%
Asia	9986	2.0%
Africa	8473	1.7%

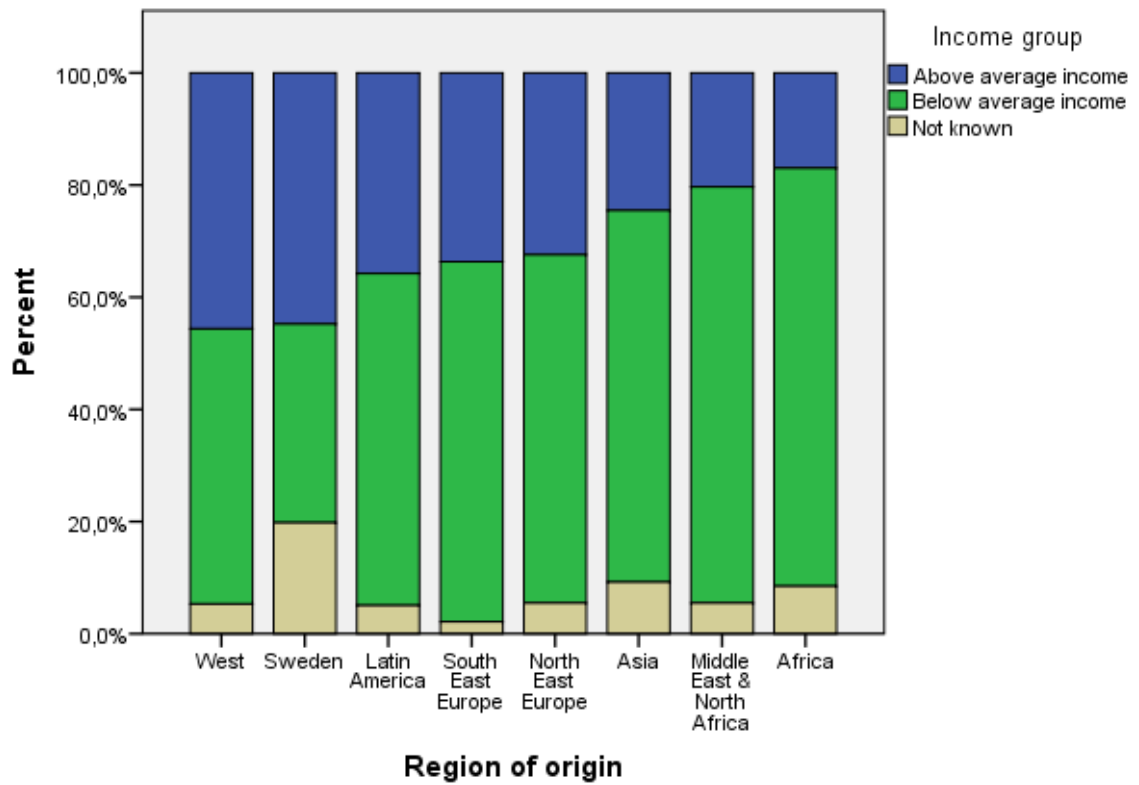








Appendix E – Income groups and missing data by region of origin



Appendix F – Country code key

Country Code	Country of Birth	Region of Origin / Ethno-cultural Group
1	Sweden	Sweden (charter group)
2	Denmark	Western
3	Finland	Western
4	Norway	Western
5	Iceland	Western
6	Yugoslavia	South East Europe
7	Croatia	South East Europe
8	Slovenia	South East Europe
9	Bosnia-Herzegovina	South East Europe
10	Macedonia	South East Europe
11	Poland	North East Europe
12	Belgium	Western
13	Romania	South East Europe
14	Czechoslovakia	North East Europe
15	Hungary	North East Europe
16	Greece	South East Europe
17	UK	Western
18	Ireland	Western
19	Germany	Western
20	France	Western
21	Italy	Western
22	Spain	Western
23	Portugal	Western
24	Netherlands	Western
25	Austria	Western
26	Switzerland	Western
27	Bulgaria	South East Europe
28	Europe (other)	North East Europe
29	Estonia	North East Europe
30	Latvia & Lithuania	North East Europe
31	USSR	North East Europe
32	Russia	North East Europe
33	Ethiopia	Africa south of Sahara
34	Somalia	Africa south of Sahara
35	Gambia	Africa south of Sahara
36	Tunisia	Middle East & North Africa
37	Morocco	Middle East & North Africa
38	Uganda	Africa south of Sahara
39	Algeria	Middle East & North Africa
40	Egypt	Middle East & North Africa
41	Eritrea	Africa south of Sahara
42	Africa (other)	Africa south of Sahara
43	Lebanon	Middle East & North Africa
44	Syria	Middle East & North Africa
45	Turkey	Middle East & North Africa

46	Iraq	Middle East & North Africa
47	Iran	Middle East & North Africa
48	Middle East (other)	Middle East & North Africa
49	Vietnam	Asia (South, East and SE)
50	Thailand	Asia (South, East and SE)
51	China	Asia (South, East and SE)
52	Philippines	Asia (South, East and SE)
53	Japan	Asia (South, East and SE)
54	Afghanistan	Middle East & North Africa
55	Bangladesh	Asia (South, East and SE)
56	India	Asia (South, East and SE)
57	Korea Rep	Asia (South, East and SE)
58	Pakistan	Asia (South, East and SE)
59	Sri Lanka	Asia (South, East and SE)
60	East Asia (other)	Asia (South, East and SE)
61	USA	Western
62	Canada	Western
63	Middle America (other)	Latin America
64	Chile	Latin America
65	Bolivia	Latin America
66	Peru	Latin America
67	Brazil	Latin America
68	Argentina	Latin America
69	Colombia	Latin America
70	South America (other)	Latin America
71	Australia	Western
72	New Zealand and Pacific (other)	Western
73	Unknown	Unknown