Hyresgästföreningen

Diversity and segregation in Sweden

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How similar are we to one another in Sweden, in terms of background, country of birth and income levels? And how segregated is our housing? In this report, the Swedish Union of Tenants investigates *diversity* and *segregation* in Swedish residential areas. The results show that diversity is most prevalent in the municipalities and suburbs surrounding the major cities. If we break down the results to the city district level, it becomes apparent that the segregation in the large cities is primarily driven by the low degree of diversity in residential neighbourhoods with detached houses and in city centres – Södermalm in Stockholm, Majorna-Linné in Göteborg and Innerstaden in Malmö have the lowest degree of diversity. The result also shows that the degree of diversity is higher in areas with a high proportion of rented apartments. Thus, it is in the suburbs and in areas with rented apartments that integration takes place: these are by no means areas that are dominated by one ethnic group. On the contrary, this is where people live alongside one another.

Segregation as cause and effect

Segregation, in the sense of a geographical division of the population according to a set categorization, is something of a political bugbear: the accused often being Segregation with a capital S and the underlying cause for everything from crime to poor school results. In other instances, it is the contrary proposition that segregation in itself is the problem, caused by policy failures in other areas. The correlations are often elusive but in general, it is easier to demonstrate correlations where segregation is the dependent variable, rather than the opposite. In short, it would appear that segregation is a result of demonstrable social processes, but segregation in itself rarely has the importance that is sometimes alleged, at least not as an isolated phenomenon. For example, Josefsson (2017) investigated a well-established empirical correlation: in municipalities with a high degree of segregation (e.g. Borlänge), the unemployment gap is greater between native and foreign born inhabitants than in municipalities with a lower degree of segregation. So it is reasonable to assume that segregation increases unemployment among immigrants, e.g. through difficulties in forming connections in the labour market for unemployed people in segregated municipalities. However, when you model the impact of segregation on the unemployment gap, the effect disappears. Instead, it turns out that both segregation and the unemployment gap are symptoms of other concurrent causes, such as low levels of education among those who are born abroad and their difficulties finding housing in more attractive areas (Josefsson, 2017).[1] The result should be no surprise: American studies have previously found that networking between inhabitants is facilitated in ethnically clustered areas where no cultural barriers need to be overcome, which in turn is favourable to the inhabitants' opportunities of finding work (Borjas, 1995).

[1] Josefsson presents his results in a master's thesis that was awarded the Swedish Union of Tenants dissertation scholarship in 2017. A summary of the thesis can be found at https://politologerna.wordpress.com/2017/03/03/segregation-och-arbetsmarknadsintegration-vad-spelar-utbildningsnivaer-for-roll/.

At the same time, there are examples of social tension as a result of segregation that cause concern. In 1992, four police officers were acquitted in Los Angeles, in spite of convincing video evidence, from charges of excessive violence after arresting an African American man. That was the starting point of riots during which more than 50 people lost their lives and around 2,400 were injured. Early on, segregation was identified as an important contributing factor to the events becoming so violent. However, what characterises this and other similar riots, like those in Paris in 2005, London in 2011 and in Husby 2013, is that segregation arises simultaneously with the subordination of a segregated group that feel that they do not have a reasonable chance to break out of this subordination (Adman, 2016).[2] In other words, segregation can, depending on the socio-economic context, have a positive as well as negative impact on a society, its cohesion and its ability to function.

As regards factors that impact segregation, it is easier to demonstrate correlations, even though they are rarely unambiguous. So there is evidence, but it points in different directions. Critical terms in this context are so-called *Native Flight* and *Native Avoidance*, i.e. the extent to which the (traditionally) native population move out of, or avoid moving into, areas predominantly populated by immigrants. Dynamic models show that even a very weak preference for homogeneity can lead to extremely segregated areas (Schelling, 1971). A Swedish study found that the threshold for *Native Flight* and *Native Avoidance* is low, in particular for non-European immigrants. On average, as little as 4.1% non-European immigrants living in an area are sufficient for native Swedes to start avoiding it (Alden, Hammarstedt, & Neuman, 2015). But there is considerable variation and in some areas, the threshold is 19%. The native born who are the first to move out are those whose financial situation is more advantageous and who have a higher level of education. This causes the ethnic segregation to concurrently aggravate the socio-economic segregation, as the proportion of people who are economically disadvantaged is higher among the immigrant population (Neuman, 2015). At the same time, and to some extent contrary to these results, Andersson (2013) and Bråmå (2006a) have shown that ethnicity plays a negligible role in people's relocation patterns: crucial to moving from an economically disadvantaged area is the income of the individual. In other words, what has been interpreted as *Native Flight*/*Avoidance* is possibly more an expression of *Middle-Class Flight/Avoidance* (Friedrichs, 1998), i.e. economically driven segregation processes that are misinterpreted as ethnic in nature due to the economically disadvantaged position of immigrants.

Incentives and opportunities

As regards factors that counteract segregation, the *opportunities* for individuals to affect their situation is crucial, in combination with *incentives* for individuals to break the segregation. However, the relationship between opportunity and incentive is not uncomplicated. There are two opposing fundamental theories. On the one hand, the theory is that

[2] How structurally tangible this subordination really is has been questioned. In London, it was observed early on that many of those who participated in the riots came from privileged areas and families. However, overall people from disadvantaged areas were over-represented among those who eventually were prosecuted. So, it would seem as if there was some support for the theory that housing segregation was one of many underlying factors, at least in London (Curtis, 2011). A similar discussion was held in Sweden in the wake of the unrest in Husby in 2013.

people *are forced to stay* in socio-economically disadvantaged areas because of a declining labour market, in particular as concerns unskilled jobs (Wilson, 1987, 1996).
This leads to people with a low level of education becoming stuck in areas that people with better opportunities quickly leave (Sharkey, 2013). On the other hand, the theory is that people *choose to stay* in socio-economically disadvantaged areas. Social safety nets (such as social benefits) create a benefits culture that make people feel that they do not have to work and therefore choose to stay in areas where the labour market prospects are limited (Murray, 1984).
It is worth noting that both these theories ignore the fact that mobility is relatively high in areas where the two perspectives assume that the inhabitants are unwilling to move (Andersson, 2012, 2016; Bråmå, 2006b, 2008). This objection notwithstanding: in the short term, and if all other factors are constant, it is possible to show that improved incentives lead to a greater inclination for change. In the case of segregation, this paradoxically means that if the hardship in some underprivileged residential areas increases, geographical assimilation is speeded up: new Swedes with foreign backgrounds whose incomes start to improve will abandon the suburbs more quickly and acquire housing and relocation patterns that are similar to those of the majority population (Wessel, Andersson, Kauppinen & Andersen, 2017). In comparisons with the USA, we can quite rightly see that the inhibiting effect on segregation that is caused by increases in income for disadvantaged groups is significantly lower in Stockholm (and other Nordic capitals): so even when people's income improve in the Nordic region, they tend to remain in the same residential areas to a greater extent than in comparable American cities. One contributing factor is the evenly distributed quality of life in the Nordic countries. Thus, the Nordic welfare model plays an ambiguous role in relation to opportunities and incentives: while the socio-economic equality between residential areas – with generally good public services, education and a functioning judiciary, etc. – contributes to trust and societal cohesion, it also leads to fewer incentives for the individual to relocate (Wessel et al., 2017).

If the time frame is extended to cover decades or even centuries, the mechanisms are even more elusive. What socio-economically successful countries – to which the Nordic welfare states belong – have in common however, is that they focus on creating conditions that enable their citizens to fulfil their potential (as determined by talent and ambition), rather than intentionally aggravating inequalities in order to improve the incentives for change (Sen, 2001). The Swedish Union of Tenants has previously shown that strong incentives for changing one's situation (in the form of disadvantages in the housing and labour markets) leads to considerable hesitation to act on opportunities (for example by relocating to jobs or education opportunities), because the margins are simply too small.
Strong incentives, which may have a positive impact on the willingness to relocate, at the same time have a negative impact on opportunities for change, so the net effect risks reducing mobility (Börjeson & Runfeldt, 2017).[3]

[3] For a summary, see http://rpubs.com/loveb/unga_vuxna.

In the housing market, the opportunities are mainly determined by the possibility of choosing housing. With inadequate numbers of apartments for rent, the quickest route – sometimes the only route
– to a new home is often to acquire a tenant-owner apartment. However, that solution is not available to many Swedes, particularly not to Swedes with a foreign background. The reason is the unequal distribution of wealth. Estimates of income distribution, disposable income and wealth show that equality in disposable income is high in Sweden, while the corresponding coefficients for wealth indicate an unequal distribution (Lundberg & Waldenström, 2017). It takes time to accumulate wealth, which impacts immigrants negatively. For that reason it is reasonable to assume that the difference in wealth, more so than in income, is distinct between Swedes with a foreign and Swedish background respectively, and that this difference in turn has considerable impact on geographic integration. Wealth also transfers from generation to generation in a way that income does not, such as young people being helped by their parents to buy their first home if the parents are able to take out a second mortgage on their house. For that reason, the unequal distribution of wealth probably reinforces segregation by creating unequally distributed opportunities in the housing market, which also transfers from generation to generation.
However, the impact that the distribution of wealth has on the housing market in general, and on segregation in particular, is severely under-researched. The focus of the Swedish studies referred to above is mostly on income (e.g. Alden et al., 2015; Andersson, 2013; Bråmå, 2006a). A significant contributing factor to this is that since the wealth tax was abolished in 2007, there are no official statistics on wealth at individual or household level in Sweden.

The benefits and costs of diversity

In a meta study on the costs and benefits of immigration, the United States National Academies concluded that immigration has had a considerable positive impact on the economic growth of the US. Immigration has improved the country's demographic profile and the influx of human capital has significantly improved the innovative and entrepreneurial capacity of the country. At the same time, they observe that immigration is a redistributive policy: immigration redistributes resources from native tax payers to immigrants with low incomes and from low-wage workers to capital holders (who are able to pay lower wages) and to highly paid employees (who are able to consume a more extensive range of less expensive services) (National Academies of Sciences, Engineering, and Medicine, 2017).
However, these conclusions only hold true on the condition that labour market integration is working (Borjas, 2014). Immigration in Sweden, like in the US, was profitable for society as a whole up until around the mid-nineties. After that, the net gain has changed to a net loss of around 1.5 to 2% of GDP (Ekberg, 2009). If you isolate refugees from the overall total immigration figure, the cost is around 1% of GDP per year (Ruist, 2015).

What turns the gain into a cost is the worsened labour market situation for immigrants. The major proportion of the net cost for immigration, approximately 80%, stems

from the lower wages of immigrants, which generate less tax revenue (Ruist, 2017). In such a situation, new and old Swedes compete for welfare resources, rather than for jobs and wages. This competition is not evenly distributed across the country, but is aggravated in economically disadvantaged areas where poor native-born people compete with poor foreign-born people for housing, healthcare, access to good schools and other public services (Alden et al., 2015). Thus, ethnic diversity which follows in the wake of immigration, fundamentally a positive phenomenon, brings costs that are primarily being borne by those who are already poor. This uneven distribution is constant, irrespective of whether immigration overall is profitable or costly.

The diversity gains – the influx of human capital, the reinforcement of innovative and entrepreneurial capacity, cultural enrichment, increased supply of less expensive services, etc. – primarily benefit those who are wealthy. The *diversity burden* – increased competition for housing, jobs, wages and public healthcare, education and social care – are borne by those who are poor.

Are the costs of immigration and diversity manageable and are they worth anything? An annual cost of 1.5% of GDP for immigration *is* a significant utilization of sparse resources for a society, but at the same time entirely manageable (Ruist, 2017). Neither is the weak labour market integration for immigrants an inescapable phenomenon: from the 1990s up until 2006, the net cost of immigration was constant, even though the immigrant population grew. The explanation is that the labour market situation during this period was improved for immigrants (Ekberg, 2009). In other words, with an even better functioning labour market, the cost of immigration may once again be turned into a net gain.

The precautionary principle dictates that such a gain can never be assumed before it is realized, but historical variations show that the currently low level of labour market integration of new Swedes does not need to be accepted. In this context, it is also noteworthy that the truly significant value of refugee immigration – *the intrinsic value in giving refuge to people fleeing conflict and repression* – is frequently highlighted without being quantified (see e.g. Ekberg, 2009; Ruist, 2017). Within the perspective required for political decisions in a nation, it is entirely logical that the welfare of other nations' citizens are not assigned financial value, if for no other reason than the fact that it is incumbent on these citizens' native countries to consider it. But the welfare of people is almost by definition ignored in the countries from which people are fleeing – which is the very reason why they are fleeing to begin with. Therefore, there are potential human gains – in the form of, say, an increased number of quality-adjusted life years that follow from the absence of persecution/torture/death/fleeing – which is constantly overlooked in the socio-economic estimates of the costs and gains of immigration and refugees. Somewhere, at some time, this potential value should be quantified and included in the estimates, with appropriate reservations; the economic tools for achieving this are available.[4]

[4] The suggestion of using quality-adjusted life years (or QALYs) comes from health economics. Taking in refugees can thus be seen as a "treatment", the value of which, in the form of quality-adjusted life years, can be weighed against other societal obligations.

Previous studies of the degree of diversity and segregation in Sweden, in comparison with Europe and the U.S.

Hedman and Andersson (2016) measure the level of segregation in Sweden's ten largest labour market regions from 1990-2010 with an inequality index that includes the groups Swedish-born and born elsewhere respectively, which should be read as born outside the EU. They find that the average ethnic segregation in 2010, measured in this manner, was 0.36 in Sweden overall. This means that 36% of an examined group (i.e. born elsewhere) must relocate in order for the geographical distribution to equal that of the reference group (i.e. Swedish-born). In the major labour market regions, the average is considerably higher and commonly around 0.5: in Stockholm, it is 0.48, in Gothenburg 0.5 and in Malmö 0.51. The values are stable throughout the examined period with only minor fluctuations. During the examined period, the correlation between ethnic segregation and income segregation has grown, as have areas that are disadvantaged (in economic terms) and have a paucity of Swedes (Hedman & Andersson, 2016).

In the present study, we use an entropy index (rather than an inequality index). This index also spans a scale from zero to one [0,1], which can be read as percentages, but where complete diversity equals 1 and complete absence of diversity equals 0.
The entropy index is rarely used in Sweden but is all the more common in the U.S. (at least within academia), since it has been shown to be superior to other indices in conceptual and empirical evaluations (Reardon & Firebaugh, 2002; Reardon & O'Sullivan, 2004; White, 1986). However, in an Austrian study from 2013, a regional analysis of diversity at the EU level, including Sweden, was conducted based on an entropy index. This study found that diversity at the time of measuring in 2007, was greatest in Western European cities and least in Eastern Europe: in London, diversity is 68% and in Brussels, 56%; in Sud-Vest Oltenia in south-west Romania, 0.2% and in Severozapaden in north-west Bulgaria, only 0.1% (Dohse & Gold, 2013).[5] So, there are enormous differences in the degree of diversity between Western and Eastern Europe. The patterns in Sweden align with those of Europe, with a higher degree of diversity in major cities and a lower one in sparsely populated areas: The Stockholm region has 33-43% diversity and Upper Norrland 11-18% (Dohse & Gold, 2013). Thus, from a European perspective, Sweden has a relatively high degree of diversity, without distinguishing itself, especially not in relation to the rest of Western Europe. In a (simplified) comparison with the U.S., the degree of diversity is significantly lower in Sweden: at the American national level, diversity in 2007 was at 65%, measured with an entropy index (Hao & Fong, 2011).[6]

[5] For reasons of comparison, the Austrian study uses citizenship (rather than country of birth) as the ethnicity variable, which naturally results in lower index values for diversity. But the index is still weighted in different ways to adjust the figures and achieve the more comparable values that are presented here. More details in Dohse & Gold, 2013.
[6] The comparison is skewed because it is not the same year or the same examined variable; the American index is based on race and divided into the categories, whites, blacks, Asians and Hispanics.

The need for a knowledge infrastructure on diversity and segregation

Opportunities as well as incentives in the housing market, as discussed above, historically operate over time. In Sweden, we have been able to rely on natural, geographic assimilation processes that operated more or less undisturbed, driven by functioning incentives and opportunities (Hedman & Andersson, 2016). But a new study from the Nordic capitals has shown that geographic assimilation is not actually happening for certain immigrant groups, frequently those who come from outside the Western world (Andersen, Andersson, Wessel, & Vilkama, 2016). There are also considerable regional variations within Sweden concerning how well refugees succeed in settling in Sweden, as well as variations between groups of refugees from different countries of origin (Andersson, 2016). It is not therefore possible to take the slow, but more or less automatic and general, geographic assimilation for granted, especially not in light of the fact that refugees coming to Sweden overwhelmingly comprise people with backgrounds from outside the western world (Migrationsverket, 2017).

New immigration and refugee patterns, a lasting shortage of rented apartments, sharply increasing prices on different types of home ownership in combination with considerable wealth inequality, all create new immigration refugee patterns, which means that previous, historically well-established, patterns can no longer be used as templates for understanding or for predicting what will happen in the future. Because of this, there is a significant need for continuously tracking developments in order to formulate appropriate political strategies with the aim of preventing and/or managing segregation. However, there is currently no such knowledge infrastructure in place: the continuous follow-up conducted by Statistics Sweden has insufficient resolution, is limited to one dimension and is based on a sub-optimal index (the inequality index, the properties of which are discussed in more detail below). That is the reason for the Swedish Union of Tenants conducting this inventory. The aim of the Swedish Union of Tenants' report is to

- create a knowledge infrastructure for ethnic diversity and segregation for the entire country
- examine the connection between ethnic diversity and segregation and forms of tenure
- examine the connection between ethnic diversity and segregation and household income.

The report is mainly descriptive and focuses on diversity and segregation in the sense of *the mixture* and *the division* of ethnic groups in the population (see detailed definition of these terms below). The results are related to forms of tenure and to income levels.

The Swedish Union of Tenants' inventory is different from previous investigations into diversity and segregation in Sweden:

- Instead of using the inequality index that has previously dominated Swedish measurements of segregation, the Swedish Union of Tenants uses the conceptually and mathematically more appealing entropy index, which originated within information theory.

- The inventory has a high resolution and information is available down to the level of residential areas, and is reported at the municipal and city district level.
- The diversity and segregation measurements are aggregated to municipality types, area types and to different forms of tenure.
- The results are made available in an interactive map with tools for qualified searches and filtering of the results based on a range of different criteria. The map is available here: kartor.hyresgastforeningen.se

The report continues below with a description of the basic conceptualizations of diversity and segregation. After a general discussion on how to best measure these phenomena, we present the indices we have used, as well as the data that forms the basis for the survey. Then we present the results for the national level, as well as the county, municipal, city district and residential area level. The links between diversity and forms of tenure are examined, as well as the links between diversity and income levels. We conclude the report with a summary and a discussion on the conclusions that can be drawn from the results.

Measuring and calculating diversity and segregation

The most commonly used measurement for segregation is the inequality index (*D*) (Duncan & Duncan, 1955):

$$D = \frac{1}{2}\sum_{i=1}^{N}\left|\frac{j_i}{J_T} - \frac{l_i}{L_T}\right| ;$$

where N is the number of sub-areas within the area that is being measured, j_i quantity in the first group in the sub-area i, J_T quantity of the first group in the entire area, l_i quantity of the second group in sub-area i, L_T quantity of the second group in the entire area. The inequality index captures how many percent, within the interval [0, 100], of one or another group must move in order for all segregation to disappear. However, the measurement has certain limitations. Firstly, it only permits measurements of two groups, which may be managed through dichotomization when required. But this will inevitably impact what is known as the decomposability criterion (see more details below) which makes the results more difficult to interpret. In addition, White (1986) suggests, in what has become a classic article, that segregation in actual fact has two dimensions: *segregation* and *diversity*. These measurements can be applied to any geographic frequency statistics but most commonly, we think of segregation/diversity in terms of ethnicity and income levels.

In the example below, the large squares in figure 1 are maps of four municipalities and the small squares are individual inhabitants who live in different parts of the municipality. The inhabitants belong to four groups: blue, orange, brown and green. In the municipalities to the left, the level of diversity is low: these municipalities are dominated almost entirely by people in the brown group. Correspondingly, the level of diversity is high in the two municipalities on the right: even if most people here also belong to the brown group, there are considerable contributions from

people in the blue, orange and green groups. In the two municipalities at the bottom, the level of segregation is low as people from different groups are evenly spread out: you cannot look at where one person in the green group lives, and from that deduce where the rest of the people in the green group live. In the two municipalities at the top, the circumstances are reversed – here, people from the same group tend to cluster together, which leads to a high level of segregation. So, diversity and segregation can exist in different combinations: the level of diversity and segregation can be high at the same time (the top right municipality) or low (bottom right municipality), the level of diversity can be low and segregation can be high at the same time (top left municipality) or low (bottom left municipality).

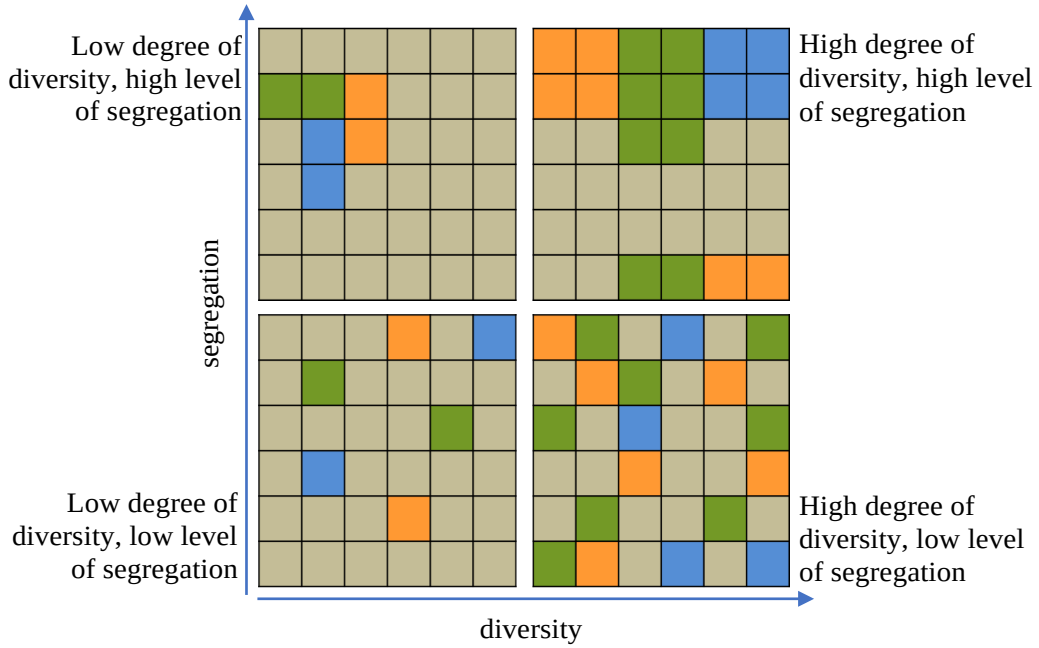


Figure 1. Diversity and segregation, basic conceptualization. Adopted from Reardon & O'Sullivan, 2004.

To capture both diversity and segregation, White (1986) argues in favour of *Thiel's entropy index*, which has better predictability and consistency than comparable indices (including the dominating inequality index). In an extended evaluation, Reardon and Firebaugh (2002) also find that the entropy index is the most appealing measurement, both conceptually and mathematically. The entropy index is primarily characterized by its *decomposability* and *exchange effects*. The first property means that the index can be combined with a number of simple or consolidate groups, which makes it easy to adapt to different population compositions and to politically/administratively relevant levels. The second property, unique to the entropy index, ensures that the index responds consistently and desirably to the relocation of individuals between areas with different compositions of groups (Reardon & Firebaugh, 2002). Using these evaluations, the Swedish Union of Tenants in this study uses Thiel's entropy index to measure diversity (*E*) and segregation (*H*). It corresponds to what is known in information theory as *entropy* (i.e. the average information content that is produced based on a stochastic data source) and *redundancy* (i.e. the maximum entropy minus the observed entropy) respectively

(White, 1986). So, the diversity in a dimension x within an area i, Ex_i, will be:

$$Ex_i = -\sum_{j=1}^{k} p_{ij} \ln(p_{ij}) ;$$

where k is the number of groups in dimension x, and p_{ij} is the proportion of the jth group in area i. $Ex_i = 0$ when there is only one group in the area and $Ex_i = \ln(k)$ when diversity is at its maximum (White, 1986). To enable comparisons of E_i between several dimensions but for the same area, you can standardise E_i by using $1/\ln(k)$ (Hao & Fong, 2011) so that:

$$Exn_i = -\sum_{j=1}^{k} p_{ij} \log(kp_{ij}) ;$$

or simply:

$$Exn_i = {Ex_i}/{\ln(k)} ;$$

Exn_i then always takes a value in the interval [0, 1], where 0 = no diversity and 1 = maximum diversity. The logarithms lend more weight to the tails of the distribution, which reflect the assumption that the first people of an under-represented group have a greater impact on diversity than the subsequent people, when diversity is already higher. This means that for the standardised diversity index, Exn_i in the case of two groups, when the proportion of one group increases from 0% to 10%, diversity increases from 0% to 47%. An increase in the proportion from 40% to 50%, however, will only increase diversity by 3% (from 97% to 100%).

Exn_i lacks certain decomposability properties that Ex_i possesses (White, 1986). Therefore, in order to aggregate the diversity calculations to consolidated areas, Ex_i is used, which is then standardised at the aggregated level.

Segregation, H, can only be measured when you are able to estimate the distribution of diversity within an area. With the highest resolution of the data available on the DeSO level (see more details below about area breakdowns) the segregation is only measurable at the nearest level above this, which is city districts (where relevant) and municipalities.

The segregation in a dimension x in a consolidated area m, Hx_m, is

$$Hx_m = 1 - \sum_{i=1}^{N} p_{mi} \frac{E_{xi}}{E_{xm}} ;$$

where N is the number of sub-areas in the consolidated area m, and p_{mi} is the proportion of the ith area in the consolidated area m. E_{xi} and E_{xm} is the diversity in the ith area and area m respectively. Hx_m assumes a value in the interval [0, 1], where 0 = no segregation (when

each sub-area *i* has the same diversity as the consolidated area *m*) and 1 = maximum segregation (when the diversity in each sub-area = 0) (Hao & Fong, 2011).

The inequality index and entropy index that were discussed above are *aspatial* in the sense that the geographic areas are only the "containers" that hold the frequency statistics that form the basis for the indices. Such an area breakdown becomes sensitive to what is called *modifiable areal unit problem* (MAUP) (Openshaw, 1983), i.e. indirect geographic effects on the data that is used, that arise from the design and quality of the area breakdown. One method for reducing (but not entirely eliminating) MAUP-related problems is to use *spatial* indices, where the spatial entropy index in particular is promoted by Reardon and O'Sullivan (2004). The index is the same as the entropy index, but also considers the population density of an area and its adjacent areas. From a strictly geographic perspective, it is difficult to argue against a spatial index. However, the bandwidth of the density function that weights the entropy index (probably) varies between different types of locations: one kilometre in Stockholm is fairly long in a social sense, but in inland Västerbotten, it is very short indeed.[7] The result is that comparisons between different types of locations will inevitably be skewed (Hong, O'Sullivan, & Sadahiro, 2014). From a sociological/social science perspective, there is therefore an advantage to using an aspatial index, which has a political/administrative horizon, rather than a geographic one. It also makes it easier to make nationwide comparisons, and the breakdown corresponds to the political power to act and take decisions, making the results more relevant to policy.[8] This particularly applies if the area breakdown is consistent and of high quality, which is true in this instance (see below for more details on area breakdowns).

The degree of diversity is related to the households' median income as well as to the dominant form of tenure in the residential areas (see more below). To estimate the correlation between the diversity *En* and other area-based values, we use Pearson's correlation coefficient, ρ.[9]

[7] You could say that the bandwidth determines the radius from the centre of an area within which inhabitants in that area are "exposed" to inhabitants in other areas. It is probable that this "exposure horizon" is farther away from an area's centre in sparsely populated areas.

[8] In tests on individual areas based on the data we use in this report, it was also evident that the values from the spatial and aspatial entropy indices were very similar. The Swedish Union of Tenants will come back to this issue in studies of the segregation in selected areas.

[9] $p_{x,y} = \frac{COV(x,y)}{\sigma_x,\sigma_y}$

What is ethnicity?

Added to the arithmetic discussion above, are delicate considerations concerning the variables that will be included in a diversity and segregation index. If different index measurements reflect different compositional structures in the data, the variables you choose to measure reflect different demographic and sociological properties of the data. By necessity, each categorization of a population entails adopting a political position – consider for example a category such as "low income": the fact it is called "low", how it is composed, if it is relative or absolute, etc., will all determine what political discussions will take place on the basis of that variable. Among the candidate variables for diversity and segregation, the variables concerning ethnicity are among the most controversial. Categorizing a population on the basis of the ethnic group to which its members belong, is in many ways a dubious undertaking. "Pure" representations are easily reified and will consequently reinforce the groups that you wish to present. This problem, which is general for all social categories, is accentuated in relation to ethnicity due to the short step from this term to pure prejudice. The objection is sometimes dismissed as being entirely contrived, but terrifying historic events show that it is not entirely unfounded. Caution is advised, while at the same time, this caution should not be translated into excessive apprehension: there are social strata and structures in society that are ethnically coded, mapping ethnicity is therefore important in order to understand how certain problems in society can be managed. This is true in a negative as well as positive sense: certain problems that we (in political discourse) assume are ethnic, can turn out to have a completely different foundation (and consequently a different solution), other problems may possibly actually have an ethnic dimension to be considered. However, there is no generally accepted definition of what ethnicity is, or what an ethnic group is. One working definition, from "Nationalencyklopedin", may be: "… an aspect of a social relationship between groups of people who see themselves as culturally distinct in relation to other groups" (Nationalencyklopedin, 2018).[10] What this in turn means is somewhat vague however, but possibly not necessary to establish either: there are no available statistics that capture this sense of the term ethnicity. In the U.S. the term (self-identified) *race* is used (such as "white", "black", "Hispanic", etc.), a term that is considered too loaded in Europe and the EU. In the EU, *citizenship* is frequently used, which has the advantage of creating a good foundation for comparisons within the EU, since citizenship is measured in the same way across different countries. But it is a basis for measurement that is a little too narrow in scope. Instead, Statistics Sweden (SCB) presents two proxy variables that reflect different aspects of the term ethnicity: *population's country of birth* and *population's background*. "Population's country of birth" has four values: born in Sweden; born in the Nordics (except Sweden); born in the EU-27(8) (except Nordics), and; born elsewhere. Thus, this variable captures a geographical-political dimension (even though this dimension is somewhat crudely divided) that at least to some extent reflects the geographic-political distance to Sweden. "Population's background" also has four values: born in Sweden with two parents born in Sweden, born in Sweden with one parent born in Sweden, born in Sweden with no parent born in Sweden, and born abroad. For this variable,

[10] The article in Nationalencyklopedin is worth reading in its entirety, as it neatly summarizes the disputes around the term's definition(s).

the geographical-political dimension has been collapsed to Sweden/not Sweden. Instead, the variable captures the potential inertia of ethnicity across generational divides, since it considers not only the individual's country of birth, but also the country of birth of his/her parents.

The main variable we use when discussing ethnic diversity and segregation is "population's country of birth". However, we will show how certain structures that become visible with one variable, become invisible with the other and vice versa – no single variable therefore provides a complete picture. A detailed presentation of the included variables can be found below.

Area breakdowns, data and variables

The survey uses data from SCB, aggregated to frequencies per Demographic Statistical Areas, DeSO. One individual area corresponds to what is colloquially called a residential area. There is a total of 5,985 areas with populations between 700 and 2,700 inhabitants.
The breakdown considers geographic conditions, in which the boundaries follow, as far as possible, streets, rivers and railways (SCB, 2018). The quality of SCB's DeSO minimises the MAUP problems (see above) and contributes to stable results.[11] For each DeSO, statistics for the period from 2012–2016 have been compiled for 4 variables:

1. ***Population's country of birth.*** The breakdown has four values.
    a. Born in Sweden.
    b. Born in the Nordics (except Sweden).
    c. Born in the EU-27(8) (except the Nordics).
    d. Born elsewhere.
2. ***Population's background.*** The breakdown is based on the country of birth for individuals and their parents.
    a. Born in Sweden with both parents born in Sweden
    b. Born in Sweden with one parent born in Sweden.
    c. Born in Sweden with no parent born in Sweden.
    d. Born abroad.
3. ***Household income.*** Purchasing power is calculated as disposable income per consumption unit (per measurement period) and is a measurement that enables us to compare the purchasing power of the households and take into account different compositions of households. Income data is only available for the years 2012–2015. Households are categorised into 3 groups according to SCB.
    a. Low purchasing power.
    b. Medium purchasing power.[12]
    c. High purchasing power.

[11] The predecessor to DeSO was Small Areas for Market Statistics, or SAMS areas. They were created in 1994 in collaboration with the municipalities and SCB, and since then they have become somewhat dated: urban development and population trends have made the categorization less intuitive over the years, and different municipalities have had different principles for what constitutes a single SAMS area. For example, Göteborg has 876 SAMS areas, while Stockholm has only 128. Beginning on January 1, 2018, SCB changed to the new area categorization DeSO.
[12] Medium purchasing power is an amalgamation of SCB's two groups – medium-low and medium-high purchasing power.

4. ***Housing.*** Housing divided into forms of tenure.
    a. Rented apartment.
    b. Tenant-owner apartment.
    c. Home ownership (terraced/detached houses).

The statistics have been aggregated to several geographical and quasi-geographical areas:

1. ***Geographical area levels (in addition to DeSO).***
    a. City districts (applies to Stockholm, Göteborg and Malmö).
    b. Municipalities.
    c. Counties.
    d. Nationwide.
2. ***Quasi-geographical area levels.***
    a. The Swedish Association of Local Authorities and Regions' (SALAR) municipal categorization:
        i. A1. Large cities.
        ii. A2. Commuting municipalities near large cities.
        iii. B3. Medium-sized towns.
        iv. B4. Commuting municipalities near medium-sized towns.
        v. B5. Commuting municipalities with a low commuting rate near medium-sized towns.
        vi. C6. Small towns.
        vii. C7. Commuting municipalities near small towns.
        viii. C8. Rural municipalities.
        ix. C9. Rural municipalities with a hospitality industry.
    b. Statistics Sweden's (SCB) area type categorization:
        i. Category A
        (DeSO outside large population concentrations or urban areas).
        ii. Category B (DeSO in a population concentration or urban area, but not in the municipality's regional centre).
        iii. Category C (DeSO in the municipality's regional centre).
    c. Forms of tenure:
        i. Area that is dominated by rented apartments.
        ii. Area that is dominated by tenant-owner apartments.
        iii. Area that is dominated by home ownership (terraced/detached houses).

Loss of data

- Only so-called *complete cases* have been used in the calculations, i.e. only DeSOs that have data for all four variables described above have been included.
- For forms of tenure, the category: *data not available* has been excluded.
- No residual DeSOs have been included in the calculations.
- No DeSOs with a population of zero have been included in the calculations.
    - In some cases, the absence of residents or the unavailability of data in a DeSO is due to the fact that, for reasons of integrity, SCB masks data in areas with a small number of inhabitants.

Due to the aforementioned limitations, some DeSOs have been lost, this mainly affects so-called residual areas. As most of these areas have no or very few inhabitants, this loss in relation to the population as a whole is generally negligible and amounts to less than 1‰ (precise loss may vary slightly across different variables).

Precisely which variables are included in which indices and in what way, will be evident when they are used. Additional detailed information about the variables (e.g. data quality and collection methods) can be obtained from SCB and/or SALAR.

Results

The main results below concern diversity (the extent to which different groups are equally represented in different areas) and segregation (the extent to which diversity is evenly distributed). Diversity is consistently designated *En*, segregation is consistently designated *H*. Both these measurements fall on a scale of [0,1] where 0 is minimum diversity/segregation and 1 is maximum diversity/segregation. For simplicity's sake, these values can be read as percentages. In the applicable figures below, diversity is indicated by the x axis and segregation by the y axis. The figures therefore reflect the conceptual figure 1 that is used above to illustrate the concepts of diversity and segregation. Unless otherwise specified, the main variable is the population's country of birth. Other variables presented concern the population's background, forms of tenure and income levels; these are explained when used. All the basic data come from SCB and are up to date as of December 31, 2016, unless otherwise specified. All the statistical processing has been done by the Swedish Union of Tenants. The results are presented in map formats in the Swedish Union of Tenants' mapping tool for diversity and segregation: kartor.hyresgastforeningen.se

Diversity and segregation at the national level

When looking at the population's country of birth at the national level, diversity increased in the period from 2012 to 2016, while segregation fell, see figure 2.

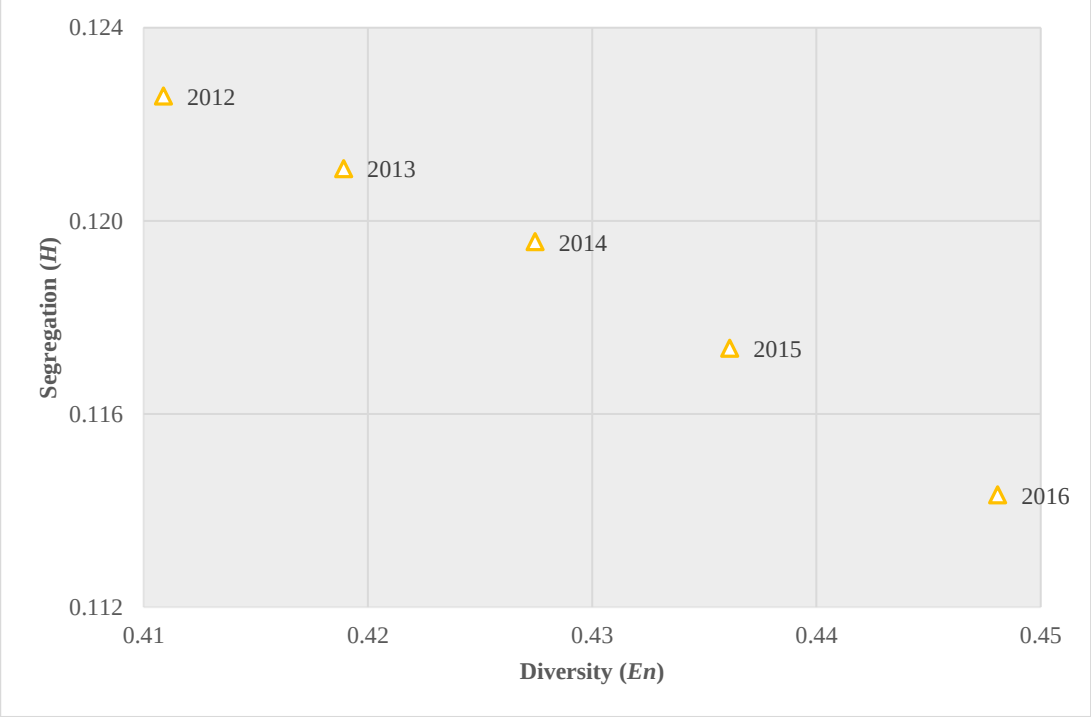


Figure 1. Diversity and segregation at the national level 2012-2016.

This means that the mixture of different ethnic groups is increasing, while at the same time, it is becoming more evenly distributed. Thus, total diversity in 2016, at just under 45%, corresponds in large parts to that at the residential area level, as segregation is only a little over 11%. The trend for diversity is stronger than that for segregation. At the same time, the consistency and

regularity of the trend is also indicative of the small movements in segregation: *in any case, there is no justification for alleging that segregation in Sweden is increasing*, without either manipulating the available data or redefining the term segregation.

The degree of diversity and segregation can be aggregated to quasi-geographic areas, i.e. areas that lack geography. Figure 3 shows diversity and segregation in 2016 aggregated to SALAR's municipal classifications, SCB's area types and to forms of tenure.

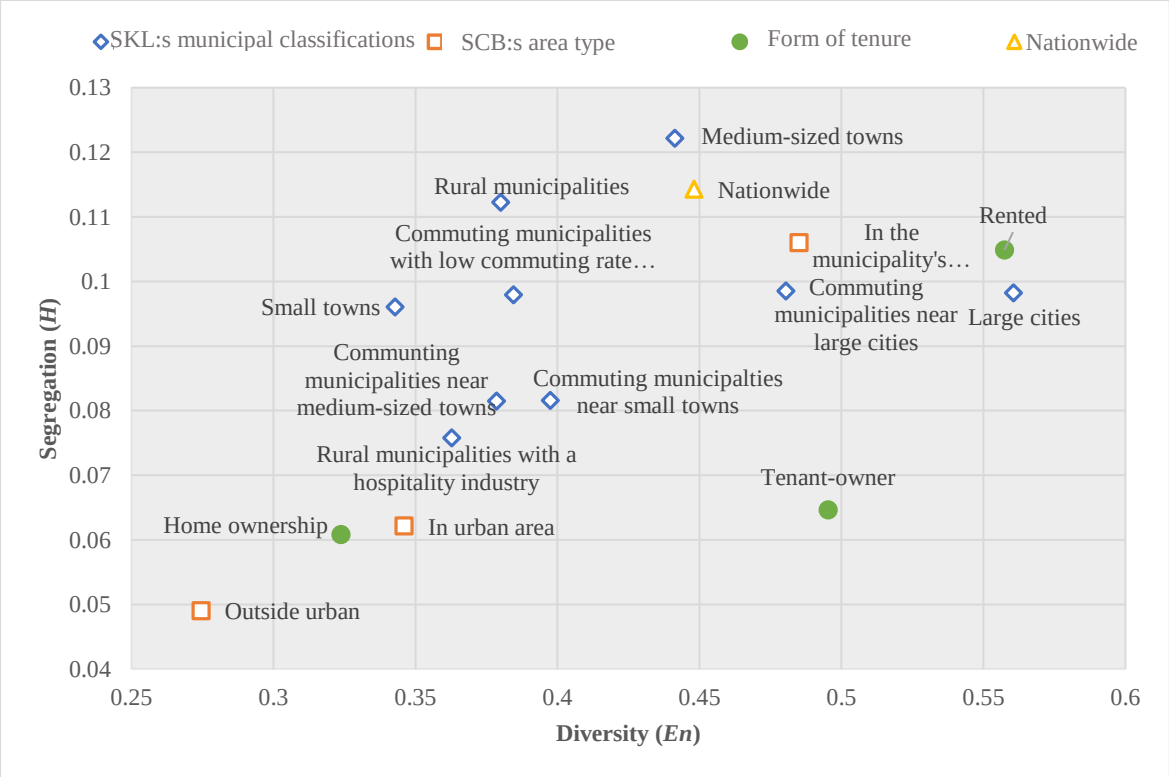


Figure 3. Diversity and segregation in SALAR's municipal classifications, SCB's area types and in different forms of tenure, as of Dec. 31, 2016.

Thus, figure 3 presents the same data, compiled in three different ways. The diversity and segregation at the national level is stated for reference purposes. The pattern of diversity and segregation for SALAR's municipal classifications confirms the picture from international studies, irrespective of the index or variables used: the larger cities act as the gateway to the country and this is where the degree of diversity is highest (cf. Dohse & Gold, 2013; Hao & Fong, 2011). The distribution of segregation for the municipal groups is fairly compressed, even if medium-sized towns (not large cities) have relatively high levels of segregation. So, within this municipal classification, diversity is less evenly distributed. The results for the municipal classifications are reflected at the local level of distribution of diversity and segregation to SCB's area types, with greater diversity in the municipalities urban areas. So, from a diversity and segregation perspective, the municipalities operate much like the country as a whole – the main urban areas act as the gateway to the municipalities. At the area type level however, there seems to be a clearer link between diversity and segregation, where high levels of diversity also mean high levels of segregation. Segregation is more than twice as high in the municipalities' main urban areas, compared to outside the urban areas.

Aggregation to forms of tenure is different. All residential areas in the country have been classified as dominated either by rented apartments, tenant-owner apartments or home ownership (i.e. detached/terraced houses). The diversity and segregation measurements have subsequently been calculated to these classes.

Diversity is at its lowest in areas with home ownership. The difference between areas that are dominated by home ownership and areas that are dominated by tenant-owner apartments, is around 17%, while segregation is more or less the same. However, the greatest diversity can be found in residential areas dominated by rented apartments. The level of segregation here is somewhat higher, which means that diversity in general is greater in areas dominated by rented apartments, but that the degree of diversity varies within this group. Compared to the country overall, diversity is higher and segregation lower in areas dominated by rented apartments. Thus, the high degree of diversity does *not* mean that areas with rented apartments are dominated by one ethnic group but, on the contrary, that the *mixture* of different ethnic groups is greater in these areas.

Diversity and segregation in counties and municipalities

The impression from the previous figure concerning municipal types is largely confirmed if we look at the degree of diversity and segregation at the county level. Stockholm county and Region Skåne show the greatest diversity, counties that both include a large city. At the county level, there is considerable variation between the degrees of diversity, from close to 55% in Stockholm county to barely 22% in Gotland county. The level of segregation also varies significantly, from a little over 3% on Gotland to a little over 12% in Östergötland. At the county level, there is also a clear correlation between a high degree of diversity and a high level of segregation. However that is, particularly when we consider population size, something of an illusion. If we remove Jämtland and Gotland, two of the smallest counties in terms of population, from figure 4 below, not much of this correlation remains.

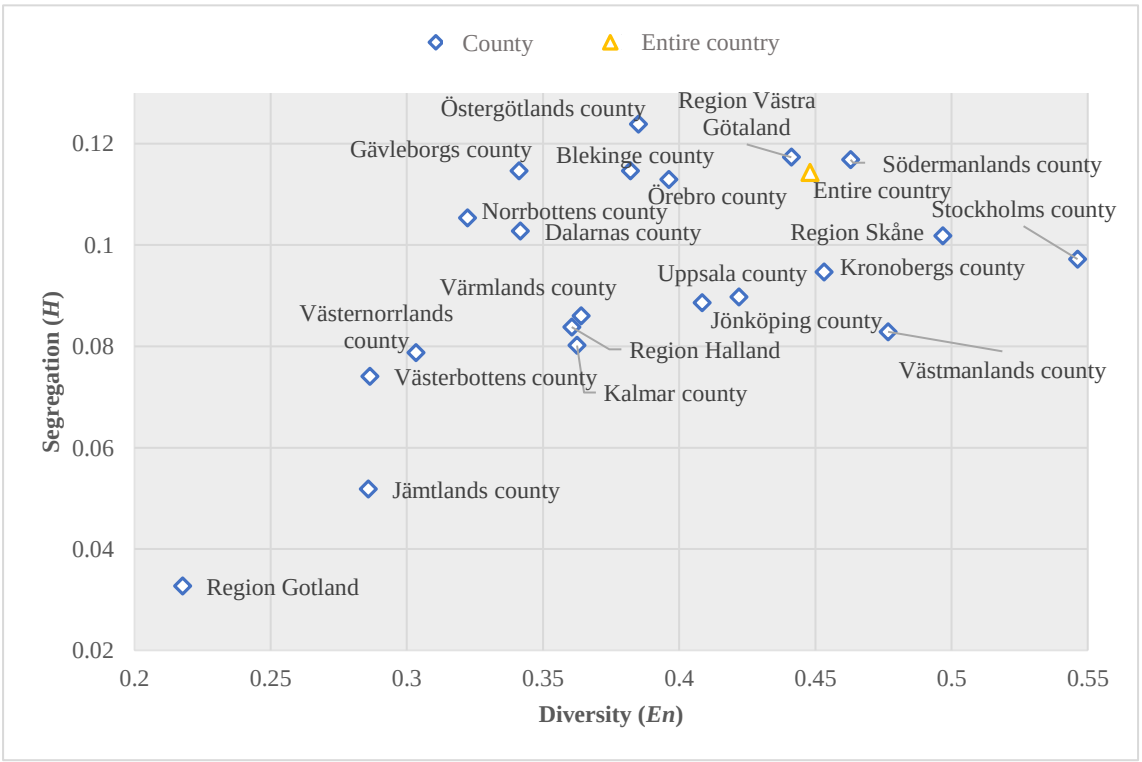


Figure 4. Diversity and segregation in Swedish counties, Dec. 31, 2016.

Diversity at the county level hides considerable variations within the counties at the municipal level. The map below (figure 5) shows the diversity of Sweden's municipalities and in table 1, the ten municipalities with the highest and lowest degree of diversity respectively, as well as the ten municipalities with the highest and lowest level of segregation respectively. In general, diversity is greater in and around the large cities, in West Mälardalen, the interior of Småland and in municipalities with significant cross-border trade, such as Helsingborg, Strömstad, Eda, Haparanda and Övertorneå.

Seven of the ten municipalities with *the greatest diversity* are located in Stockholm county, but not in the city of Stockholm. So, in Stockholm county, it is the neighbouring municipalities that drive diversity, such as Botkyrka (70% diversity) and Upplands Väsby (62% diversity). Stockholm county also has municipalities with a relatively low degree of diversity, such as Vaxholm (32% diversity) and Ekerö (34% diversity). There is a considerable span between Botkyrka and these municipalities and it is worth mentioning that it is Vaxholm and Ekerö – not Botkyrka – that contribute to the segregation in Stockholm county through their low degree of diversity. In Region Skåne, Malmö municipality has the greatest diversity, at 64%. One interesting municipality is Haparanda, which has the country's fifth highest degree of diversity, at 63%. A high proportion of inhabitants born in the Nordics outside Sweden (in this instance, probably Finland) raise diversity. The level of segregation in municipalities with the highest degree of diversity is equal to or below the national average of 11%.

The lowest degree of diversity is mainly found in commuting municipalities near medium-sized towns, such as in Lekeberg outside Örebro (19% diversity), and Habo outside Jönköping (23% diversity). These municipalities have less than a third of the diversity of the municipalities around Stockholm. The level of segregation is very low in the municipalities with the lowest degree of diversity. This confirms what has already been concluded at county level: there is a positive correlation between diversity and segregation, but it only applies where the level of segregation is low. For municipalities with medium and high degrees of diversity, the correlation disappears.

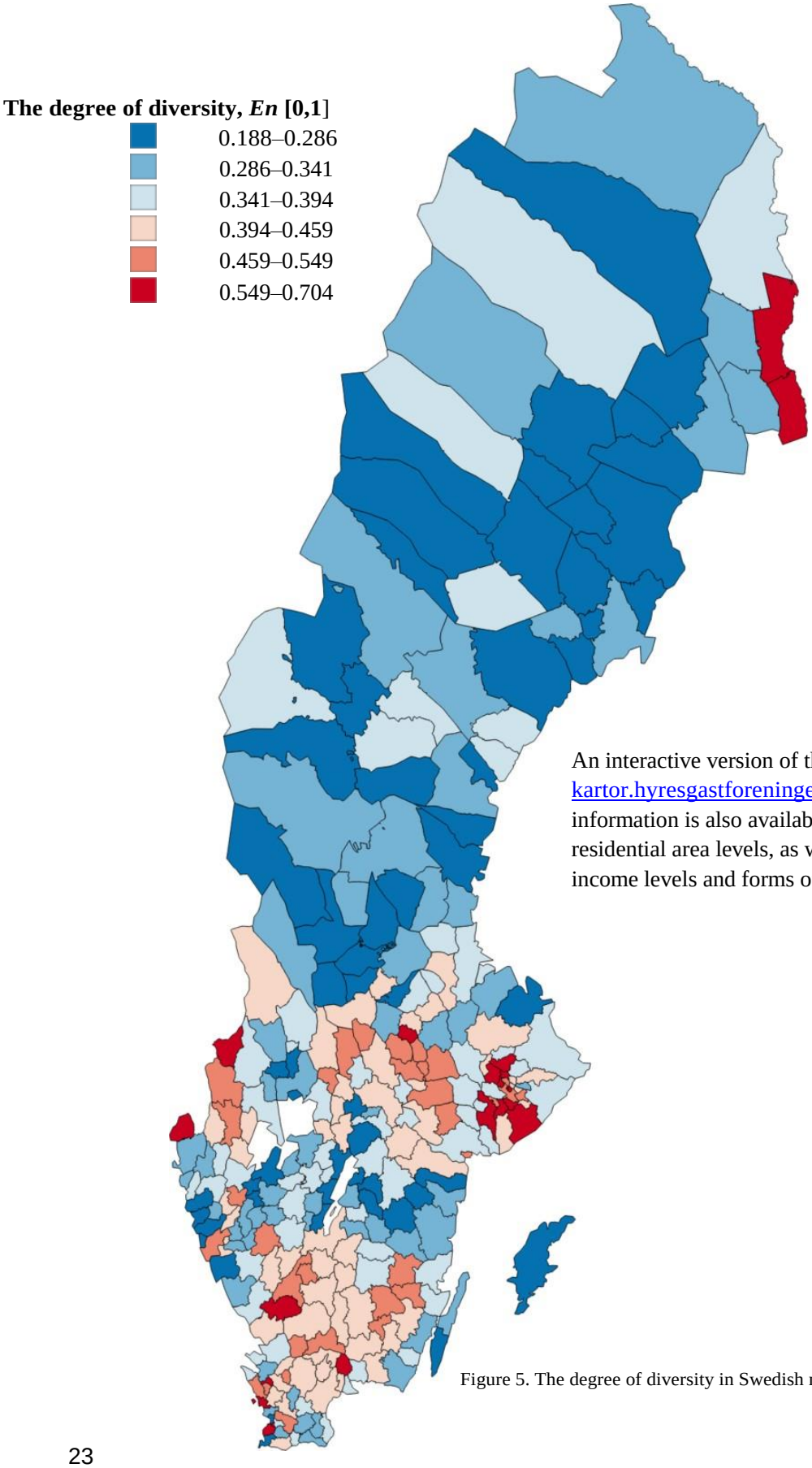
The highest levels of segregation are mainly found in towns, such as Trollhättan, Borlänge and Karlskrona, (all with a segregation of 16%). The degree of diversity in these municipalities, with some exceptions, is equal to the national average of around 40%.

The lowest levels of segregation are mainly found in municipalities with very low degrees of diversity in Region Skåne (e.g. Lomma, Svedala and Vellinge) as well in Västra Götaland county (e.g. Tjörn, Sotenäs and Öckerö). All of these municipalities have a level of segregation that is below 2%. What these low levels of segregation mean is that the extant diversity is evenly distributed across the municipality. What it also reflects however, is that the degree of diversity is very low. In Vellinge, for example, only 3% of inhabitants are born outside the EU. Thus, the low level of segregation in these municipalities is contingent on a low degree of diversity. What looks like an evenly distributed diversity in these municipalities thereby contributes to higher levels of segregation at a county and national level.

The diversity and segregation for all municipalities from 2012-2016 are reported in Appendix A.

Table 1. List of the municipalities with the highest/lowest degree of diversity and segregation, as of Dec. 31, 2016.

		En	*H*			*En*	*H*
Municipalities with the highest degree of diversity (*En*)				**Municipalities with the highest level of segregation (*H*)**			
1	Botkyrka	0.704	0.106	1	Trollhättan	0.468	0.161
2	Södertälje	0.691	0.113	2	Karlskrona	0.339	0.161
3	Malmö	0.639	0.084	3	Borlänge	0.408	0.158
4	Sigtuna	0.627	0.087	4	Sandviken	0.398	0.151
5	Haparanda	0.625	0.033	5	Kristianstad	0.420	0.141
6	Upplands Väsby	0.615	0.046	6	Vilhelmina	0.248	0.136
7	Burlöv	0.613	0.067	7	Örebro	0.405	0.133
8	Sundbyberg	0.603	0.073	8	Eskilstuna	0.534	0.127
9	Solna	0.601	0.028	9	Linköping	0.391	0.127
10	Huddinge	0.597	0.112	10	Uddevalla	0.391	0.126
Municipalities with the lowest degree of diversity (*En*)				**Municipalities with the lowest level of segregation (*H*)**			
281	Rättvik	0.230	0.038	281	Tjörn	0.254	0.013
282	Habo	0.229	0.027	282	Svedala	0.309	0.013
283	Säter	0.228	0.036	283	Sjöbo	0.310	0.013
284	Gagnef	0.227	0.009	284	Norsjö	0.284	0.011
285	Hammarö	0.219	0.020	285	Lomma	0.274	0.011
286	Gotland	0.218	0.033	286	Gagnef	0.227	0.009
287	Söderköping	0.215	0.020	287	Vellinge	0.277	0.009
288	Piteå	0.200	0.034	288	Sotenäs	0.292	0.007
289	Öckerö	0.198	0.005	289	Öckerö	0.198	0.005
290	Lekeberg	0.188	0.026	290	Färgelanda	0.348	0.002



An interactive version of the map is available at kartor.hyresgastforeningen.se where the information is also available at the city district and residential area levels, as well as in relation to income levels and forms of tenure.

Figure 5. The degree of diversity in Swedish municipalities as of Dec. 31, 2016.

What does diversity and segregation look like in residential areas? Examples from Upplands Väsby and Borlänge.

What does a municipality with a high degree of diversity and a high level of segregation look like? By using the Swedish Union of Tenants' mapping tools, we can study the degree of diversity at the residential area level. Figure 6 below shows Upplands Väsby, which has the sixth highest degree of diversity in the country, at 62%. Upplands Väsby has *several* residential areas with a high degree of diversity (red), which encompass a large part of the municipality's population. Consequently, the level of segregation is very low, just below half of the national average.

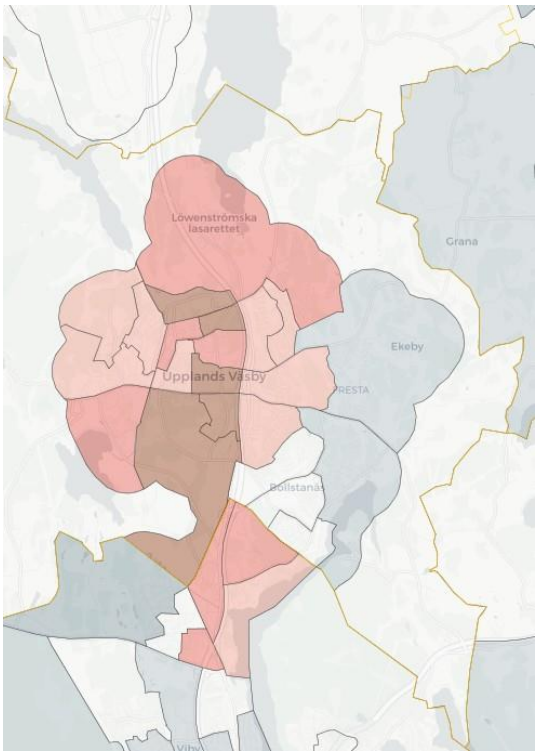


Figure 6. Upplands Väsby, a highly diverse municipality.

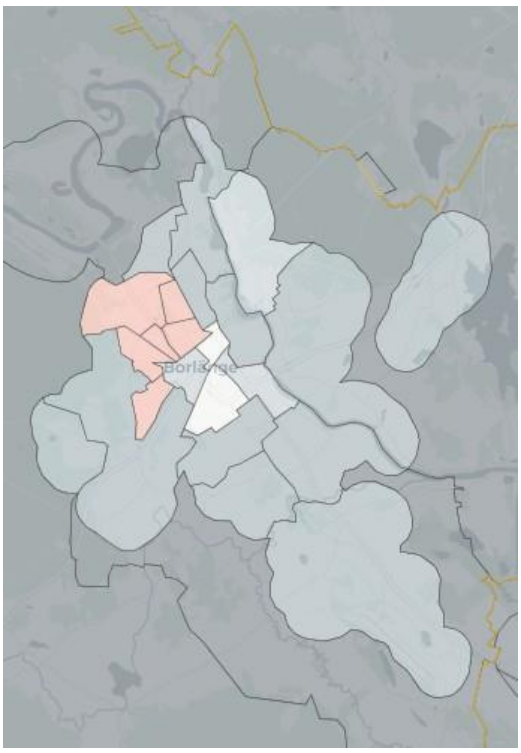


Figure 7. Borlänge, a highly segregated municipality.

In comparison, Borlänge, which has the third highest level of segregation in Sweden (16%), has some areas with a high degree of diversity in the central parts of the municipality. These residential areas raise the degree of diversity at the municipal level to around 40%, just below the national average.

The areas in Borlänge with a high degree of diversity however, only include *parts of the population*. More Borlänge inhabitants live in residential areas with *a lower degree of diversity than the municipal average* (grey), which raises the level of segregation at the municipal level.

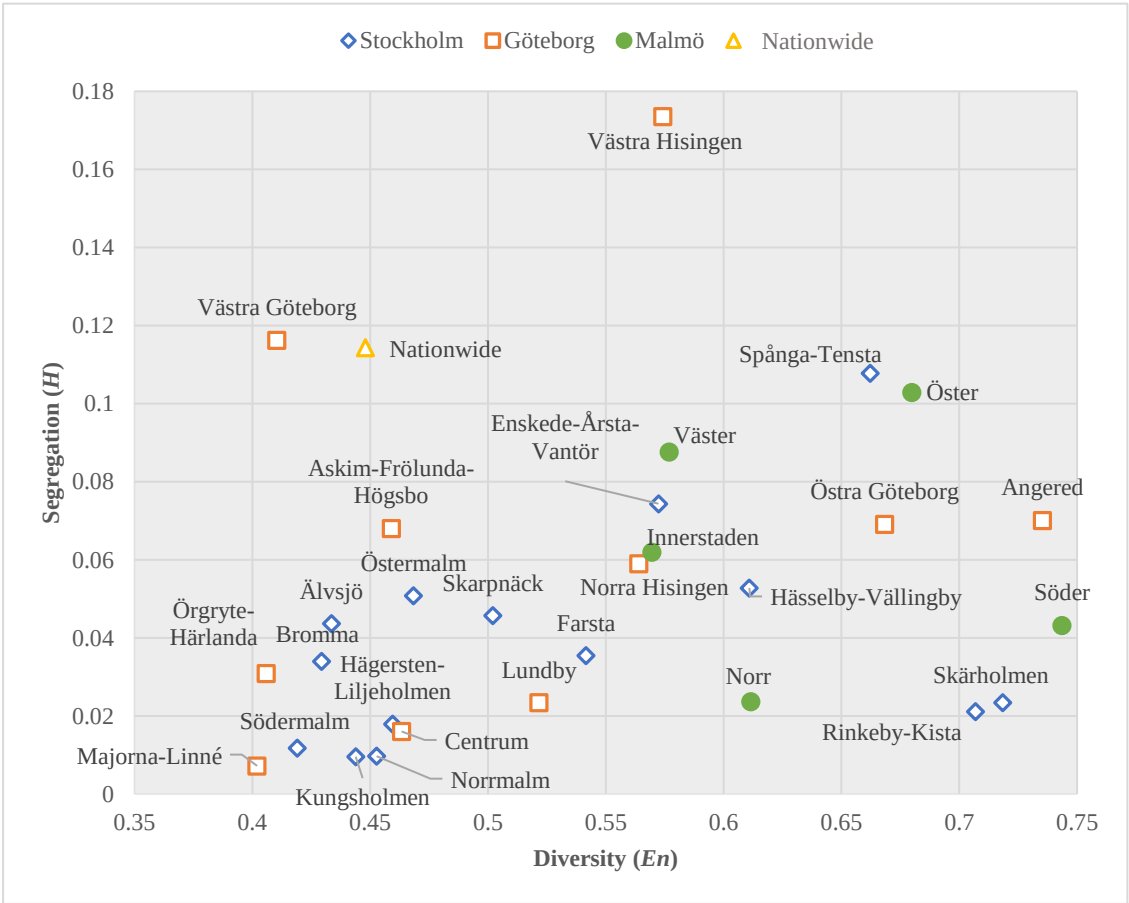
Diversity and segregation in the large cities

Around 20% of Sweden's population live in the large cities of Stockholm, Göteborg and Malmö. At the same time, it is often the suburbs of these cities that come to mind when discussing various types of problems that, in one way or another, relate to segregation. In light of this, it is interesting to examine diversity and segregation in these large cities. Table 2 shows the diversity and segregation in our large cities.

Table 2. Diversity and segregation in the large cities.

Diversity Ranking, out of 290 Large City Municipalities		*En*	*H*
3	Malmö	0.639	0.084
27	Stockholm	0.541	0.090
28	Göteborg	0.540	0.111
	Entire country	0.448	0.114

We can see that all three large cities are among the top 10% of Swedish municipalities in terms of diversity. However, Malmö stands out with a higher degree of diversity as well as a lower level of segregation than both Stockholm and Göteborg. Figure 8 shows the diversity and segregation in the city districts of the large cities.



Figur 2, Mångfald och segregation i storstädernas stadsdelar, årsskiftet 2016/17.

The highest degree of diversity is found in the city districts that are commonly seen as segregated, in the sense of being dominated by one ethnic group. The results show that the opposite is true: it is in Skärholmen (Stockholm), Angered (Göteborg) and in Söder (Malmö) that the *mixture* of different groups is at its greatest. So, the diversity in the large cities is driven by the suburbs.

The lowest degree of diversity is found in the inner city districts: Södermalm (Stockholm), Majorna-Linné (Göteborg) and Innerstaden (Malmö). From a diversity perspective, Södermalm and Majorna-Linné are to be regarded as rural municipalities with a diversity percentage on par with such municipalities as Vaggeryd and Pajala. Typical residential suburbs dominated by detached housing have low degrees of diversity, such as Bromma in Stockholm and Västra Göteborg. The level of segregation in both these types of city districts is very low, which should be interpreted as the degree of diversity being evenly distributed *within* these districts. But as the degree of diversity is below the municipal average, they do contribute to a higher level of segregation at the municipal level.

High levels of segregation are found in city districts with residential areas that are strictly divided in terms of the degree of diversity. Västra Hisingen, with the highest level of segregation of all city districts, includes Biskopsgården, with a very high degree of diversity, as well as Hästevik, a residential neighbourhood
with detached houses on the coast, and a very low degree of diversity. An interesting pattern can be seen in Spånga-Tensta, among other places.

The diversity and segregation of all city districts from 2012–2016 is reported in Appendix B.

Diversity, segregation and forms of tenure in the large cities

As can be seen in figure 8 above, the degree of diversity and segregation varies considerably between different city districts. At the national level, we could also see a variation between forms of tenure, see figure 3. What does this variation look like at the city district level? Table 3 shows the number of residential areas at the city district level that are dominated by the different forms of tenure. The proportion of rented apartments out of the total number of households within the city district is also shown (Proportion of rented apartments). The city districts are listed in descending order of diversity within each city. In Stockholm, the correlation between rented apartments and diversity is evident if not entirely linear. In Skärholmen, with the highest degree of diversity, the proportion of rented apartments is 79%. In Södermalm, with the lowest degree of diversity, the proportion of rented apartments is 32%. For Göteborg, the correlation is not as distinct, but still clearly discernible: the highest proportion of rented apartments is found in Angered and Östra Göteborg, the Göteborg city districts with the highest degrees of diversity. In Malmö, no such clear pattern is discernible.

Stockholm City Districts	Tenant-owner apartment	Home ownership	Rented apartment	Proportion of rented apartments	*En*
Skärholmen	1	3	15	0.789	0.718
Rinkeby-Kista	8	1	16	0.640	0.707
Spånga-Tensta	4	7	9	0.450	0.662
Hässelby-Vällingby	5	15	21	0.512	0.611
Enskede-Årsta-Vantör	27	5	24	0.429	0.572
Farsta	10	4	18	0.563	0.542
Skarpnäck	15	2	10	0.370	0.502
Östermalm	33	0	12	0.267	0.468
Hägersten-Liljeholmen	23	5	22	0.440	0.460
Norrmalm	37	0	5	0.119	0.453
Kungsholmen	39	0	6	0.133	0.444
Älvsjö	4	7	5	0.313	0.434
Bromma	17	18	13	0.271	0.429
Södermalm	53	0	25	0.321	0.419

Göteborg City Districts	Tenant-owner apartment	Home ownership	Rented apartment	Proportion of rented apartments	*En*
Angered	2	7	21	0.700	0.735
Östra Göteborg	4	3	18	0.720	0.668
Västra Hisingen	5	11	11	0.407	0.574
Norra Hisingen	10	10	6	0.231	0.564
Lundby	8	4	17	0.586	0.522
Centrum	7	0	29	0.806	0.463
Askim-Frölunda-Högsbo	6	11	17	0.500	0.459
Västra Göteborg	2	18	7	0.259	0.410
Örgryte-Härlanda	6	5	25	0.694	0.406
Majorna-Linné	13	0	23	0.639	0.402

Malmö City Districts	Tenant-owner apartment	Home ownership	Rented apartment	Proportion of rented apartments	*En*
Söder	10	9	12	0.387	0.744
Öster	6	8	12	0.462	0.680
Norr	12	2	26	0.650	0.611
Väster	15	19	13	0.277	0.577
Innerstaden	19	0	26	0.578	0.570

Table 3. Forms of tenure and the degree of diversity in city districts, Dec. 31, 2016.

In figure 3, diversity and segregation was aggregated to different forms of tenure, based on a classification of residential areas in accordance with the dominating form of tenure. In figure 9, this has been done for each large city. The pattern at the national level recurs in all three cities. The degree of diversity is significantly higher in areas dominated by tenant-owner apartments, compared to areas dominated by home ownership. However, both these groups have a degree of diversity below average in their respective cities. The low level of segregation within areas that are dominated by home ownership and tenant-owner apartments therefore increases the level of segregation at the city level, as it is combined with a degree of diversity that is below the city average. In residential areas dominated by rented apartments, the degree of diversity is higher, but so is segregation as well. This means that the degree of diversity varies between areas dominated by rented apartments compared to areas dominated by tenant-owner apartments and home ownership.

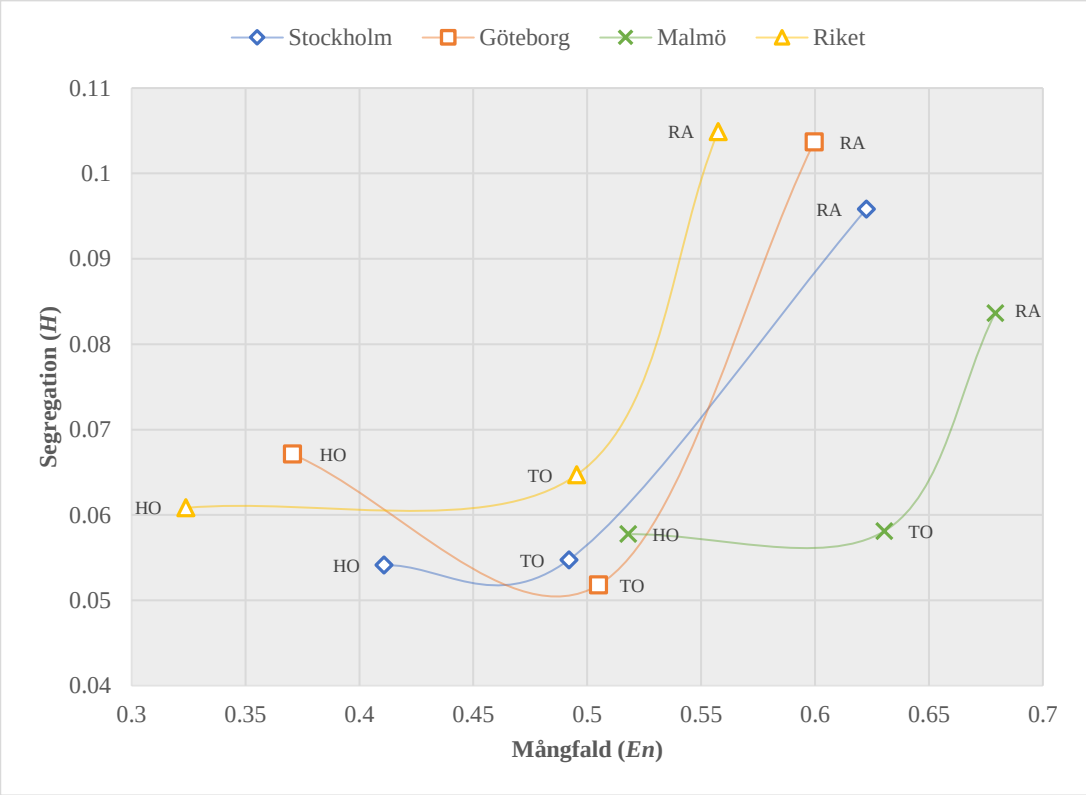


Figure 9. Diversity, segregation and forms of tenure in the large cities, Dec. 31, 2016.

The difference in diversity between areas dominated by tenant-owner apartments and areas dominated by rented apartments is greater in Stockholm (49-62%) and Göteborg (50-60%) than in the nation as a whole (50-56%). In Malmö, the difference is more or less the same as for the country as a whole, but from a higher starting point (63-68%).

The conclusions that can be drawn from figure 9 is that it is primarily the areas dominated by rented apartments that drive diversity in the large cities, in a way similar to the suburbs. In all cities, the degree of diversity in areas dominated by rented apartments is higher than the municipal average, while areas dominated by tenant-owner apartments and home ownership have a diversity below the municipal average.

Paucity of Swedes and paucity of immigrants – different aspects of diversity and segregation in the larger cities

As was discussed in the introduction to this report, it is difficult to capture all the aspects of ethnicity using only one variable. Certain structures that become visible with one variable, are made invisible by another and vice versa. The main variable used so far is “Population’s Country of Birth”. It has four values: Born in Sweden; Born in the Nordics; Born in EU-28 and Born Elsewhere. Table 4 below compares the outcome in diversity and segregation for this variable with the outcome for a dichotomized version of the same variable, where the values have been simplified to Born in EU-28 (including Sweden and the Nordics) and Born Elsewhere. Such a simplification of a variable may potentially be informative even though, strictly speaking, information is removed. This applies if the division of certain values has low information value from a sociological/social science perspective.

Simply put: a dichotomization is relevant if we assume and believe that there really is no major difference in ethnicity between the groups that are born in the EU. The table also lists proportions of the different populations.

Table 4. Different aspects of country of birth in the large cities' city districts, as of Dec. 31, 2016.

							Dichotomized variable			
Stockholm City Districts	pSw	pN	pEU	pElse	*En*	*H*	pEU	pElse	*En*	*H*
Bromma	0.839	0.024	0.045	0.091	0.429	0.034	0.911	0.089	0.434	0.012
Enskede-Årsta-Vantör	0.731	0.022	0.058	0.188	0.572	0.074	0.812	0.188	0.698	0.102
Farsta	0.754	0.023	0.048	0.175	0.542	0.036	0.825	0.175	0.668	0.050
Hägersten-Liljeholmen	0.820	0.024	0.048	0.108	0.460	0.018	0.892	0.108	0.493	0.068
Hässelby-Vällingby	0.692	0.023	0.061	0.224	0.611	0.053	0.776	0.224	0.767	0.061
Kungsholmen	0.833	0.027	0.050	0.091	0.444	0.010	0.909	0.091	0.440	0.051
Norrmalm	0.829	0.025	0.057	0.089	0.453	0.010	0.909	0.091	0.441	0.068
Rinkeby-Kista	0.422	0.022	0.067	0.488	0.707	0.021	0.603	0.397	0.969	0.016
Skarpnäck	0.790	0.022	0.051	0.137	0.502	0.046	0.863	0.137	0.575	0.069
Skärholmen	0.499	0.017	0.086	0.397	0.718	0.023	0.512	0.488	1.000	0.016
Spånga-Tensta	0.596	0.022	0.056	0.327	0.662	0.108	0.673	0.327	0.911	0.141
Södermalm	0.847	0.026	0.045	0.082	0.419	0.012	0.918	0.082	0.409	0.019
Älvsjö	0.832	0.022	0.038	0.108	0.434	0.044	0.909	0.091	0.439	0.013
Östermalm	0.820	0.026	0.062	0.091	0.468	0.051	0.892	0.108	0.494	0.027
							Dichotomized variable			
Göteborg City Districts	pSw	pN	pEU	pElse	*En*	*H*	pEU	pElse	*En*	*H*
Angered	0.483	0.029	0.078	0.410	0.735	0.070	0.590	0.410	0.976	0.066
Askim-Frölunda-Högsbo	0.811	0.017	0.041	0.132	0.459	0.068	0.879	0.121	0.531	0.018
Centrum	0.813	0.017	0.049	0.121	0.463	0.016	0.868	0.132	0.562	0.102
Lundby	0.767	0.023	0.042	0.168	0.522	0.023	0.832	0.168	0.652	0.034
Majorna-Linné	0.851	0.019	0.040	0.091	0.402	0.007	0.909	0.091	0.439	0.009
Norra Hisingen	0.730	0.027	0.042	0.201	0.564	0.059	0.799	0.201	0.724	0.080
Västra Göteborg	0.837	0.014	0.031	0.118	0.410	0.116	0.882	0.118	0.525	0.170
Västra Hisingen	0.710	0.022	0.043	0.225	0.574	0.174	0.775	0.225	0.770	0.227
Örgryte-Härlanda	0.847	0.018	0.037	0.097	0.406	0.031	0.903	0.097	0.460	0.046
Östra Göteborg	0.573	0.022	0.053	0.352	0.668	0.069	0.648	0.352	0.936	0.088
							Dichotomized variable			
Malmö City Districts	pSw	pN	pEU	pElse	*En*	*H*	pEU	pElse	*En*	*H*
Innerstaden	0.739	0.023	0.062	0.176	0.570	0.062	0.837	0.163	0.640	0.136
Norr	0.715	0.032	0.071	0.183	0.611	0.024	0.817	0.183	0.686	0.035
Söder	0.540	0.038	0.083	0.339	0.744	0.043	0.652	0.348	0.932	0.128
Väster	0.744	0.037	0.056	0.163	0.577	0.088	0.824	0.176	0.671	0.092
Öster	0.571	0.026	0.056	0.348	0.680	0.103	0.661	0.339	0.924	0.053

Table 4 shows that the results for the dichotomized version of the Country of Birth variable is very similar to the original results. Therefore, the dichotomization can be seen as a stability test (with a positive outcome) of previously presented results.

Table 5 uses another variable, "Population's Background", which also has four values: Born in Sweden with Two Parents Born in Sweden; Born in Sweden with One Parent Born in Sweden; Born in Sweden with No Parent Born in Sweden, and; Born Abroad. We will use a dichotomized

version for comparison here as well, which this time renders a somewhat different result. In the dichotomized version of the Background variable, the two former values have been combined into Swedish Background and the two latter into Foreign Background.
The dichotomization in this case reflects the assumption that ethnicity is constant over time and is passed on between generations, so that children born to parents with foreign parents inherit their identity from them, irrespective of where they themselves were born.

Table 5. Different aspects of background in the large cities' city districts, as of Dec. 31, 2016.

							Dichotomized variable			
Stockholm City Districts	pSwSw	pSwF	pFSw	pFF	*En*	*H*	pSw	pF	*En*	*H*
Bromma	0.693	0.103	0.161	0.043	0.663	0.029	0.796	0.204	0.730	0.046
Enskede-Årsta-Vantör	0.542	0.099	0.269	0.090	0.815	0.076	0.642	0.358	0.941	0.126
Farsta	0.568	0.104	0.246	0.081	0.798	0.036	0.673	0.327	0.912	0.057
Hägersten-Liljeholmen	0.646	0.117	0.180	0.057	0.726	0.013	0.763	0.237	0.790	0.019
Hässelby-Vällingby	0.486	0.093	0.308	0.114	0.852	0.054	0.579	0.421	0.982	0.086
Kungsholmen	0.679	0.110	0.167	0.044	0.679	0.008	0.789	0.211	0.743	0.011
Norrmalm	0.674	0.111	0.171	0.044	0.684	0.007	0.785	0.215	0.751	0.011
Rinkeby-Kista	0.117	0.059	0.578	0.246	0.779	0.044	0.176	0.824	0.672	0.070
Skarpnäck	0.612	0.114	0.210	0.064	0.759	0.045	0.725	0.275	0.848	0.072
Skärholmen	0.230	0.073	0.501	0.196	0.862	0.030	0.303	0.697	0.885	0.051
Spånga-Tensta	0.341	0.075	0.404	0.181	0.891	0.168	0.415	0.585	0.979	0.287
Södermalm	0.691	0.117	0.153	0.039	0.665	0.007	0.807	0.193	0.707	0.009
Älvsjö	0.672	0.102	0.168	0.058	0.697	0.040	0.774	0.226	0.771	0.063
Östermalm	0.680	0.105	0.180	0.035	0.667	0.036	0.785	0.215	0.750	0.058
							Dichotomized variable			
Göteborg City Districts	pSwSw	pSwF	pFSw	pFF	*En*	*H*	pSw	pF	*En*	*H*
Angered	0.195	0.064	0.517	0.224	0.844	0.093	0.259	0.741	0.825	0.175
Askim-Frölunda-Högsbo	0.667	0.085	0.189	0.059	0.693	0.061	0.752	0.248	0.808	0.099
Centrum	0.669	0.095	0.187	0.049	0.688	0.013	0.764	0.236	0.788	0.019
Lundby	0.592	0.096	0.233	0.079	0.775	0.020	0.688	0.312	0.895	0.031
Majorna-Linné	0.705	0.106	0.149	0.040	0.647	0.006	0.811	0.189	0.700	0.007
Norra Hisingen	0.532	0.088	0.270	0.111	0.827	0.055	0.620	0.380	0.958	0.086
Västra Göteborg	0.696	0.077	0.163	0.064	0.665	0.115	0.773	0.227	0.773	0.187
Västra Hisingen	0.532	0.080	0.290	0.099	0.811	0.183	0.612	0.388	0.964	0.291
Örgryte-Härlanda	0.708	0.096	0.153	0.043	0.643	0.023	0.804	0.196	0.714	0.036
Östra Göteborg	0.345	0.079	0.427	0.149	0.876	0.093	0.423	0.577	0.983	0.154
							Dichotomized variable			
Malmö City Districts	pSwSw	pSwF	pFSw	pFF	*En*	*H*	pSw	pF	*En*	*H*
Innerstaden	0.563	0.095	0.261	0.080	0.794	0.063	0.658	0.342	0.926	0.101
Norr	0.528	0.101	0.285	0.085	0.820	0.021	0.630	0.370	0.951	0.032
Söder	0.295	0.071	0.460	0.173	0.872	0.050	0.367	0.633	0.948	0.083
Väster	0.564	0.085	0.256	0.095	0.798	0.094	0.649	0.351	0.935	0.150
Öster	0.306	0.067	0.429	0.198	0.885	0.158	0.372	0.628	0.952	0.267

For the complete Background variable, the results are much the same as for the Country of Birth variable, if only with a generally higher degree of diversity. However, the dichotomized version of the Background variable captures something that the other variables miss. The city districts that previously had comparatively low degrees of diversity continue that trend here. But certain city districts that previously had a high degree of diversity achieved a relatively low degree of diversity with the dichotomized Background variable. Using this variable, Rinkeby-Kista in Stockholm shows the lowest degree of diversity in Stockholm, and Angered in Göteborg also gets a lower degree of diversity compared to other city districts in Göteborg. Thus the Background variable, in its dichotomized version, captures the inertia of ethnicity over time and how the proportion of inhabitants with a foreign background is therefore concentrated to certain city districts. In Rinkeby-Kista, the proportion of inhabitants with a foreign background, based on the dichotomized variable, is 82%, and in Angered, 74%. Thereby, these city districts are inverted versions of Södermalm in Stockholm, where the proportion of inhabitants with a Swedish background is 80%, and Majorna-Linné in Göteborg, where the proportion of inhabitants with a Swedish background is 81%.

There is every reason to pay attention to the fact that certain city districts, in terms of a simplified Background variable, show a low degree of diversity and a demographic that, with a term borrowed from Hedman and Andersson (2016), can be described as having a "paucity of Swedes". Also, this should not override the fact that certain city districts show a low degree of diversity and a demographic that may be described as having a "paucity of immigrants". Both these demographic constellations are, from a diversity perspective, problematic.

At the same time, the results should not be overinterpreted. It takes a relatively far-reaching simplification of a variable to generate these results. Most city districts with a significant immigrant population do *not* have a paucity of Swedes, irrespective of the variable (combination) used. The city districts with a paucity of immigrants on the other hand, have few immigrants and a low degree of diversity irrespective of the variable used.

Diversity and income levels

There is a correlation between diversity and income levels that is expressed in different ways. Table 6 investigates the correlation, ρ, between the degree of diversity and the proportion of low-, medium- and high-income households (in terms of purchasing power) in residential areas in 2012 and 2015.[13] The correlations have been weighted with the number of households in each residential area. As income varies in general between different parts of the country, the correlations have been studied separately for each county. All correlations are significant at the one-percent level, except for the ones that are

[13] Income data for 2016 are not yet available.

underlined in table 6.[14] The table also indicates whether the strength of the correlation has increased or decreased, i.e. if the correlation between the degree of diversity and the different income levels has strengthened or weakened.[15]

Table 6. The correlation between diversity and the proportion of low-, medium and high-income households in residential areas.

	2012 ρlow	2015 ρlow	difflow	2012 ρmedium	2015 ρmedium	diffmedium	2012 ρhigh	2015 ρhigh	diffhigh
Blekinge county	0.710	0.702	-0.008	-0.605	-0.596	-0.009	-0.554	-0.551	-0.003
Dalarna county	0.640	0.689	0.049	-0.611	-0.619	0.008	-0.461	-0.528	0.067
Gävleborg county	0.677	0.728	0.052	-0.742	-0.718	-0.024	-0.408	-0.542	0.134
Jämtland county	0.661	0.689	0.029	-0.630	-0.573	-0.057	-0.494	-0.601	0.107
Jönköping county	0.645	0.694	0.049	-0.386	-0.413	0.027	-0.573	-0.629	0.056
Kalmar county	0.650	0.699	0.049	-0.405	-0.432	0.027	-0.573	-0.604	0.031
Kronoberg county	0.674	0.726	0.052	-0.346	-0.465	0.119	-0.696	-0.713	0.016
Norrbotten county	0.573	0.626	0.053	-0.409	-0.398	-0.011	-0.484	-0.540	0.056
Region Gotland	0.306	0.385	0.079	-0.214	-0.350	0.135	-0.210	-0.209	-0.001
Region Halland	0.704	0.759	0.055	-0.022	0.004	0.026	-0.617	-0.680	0.063
Region Skåne	0.691	0.712	0.021	-0.341	-0.317	-0.024	-0.587	-0.631	0.044
Stockholm county	0.742	0.728	-0.014	0.344	0.404	0.060	-0.721	-0.727	0.006
Södermanland county	0.807	0.801	-0.006	-0.658	-0.614	-0.044	-0.689	-0.717	0.028
Uppsala county	0.610	0.602	-0.008	-0.276	-0.276	-0.001	-0.470	-0.459	-0.011
Värmland county	0.726	0.767	0.041	-0.665	-0.648	-0.017	-0.586	-0.668	0.082
Västerbotten county	0.684	0.706	0.022	-0.625	-0.606	-0.019	-0.506	-0.564	0.058
Västernorrland county	0.617	0.708	0.091	-0.558	-0.604	0.046	-0.461	-0.572	0.111
Västmanland county	0.674	0.721	0.046	-0.297	-0.313	0.016	-0.528	-0.591	0.063
Region Västra Götaland	0.659	0.668	0.009	-0.347	-0.311	-0.036	-0.509	-0.537	0.028
Örebro county	0.771	0.780	0.010	-0.623	-0.619	-0.004	-0.705	-0.728	0.023
Östergötland county	0.773	0.776	0.002	-0.619	-0.605	-0.014	-0.615	-0.652	0.038

Table 6 shows that the correlation between diversity and the proportion of low-income households was high in 2012 as well as in 2015, in almost all cases above 0.6 and in many instances above 0.7. The exception is Region Gotland, which shows no significant correlations at all between diversity and income levels. In most counties, the correlation between diversity and the number of households with low purchasing power was strengthened between 2012 and 2015, but there were no dramatic increases (possibly with the exception of Västernorrland county, with an increase in correlation of 9%).

For all counties but three, there is a moderate to strong negative correlation between the degree of diversity and the proportion of households with medium purchasing power. In other words, the more households in an area that have medium purchasing power, the lower the degree of diversity, typically. The exceptions are Region Gotland, for which the absence of correlations has already been mentioned, and Region Halland, which does not

[14] The level of statistical significance is in principle superfluous as it, in practical terms, concerns sub-populations, and not sub-samples.

[15] The difference in strength of correlations is indicated by a positive symbol if the strength has increased and by a negative symbol if the strength has decreased, irrespective of indications for the correlation itself.

have any significant correlations for diversity/medium purchasing power and Stockholm county, where the correlation is reversed. It is possibly an expression of the generally higher purchasing power in Stockholm county, where the average purchasing power in actual fact constitutes low purchasing power in a Stockholm context. There are no dramatic changes to the strength of the correlations between 2012 (with the exception of Kronoberg county, which saw an increase in correlation of 11%).

The correlation between diversity and the proportion of households with high purchasing power is the reverse of that between diversity and low purchasing power: the higher the proportion of households with high purchasing power, the lower the degree of diversity. The correlations are very strong here as well, and they also increased more between 2012 and 2015, compared to the other correlations.

Problem areas from a diversity perspective

The distribution of the proportion of households with low and high purchasing power respectively, and the degree of diversity for the three large city counties are presented in figures 10 and 11. The figures provide a more comprehensive picture of the correlations presented in table 6. In figure 10, we can see that low purchasing power and the degree of diversity are fairly evenly distributed with a clear linear relationship. However, for very high degrees of diversity, there is a sparse grouping of residential areas which also have a very high proportion of households with low purchasing power. The correlations are similar in the three counties but starting from different levels, with a generally lower proportion of households with low purchasing power in Stockholm county.

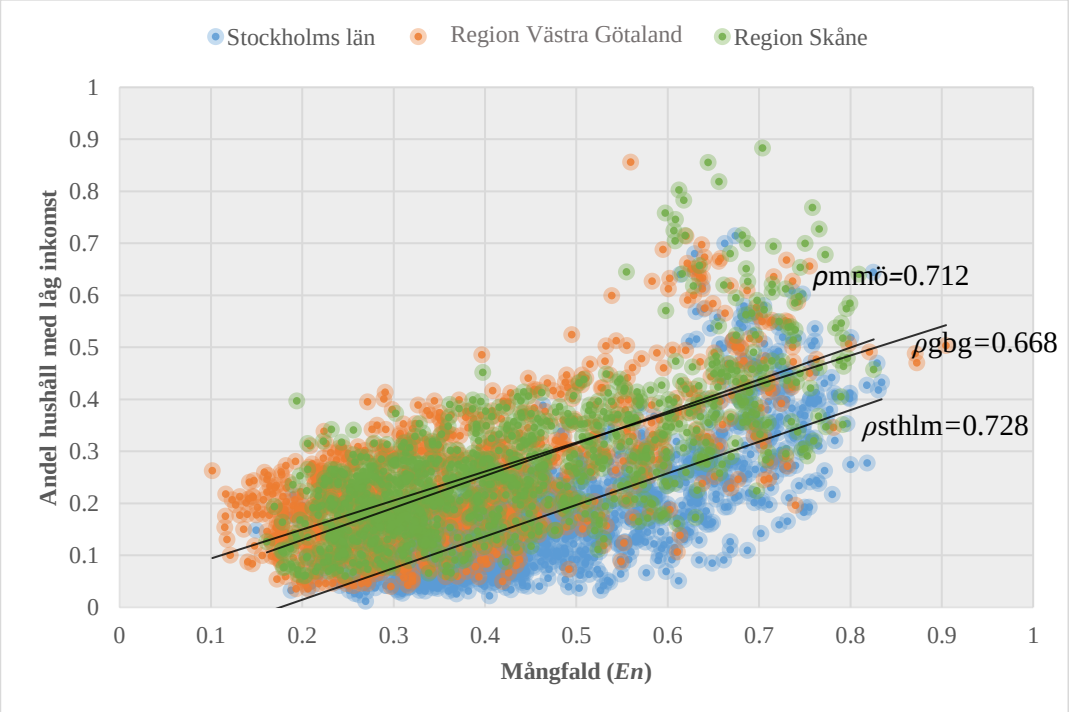


Figure 10. The proportion of households with low purchasing power and diversity in the large city counties, Dec. 31, 2015.

The correlations between diversity and the proportion of high-income households very between the large city counties, see figure 11.

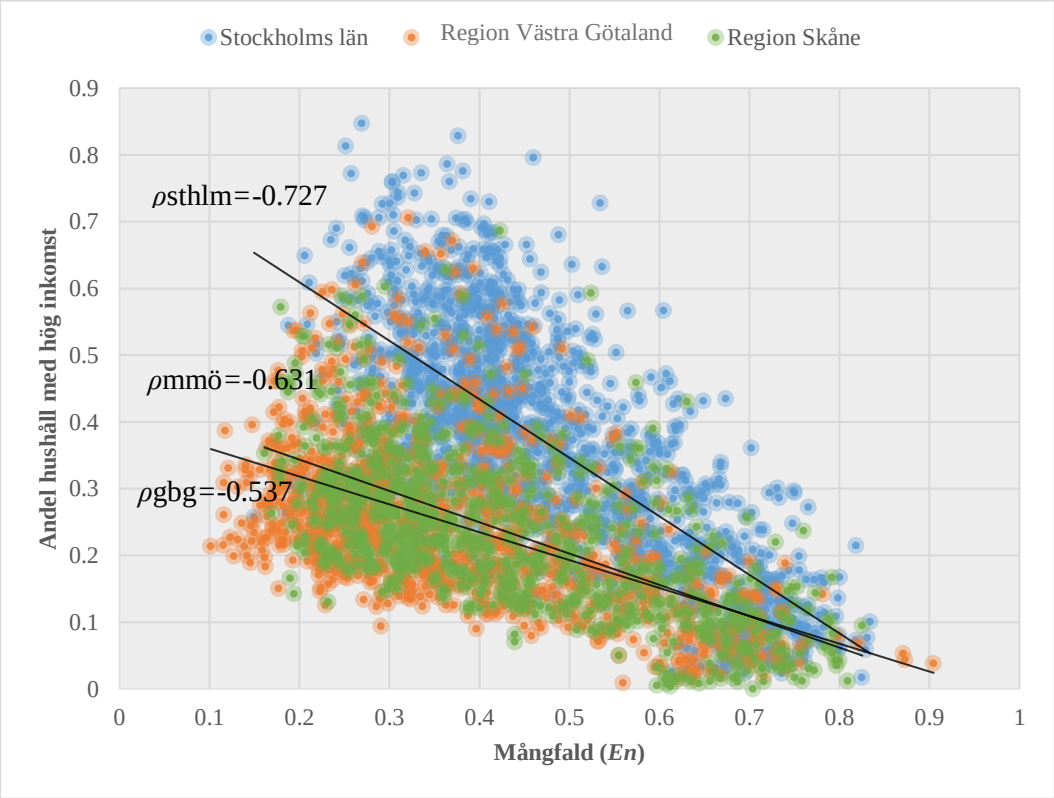


Figure 11. The proportion of households with high purchasing power and diversity, Dec. 31, 2015.

Stockholm county has a significantly stronger negative correlation, compared to Region Skåne and Region Västra Götaland. So, not only are the levels different (like in figure 10), but the correlations are as well: the negative correlation between the proportion of households with high purchasing power and the degree of diversity is significantly stronger in Stockholm county.

And figure 11 also includes a sparse grouping of residential areas at the top of the figure, which in this case are residential areas with a high proportion of households with high purchasing power and also a low degree of diversity. It is not possible to infer the mechanisms behind the results with any degree of precision. But a reasonable assumption is that it is, at least to some extent, the result of so-called *Native Flight/Avoidance* (Schelling, 1971) and/or *Middle-Class Flight/Avoidance* (Friedrichs, 1998), but the results here concern the areas people move to, rather than from.

Which areas are really problematic, from a diversity and segregation perspective? Commonly, we think of poor areas with an inverse low degree of diversity that stems from a paucity of Swedes. But there are very few of these areas on the whole: paucity of Swedes is much more uncommon than paucity of immigrants. Figure 10 tells us that areas that are very poor, in the sense of having a high proportion of households with low purchasing power, also frequently have a very high degree of diversity. Using the Swedish Union of Tenants' publicly available mapping tool for segregation

and diversity (kartor.hyresgastforeningen.se), it is possible to locate areas with different constellations of diversity and purchasing power. In figure 12, this was done for areas with a simultaneously high degree of diversity (> 0.6) and a high proportion of households with low purchasing power (> 0.6). There are five such areas in Stockholm municipality, three of which are in Rinkeby, see figure 12:

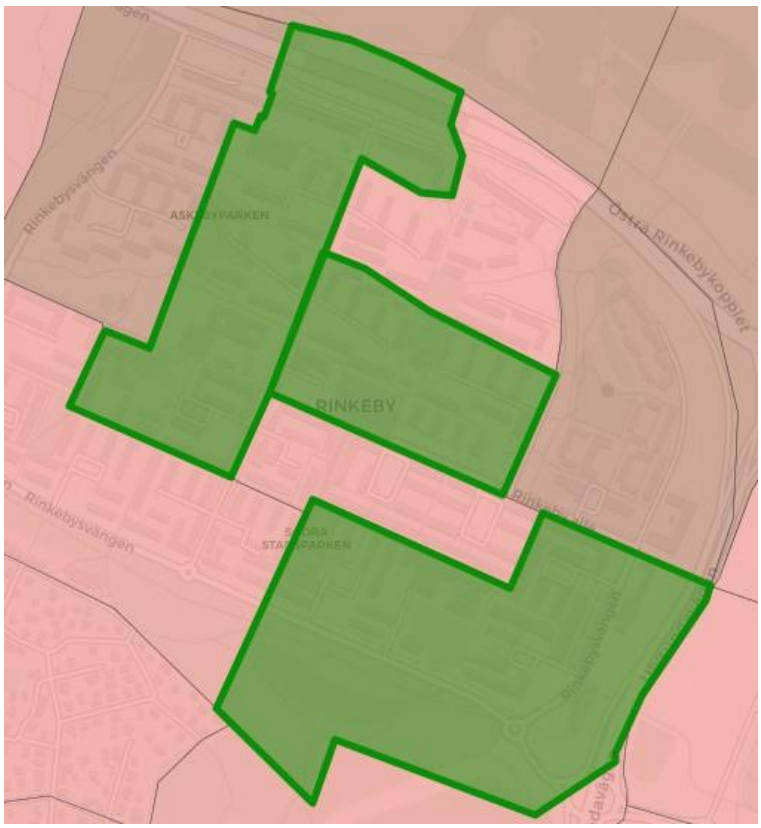


Figure 12. Potential problem areas from a diversity perspective are found in Rinkeby in Stockholm.

Residential areas are potentially problematic (the operative word being “potentially”) as a considerable diversity burden is borne by people who are already economically disadvantaged.

It could possibly be in figure 11, among areas with high purchasing power and a low degree of diversity, that we should look for diversity-related problem areas, rather than the opposite. It is the low degree of diversity in these areas that creates a heavier diversity burden in poorer areas such as in Rinkeby in figure 12 above.
The correlation between high purchasing power and a low degree of diversity has grown stronger since 2012, which is an indication that there has been an increase in the number of areas that bear a disproportionately low diversity burden in relation to their purchasing power. There are eight areas with a diversity of < 0.3 and the proportion of households with high purchasing power is > 0.7. Figure 13 shows seven of these, including Bromma in western Stockholm, as well as Södra Ängby and Nockeby.

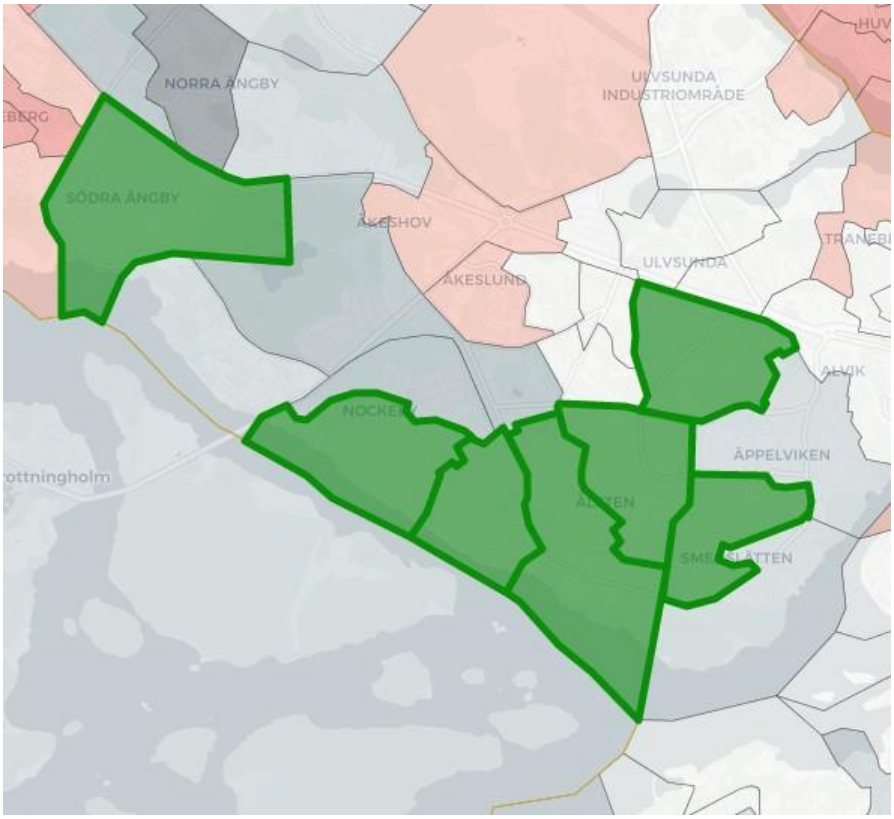


Figure 13. Potential problem areas from a diversity perspective in western Stockholm.

Summary and conclusions

Diversity is increasing in Sweden, while segregation is decreasing. This means that the mixture of people born in different countries is increasing in Sweden while, at the same time, it is becoming more evenly distributed across the country. Consequently, more and more residential areas contribute to the integration between new and old Swedes. In other words, those who argue that some of the problems and challenges Sweden is facing – poor school results, an increase in gang-related shootings, etc. – are caused by increased segregation, must somehow qualify their assertions. That basic misconceptions about diversity and segregation have gained a foothold in this manner is often because there has been a dearth of actual knowledge. At the same time, there are indications that new patterns for integrating immigrants have been established, patterns that deviate from the previously near-automatic, geographic assimilation of new Swedes. It is in light of this that the Swedish Union of Tenants has conducted this study and created a knowledge infrastructure for diversity and segregation. Anyone can use the Swedish Union of Tenants' mapping tools (kartor.hyresgastforeningen.se) to obtain up-to-date and accurate information about diversity and segregation at the municipal, city district or residential area level, and see how it relates to the purchasing power of the households and to forms of tenure, for example.

However, the positive overall trend holds some variations. Previous research has shown that diversity gains and diversity burdens are unequally distributed, irrespective of whether immigration overall is profitable or not for society. *The diversity gains* – the influx of human capital, the reinforcement of innovative and entrepreneurial capacity, cultural enrichment, increased supply of less expensive services, etc. – primarily benefit those who are wealthy. *The diversity burden* – increased competition for jobs, wages and public healthcare, education and social care – are primarily borne by those who are poor. Immigration is, in other words, a redistributive policy that reinforces current inequalities in society.
The Swedish Union of Tenants has shown in this report the geographic results of this redistribution of resources. In summary, the results show that:

- Every year since 2012, and at an even pace, ethnic diversity in Sweden has increased and segregation has decreased.
- The highest degree of diversity is found in the suburban municipalities surrounding large cities (for example, in Botkyrka and Upplands Väsby) as well as in the suburbs of large cities (for example, in Skärholmen and Angered). This does not mean that these municipalities and neighbourhoods have a paucity of Swedes, but rather that there is a high degree of mixture of people with different countries of birth.
- In the large cities, residential suburbs dominated by detached housing (such as Bromma in Stockholm) and the inner city districts are characterised by a low degree of diversity. For example, Södermalm in Stockholm and Majorna-Linné in Göteborg have a degree of diversity that is below the national average and in parity with typical rural municipalities such as Vaggeryd and Pajala. The residential suburbs dominated by detached housing and the inner cities, in particular in Stockholm and Göteborg, can be described as having a paucity of immigrants.

- There is a strong correlation at the residential-area level between the proportion of households with low purchasing power and a high degree of diversity. This means that residents in poorer areas, regardless of whether they are new or old Swedes, carry a disproportionately high proportion of the diversity burden.
- There is a strong negative correlation at the residential-area level between the proportion of households with high purchasing power and a low degree of diversity. The strength of the correlation increases over time. This means that households with high purchasing power, from already low levels, further reduce their share of the diversity burden.
- The low degree of diversity in residential neighbourhoods with detached houses and city centres of large cities, as well as in prosperous areas in general, is causing segregation at a general level to increase as the overall diversity then becomes concentrated to fewer areas.
- The degree of diversity is higher in areas dominated by apartment blocks and the degree of diversity is highest in areas dominated by rented apartments. Rented apartments thus act as a catalyst for integration – this is where people are thrown together instead of being divided up.

Immigration is an inevitable and essential phenomenon in our current age, and Sweden can afford a generous immigration policy – this is not idle speculation but has been unequivocally concluded in research on the costs of immigration. In Sweden, the general trend is moving in the right direction, with increased diversity and reduced segregation. However, immigration is also a redistributive policy that generally redistributes resources from those that are already disadvantaged to the rest of society. The Swedish Union of Tenants has shown in this report the geographic dimension of diversity and segregation and how it correlates with forms of tenure, but also with income. It is in areas with households that have low purchasing power that the degree of diversity is highest, while households that have high purchasing power are increasingly isolated in areas that have a paucity of immigrants.

Resource redistribution is a bigger problem than the total net cost of immigration as it tears society apart and, in a very tangible sense, pits disadvantaged groups – poor new and old Swedes – against one another. It is possible to address such tendencies with policies, and access to rented apartments is a tool for bringing about greater diversity and reducing the segregation between different populations. In areas with a high proportion of tenants, people come together. This is where, in practical and everyday terms, what is commonly referred to as integration takes place.

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Appendix A

Diversity and segregation in Sweden's municipalities 2012–2016

	2012		2013		2014		2015		2016			
Municipalities	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Ale	0.376	0.054	0.378	0.054	0.387	0.052	0.391	0.053	0.402	0.049	0.026	101
Alingsås	0.297	0.055	0.302	0.055	0.308	0.051	0.315	0.053	0.322	0.050	0.025	199
Alvesta	0.394	0.115	0.415	0.122	0.432	0.119	0.444	0.120	0.452	0.116	0.058	57
Aneby	0.260	0.045	0.260	0.045	0.281	0.052	0.306	0.063	0.320	0.062	0.060	201
Arboga	0.308	0.036	0.326	0.040	0.345	0.050	0.371	0.061	0.382	0.061	0.074	121
Arjeplog	0.286	0.022	0.294	0.024	0.308	0.024	0.315	0.030	0.326	0.038	0.040	197
Arvidsjaur	0.218	0.032	0.233	0.038	0.249	0.043	0.260	0.040	0.271	0.037	0.052	253
Arvika	0.317	0.044	0.322	0.044	0.330	0.044	0.337	0.044	0.350	0.045	0.033	161
Askersund	0.198	0.011	0.217	0.025	0.227	0.034	0.243	0.051	0.270	0.055	0.071	255
Avesta	0.320	0.036	0.342	0.046	0.374	0.057	0.418	0.078	0.440	0.090	0.120	70
Bengtsfors	0.373	0.036 0.035	0.395	0.042	0.409	0.048	0.437	0.047	0.484	0.057	0.111	46
Berg	0.203	0.056	0.222	0.075	0.230	0.066	0.241	0.075	0.276	0.079	0.073	241
Bjurholm	0.264	0.051	0.277	0.044	0.288	0.054	0.306	0.049	0.307	0.055	0.044	216
Bjuv	0.504	0.029	0.502	0.026	0.514	0.024	0.529	0.024	0.547	0.024	0.043	23
Boden	0.236	0.075	0.257	0.080	0.262	0.071	0.266	0.068	0.273	0.076	0.037	247
Bollebygd	0.256	0.014	0.267	0.018	0.270	0.017	0.281	0.020	0.294	0.023	0.038	226
Bollnäs	0.221	0.098	0.240	0.098	0.266	0.102	0.290	0.114	0.310	0.112	0.088	211
Borgholm	0.251	0.037	0.232	0.020	0.257	0.044	0.274	0.042	0.322	0.029	0.072	198
Borlänge	0.359	0.140	0.371	0.151	0.386	0.158	0.397	0.161	0.408	0.158	0.049	96
Borås	0.470	0.123	0.478	0.124	0.484	0.123	0.494	0.123	0.502	0.121	0.032	40
Botkyrka	0.699	0.110	0.701	0.109	0.702	0.107	0.702	0.108	0.704	0.106	0.005	1
Boxholm	0.201	0.025	0.223	0.032	0.232	0.035	0.237	0.038	0.249	0.044	0.048	271
Bromölla	0.347	0.027	0.356	0.026	0.370	0.030	0.385	0.041	0.400	0.040	0.053	106
Bräcke	0.292	0.066	0.294	0.072	0.310	0.071	0.331	0.072	0.353	0.074	0.062	157
Burlöv	0.591	0.074	0.594	0.073	0.602	0.068	0.609	0.067	0.613	0.067	0.022	7
Båstad	0.308	0.022	0.314	0.022	0.327	0.023	0.339	0.025	0.360	0.023	0.051	152
Dals-Ed	0.360	0.010	0.394	0.018	0.395	0.016	0.411	0.017	0.426	0.016	0.066	80
Danderyd	0.400	0.013	0.409	0.014	0.411	0.017	0.417	0.017	0.426	0.017	0.025	81
Degerfors	0.341	0.039	0.344	0.037	0.364	0.046	0.375	0.045	0.397	0.046	0.056	110
Dorotea	0.230	0.055	0.229	0.059	0.247	0.066	0.267	0.068	0.268	0.069	0.038	257
Eda	0.522	0.022	0.528	0.025	0.542	0.027	0.559	0.032	0.579	0.038	0.058	13
Ekerö	0.318	0.014	0.322	0.016	0.328	0.014	0.332	0.015	0.343	0.018	0.025	173
Eksjö	0.288	0.030	0.301	0.033	0.313	0.035	0.330	0.027	0.363	0.034	0.075	145
Emmaboda	0.357	0.049	0.369	0.049	0.389	0.053	0.403	0.051	0.447	0.055	0.090	63
Enköping	0.325	0.065	0.336	0.073	0.344	0.073	0.357	0.076	0.377	0.084	0.052	131
Eskilstuna	0.500	0.125	0.508	0.127	0.517	0.127	0.524	0.127	0.534	0.127	0.034	29

	2012		2013		2014		2015		2016			
Municipalities	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Eslöv	0.392	0.064	0.394	0.063	0.404	0.063	0.412	0.065	0.428	0.068	0.036	79
Essunga	0.237	0.034	0.244	0.028	0.250	0.031	0.257	0.032	0.270	0.035	0.033	256
Fagersta	0.515	0.052	0.535	0.063	0.555	0.076	0.566	0.079	0.579	0.081	0.064	14
Falkenberg	0.321	0.066	0.334	0.063	0.341	0.057	0.353	0.055	0.374	0.047	0.053	133
Falköping	0.288	0.099	0.307	0.108	0.321	0.109	0.335	0.111	0.348	0.111	0.060	167
Falun	0.262	0.060	0.267	0.065	0.272	0.065	0.277	0.065	0.288	0.064	0.026	231
Filipstad	0.349	0.029	0.372	0.037	0.391	0.044	0.413	0.045	0.457	0.049	0.107	55
Finspång	0.340	0.044	0.356	0.049	0.371	0.050	0.383	0.055	0.402	0.063	0.062	103
Flen	0.432	0.119	0.457	0.123	0.473	0.121	0.496	0.113	0.520	0.105	0.088	34
Forshaga	0.230	0.028	0.233	0.025	0.249	0.023	0.260	0.028	0.275	0.035	0.045	243
Färgelanda	0.284	0.007	0.288	0.010	0.293	0.004	0.315	0.002	0.348	0.002	0.064	168
Gagnef	0.205	0.013	0.206	0.009	0.212	0.011	0.218	0.012	0.227	0.009	0.022	284
Gislaved	0.445	0.073	0.456	0.078	0.465	0.078	0.491	0.082	0.512	0.080	0.067	37
Gnesta	0.307	0.021	0.315	0.021	0.327	0.021	0.339	0.018	0.357	0.023	0.050	154
Gnosjö	0.496	0.055	0.509	0.061	0.521	0.067	0.536	0.068	0.547	0.063	0.051	24
Gotland	0.179	0.027	0.183	0.028	0.188	0.032	0.198	0.030	0.218	0.033	0.039	286
Grums	0.271	0.013	0.282	0.014	0.300	0.018	0.306	0.023	0.330	0.036	0.059	188
Grästorp	0.216	0.024	0.218	0.021	0.216	0.021	0.225	0.028	0.240	0.037	0.024	277
Gullspång	0.374	0.029	0.383	0.029	0.409	0.026	0.413	0.028	0.446	0.034	0.071	65
Gällivare	0.232	0.020	0.241	0.018	0.245	0.021	0.255	0.025	0.266	0.031	0.034	258
Gävle	0.328	0.114	0.341	0.119	0.355	0.122	0.359	0.120	0.366	0.116	0.039	140
Göteborg	0.517	0.115	0.523	0.114	0.529	0.114	0.534	0.113	0.540	0.111	0.023	28
Götene	0.276	0.062	0.281	0.061	0.296	0.078	0.305	0.084	0.326	0.070	0.050	196
Habo	0.209	0.031	0.212	0.030	0.217	0.024	0.217	0.028	0.229	0.027	0.020	282
Hagfors	0.303	0.039	0.331	0.043	0.336	0.045	0.350	0.048	0.377	0.052	0.074	132
Hallsberg	0.313	0.092	0.314	0.095	0.325	0.090	0.344	0.089	0.367	0.102	0.054	138
Hallstahammar	0.464	0.058	0.473	0.062	0.474	0.062	0.481	0.059	0.480	0.062	0.016	49
Halmstad	0.389	0.115	0.395	0.114	0.408	0.114	0.418	0.113	0.428	0.108	0.040	78
Hammarö	0.212	0.015	0.214	0.013	0.212	0.013	0.215	0.017	0.219	0.020	0.007	285
Haninge	0.542	0.105	0.550	0.103	0.558	0.103	0.563	0.098	0.574	0.093	0.032	16
Haparanda	0.576	0.028	0.584	0.028	0.589	0.030	0.603	0.037	0.625	0.033	0.050	5
Heby	0.277	0.034	0.289	0.034	0.302	0.032	0.316	0.036	0.329	0.036	0.052	190
Hedemora	0.303	0.033	0.309	0.037	0.331	0.038	0.355	0.048	0.383	0.052	0.080	118
Helsingborg	0.493	0.081	0.499	0.079	0.508	0.082	0.520	0.085	0.530	0.086	0.037	31
Herrljunga	0.303	0.045	0.308	0.045	0.317	0.045	0.322	0.040	0.335	0.044	0.032	182
Hjo	0.222	0.011	0.225	0.008	0.232	0.010	0.255	0.017	0.262	0.016	0.041	259
Hofors	0.350	0.035	0.351	0.038	0.363	0.053	0.372	0.054	0.388	0.047	0.038	117
Huddinge	0.576	0.122	0.580	0.120	0.584	0.117	0.591	0.113	0.597	0.112	0.020	10
Hudiksvall	0.236	0.057	0.246	0.058	0.255	0.060	0.258	0.059	0.272	0.057	0.037	248
Hultsfred	0.366	0.069	0.388	0.086	0.409	0.080	0.443	0.074	0.499	0.074	0.133	41

	2012		2013		2014		2015		2016			
Municipalities	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Hylte	0.455	0.044	0.470	0.044	0.502	0.048	0.534	0.042	0.564	0.037	0.109	19
Håbo	0.377	0.020	0.383	0.021	0.386	0.021	0.390	0.024	0.404	0.022	0.028	100
Hällefors	0.432	0.032	0.443	0.034	0.454	0.038	0.487	0.042	0.517	0.043	0.085	35
Härjedalen	0.242	0.021	0.275	0.030	0.278	0.023	0.293	0.030	0.309	0.038	0.067	214
Härnösand	0.265	0.055	0.286	0.051	0.312	0.057	0.342	0.062	0.360	0.068	0.096	150
Härryda	0.303	0.041	0.306	0.041	0.306	0.039	0.310	0.040	0.319	0.037	0.016	202
Hässleholm	0.355	0.076	0.364	0.074	0.376	0.073	0.388	0.072	0.408	0.070	0.053	97
Höganäs	0.328	0.031	0.330	0.030	0.339	0.032	0.350	0.028	0.366	0.030	0.039	139
Högsby	0.388	0.034	0.411	0.026	0.447	0.028	0.487	0.031	0.534	0.019	0.145	30
Hörby	0.323	0.034	0.325	0.038	0.334	0.039	0.339	0.038	0.352	0.040	0.030	158
Höör	0.325	0.022	0.324	0.021	0.326	0.022	0.328	0.020	0.339	0.016	0.013	178
Jokkmokk	0.280	0.018	0.282	0.026	0.305	0.033	0.330	0.031	0.365	0.033	0.085	142
Järfälla	0.550	0.070	0.556	0.067	0.566	0.066	0.573	0.064	0.585	0.063	0.034	12
Jönköping	0.363	0.103	0.372	0.103	0.382	0.102	0.388	0.103	0.399	0.102	0.036	107
Kalix	0.280	0.024	0.285	0.024	0.290	0.023	0.293	0.024	0.306	0.030	0.026	218
Kalmar	0.299	0.099	0.306	0.093	0.315	0.098	0.327	0.094	0.339	0.089	0.040	177
Karlsborg	0.192	0.029	0.220	0.042	0.228	0.027	0.240	0.027	0.283	0.027	0.091	234
Karlshamn	0.298	0.045	0.313	0.046	0.325	0.047	0.338	0.048	0.357	0.046	0.059	156
Karlskoga	0.354	0.062	0.367	0.071	0.380	0.085	0.392	0.099	0.409	0.101	0.055	94
Karlskrona	0.291	0.175	0.297	0.167	0.307	0.167	0.326	0.162	0.339	0.161	0.049	175
Karlstad	0.307	0.086	0.312	0.084	0.317	0.083	0.323	0.081	0.335	0.082	0.028	183
Katrineholm	0.380	0.085	0.392	0.087	0.404	0.088	0.412	0.089	0.421	0.091	0.041	84
Kil	0.219	0.034	0.221	0.037	0.229	0.051	0.230	0.047	0.234	0.049	0.014	280
Kinda	0.222	0.060	0.243	0.073	0.252	0.079	0.257	0.083	0.262	0.085	0.039	260
Kiruna	0.284	0.019	0.297	0.021	0.304	0.022	0.310	0.024	0.326	0.023	0.043	195
Klippan	0.388	0.028	0.392	0.023	0.404	0.025	0.419	0.024	0.450	0.025	0.062	60
Knivsta	0.303	0.024	0.314	0.022	0.318	0.025	0.334	0.026	0.348	0.026	0.045	169
Kramfors	0.253	0.047	0.276	0.042	0.296	0.046	0.314	0.044	0.349	0.046	0.096	162
Kristianstad	0.380	0.153	0.390	0.153	0.401	0.152	0.411	0.146	0.420	0.141	0.040	85
Kristinehamn	0.300	0.055	0.317	0.060	0.335	0.058	0.355	0.062	0.377	0.068	0.077	130
Krokom	0.201	0.051	0.222	0.039	0.220	0.042	0.237	0.044	0.250	0.035	0.049	269
Kumla	0.312	0.044	0.312	0.047	0.320	0.052	0.323	0.051	0.332	0.046	0.020	187
Kungsbacka	0.227	0.015	0.232	0.015	0.235	0.014	0.241	0.014	0.249	0.016	0.022	270
Kungsör	0.360	0.016	0.387	0.022	0.404	0.026	0.425	0.028	0.444	0.036	0.084	67
Kungälv	0.255	0.061	0.259	0.059	0.265	0.054	0.265	0.050	0.271	0.047	0.016	252
Kävlinge	0.270	0.020	0.270	0.021	0.278	0.021	0.285	0.022	0.296	0.029	0.026	225
Köping	0.447	0.074	0.463	0.085	0.472	0.089	0.480	0.082	0.491	0.080	0.044	44
Laholm	0.302	0.039	0.306	0.038	0.331	0.037	0.356	0.041	0.378	0.043	0.076	128
Landskrona	0.550	0.097	0.558	0.094	0.562	0.099	0.568	0.098	0.572	0.096	0.022	17
Laxå	0.341	0.023	0.373	0.030	0.419	0.041	0.438	0.035	0.451	0.036	0.110	58

	2012		2013		2014		2015		2016			
Municipalities	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Lekeberg	0.152	0.008	0.155	0.007	0.162	0.006	0.174	0.012	0.188	0.026	0.035	290
Leksand	0.216	0.032	0.227	0.035	0.238	0.040	0.244	0.048	0.270	0.042	0.054	254
Lerum	0.278	0.018	0.278	0.019	0.280	0.018	0.285	0.018	0.294	0.017	0.016	227
Lessebo	0.415	0.050	0.454	0.047	0.502	0.038	0.536	0.036	0.549	0.038	0.135	22
Lidingö	0.419	0.043	0.426	0.043	0.433	0.042	0.441	0.041	0.453	0.040	0.034	56
Lidköping	0.252	0.073	0.257	0.077	0.262	0.079	0.267	0.077	0.276	0.074	0.025	240
Lilla Edet	0.373	0.031	0.385	0.035	0.393	0.039	0.403	0.037	0.424	0.037	0.051	83
Lindesberg	0.343	0.086	0.361	0.091	0.370	0.094	0.388	0.093	0.402	0.085	0.059	105
Linköping	0.360	0.132	0.366	0.131	0.373	0.130	0.378	0.128	0.391	0.127	0.031	115
Ljungby	0.397	0.047	0.404	0.048	0.419	0.047	0.430	0.044	0.449	0.043	0.052	61
Ljusdal	0.237	0.091	0.254	0.093	0.271	0.090	0.288	0.089	0.294	0.095	0.056	228
Ljusnarsberg	0.374	0.006	0.414	0.006	0.447	0.013	0.473	0.019	0.511	0.025	0.137	38
Lomma	0.254	0.011	0.256	0.009	0.259	0.010	0.262	0.010	0.274	0.011	0.019	246
Ludvika	0.344	0.054	0.357	0.060	0.378	0.062	0.404	0.064	0.429	0.065	0.086	77
Luleå	0.279	0.048	0.281	0.047	0.287	0.047	0.290	0.046	0.300	0.045	0.022	223
Lund	0.453	0.056	0.460	0.054	0.468	0.054	0.470	0.048	0.482	0.048	0.029	48
Lycksele	0.230	0.049	0.238	0.049	0.250	0.054	0.260	0.065	0.272	0.072	0.042	251
Lysekil	0.308	0.063	0.320	0.066	0.330	0.066	0.351	0.087	0.367	0.096	0.059	137
Malmö	0.629	0.091	0.633	0.089	0.634	0.088	0.635	0.085	0.639	0.084	0.010	3
Malung-Sälen	0.276	0.036	0.279	0.044	0.286	0.042	0.297	0.044	0.326	0.057	0.050	194
Malå	0.197	0.048	0.208	0.041	0.225	0.045	0.242	0.058	0.245	0.061	0.048	275
Mariestad	0.295	0.069	0.309	0.059	0.310	0.057	0.314	0.059	0.327	0.055	0.032	193
Mark	0.316	0.054	0.321	0.055	0.328	0.057	0.334	0.056	0.348	0.058	0.032	165
Markaryd	0.456	0.033	0.471	0.029	0.483	0.030	0.515	0.041	0.543	0.044	0.087	26
Mellerud	0.340	0.037	0.345	0.045	0.368	0.044	0.421	0.042	0.445	0.051	0.105	66
Mjölby	0.239	0.070	0.244	0.072	0.253	0.075	0.263	0.080	0.277	0.083	0.038	238
Mora	0.213	0.030	0.215	0.032	0.222	0.030	0.234	0.037	0.248	0.042	0.035	273
Motala	0.316	0.087	0.331	0.095	0.344	0.105	0.360	0.112	0.373	0.117	0.057	135
Mullsjö	0.265	0.004	0.268	0.005	0.279	0.007	0.290	0.010	0.300	0.013	0.035	222
Munkedal	0.265	0.028	0.272	0.027	0.290	0.025	0.298	0.030	0.330	0.027	0.065	189
Munkfors	0.269	0.014	0.283	0.021	0.302	0.021	0.331	0.015	0.394	0.017	0.125	111
Mölndal	0.382	0.034	0.386	0.032	0.396	0.032	0.403	0.031	0.415	0.029	0.033	91
Mönsterås	0.260	0.051	0.287	0.053	0.310	0.067	0.330	0.066	0.363	0.064	0.103	144
Mörbylånga	0.187	0.023	0.196	0.021	0.207	0.027	0.219	0.030	0.260	0.046	0.073	262
Nacka	0.467	0.082	0.466	0.083	0.468	0.081	0.473	0.080	0.479	0.080	0.012	50
Nora	0.315	0.032	0.321	0.029	0.329	0.033	0.349	0.040	0.378	0.034	0.063	129
Norberg	0.303	0.015	0.333	0.020	0.370	0.024	0.391	0.027	0.405	0.030	0.102	98
Nordanstig	0.234	0.025	0.241	0.028	0.258	0.031	0.265	0.027	0.274	0.031	0.039	245
Nordmaling	0.220	0.037	0.229	0.042	0.251	0.057	0.262	0.051	0.275	0.046	0.055	244
Norrköping	0.397	0.109	0.408	0.115	0.417	0.116	0.427	0.116	0.440	0.121	0.043	71
Norrtälje	0.311	0.040	0.317	0.041	0.324	0.040	0.338	0.042	0.349	0.043	0.037	164

	2012		2013		2014		2015		2016			
Municipalities	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Norsjö	0.235	0.007	0.250	0.006	0.269	0.009	0.278	0.005	0.284	0.011	0.049	233
Nybro	0.321	0.082	0.329	0.082	0.366	0.094	0.385	0.096	0.429	0.115	0.109	76
Nykvarn	0.326	0.011	0.333	0.010	0.337	0.011	0.339	0.014	0.350	0.014	0.024	160
Nyköping	0.327	0.090	0.344	0.099	0.353	0.099	0.368	0.100	0.383	0.099	0.056	119
Nynäshamn	0.402	0.055	0.412	0.051	0.415	0.052	0.430	0.056	0.441	0.053	0.039	69
Nässjö	0.330	0.097	0.348	0.095	0.373	0.097	0.394	0.099	0.409	0.095	0.078	95
Ockelbo	0.254	0.025	0.265	0.049	0.286	0.037	0.327	0.054	0.346	0.066	0.092	170
Olofström	0.505	0.044	0.515	0.041	0.535	0.038	0.553	0.036	0.575	0.033	0.070	15
Orsa	0.254	0.032	0.266	0.034	0.280	0.040	0.298	0.045	0.328	0.056	0.074	191
Orust	0.219	0.014	0.224	0.013	0.231	0.013	0.240	0.017	0.257	0.018	0.038	266
Osby	0.354	0.046	0.358	0.046	0.371	0.039	0.387	0.041	0.411	0.043	0.057	93
Oskarshamn	0.297	0.060	0.308	0.059	0.319	0.059	0.329	0.060	0.360	0.060	0.063	151
Ovanåker	0.164	0.058	0.179	0.051	0.213	0.062	0.238	0.083	0.259	0.067	0.095	264
Oxelösund	0.438	0.042	0.454	0.049	0.476	0.063	0.502	0.072	0.524	0.088	0.086	33
Pajala	0.331	0.019	0.341	0.019	0.352	0.022	0.363	0.033	0.392	0.052	0.061	112
Partille	0.392	0.048	0.398	0.048	0.403	0.047	0.412	0.049	0.419	0.044	0.027	86
Perstorp	0.479	0.025	0.493	0.026	0.502	0.033	0.513	0.035	0.544	0.039	0.065	25
Piteå	0.166	0.020	0.170	0.022	0.175	0.021	0.181	0.022	0.200	0.034	0.034	288
Ragunda	0.252	0.036	0.281	0.034	0.300	0.041	0.313	0.043	0.349	0.041	0.097	163
Robertsfors	0.221	0.045	0.228	0.036	0.245	0.042	0.259	0.036	0.272	0.035	0.051	249
Ronneby	0.308	0.089	0.321	0.104	0.342	0.115	0.373	0.124	0.399	0.126	0.091	108
Rättvik	0.185	0.012	0.190	0.016	0.193	0.018	0.207	0.027	0.230	0.038	0.045	281
Sala	0.290	0.067	0.301	0.074	0.313	0.077	0.327	0.080	0.341	0.091	0.052	174
Salem	0.425	0.027	0.437	0.029	0.450	0.032	0.464	0.032	0.475	0.031	0.051	51
Sandviken	0.326	0.116	0.340	0.131	0.358	0.138	0.379	0.148	0.398	0.151	0.072	109
Sigtuna	0.575	0.083	0.588	0.082	0.600	0.085	0.614	0.089	0.627	0.087	0.052	4
Simrishamn	0.283	0.029	0.294	0.026	0.312	0.036	0.332	0.032	0.366	0.041	0.083	141
Sjöbo	0.280	0.016	0.288	0.016	0.298	0.019	0.301	0.016	0.310	0.013	0.030	210
Skara	0.297	0.061	0.328	0.052	0.342	0.061	0.355	0.071	0.381	0.067	0.083	124
Skellefteå	0.206	0.058	0.214	0.060	0.224	0.060	0.231	0.059	0.241	0.062	0.035	276
Skinnskatteberg	0.399	0.024	0.436	0.019	0.450	0.023	0.475	0.016	0.469	0.024	0.070	52
Skurup	0.315	0.011	0.322	0.013	0.328	0.015	0.335	0.017	0.358	0.017	0.043	153
Skövde	0.347	0.101	0.355	0.105	0.364	0.104	0.372	0.106	0.381	0.107	0.034	123
Smedjebacken	0.292	0.039	0.303	0.043	0.315	0.047	0.323	0.047	0.339	0.046	0.047	176
Sollefteå	0.248	0.049	0.263	0.058	0.290	0.060	0.311	0.068	0.337	0.076	0.090	181
Sollentuna	0.495	0.080	0.500	0.077	0.512	0.077	0.519	0.073	0.528	0.070	0.034	32
Solna	0.575	0.045	0.580	0.038	0.587	0.033	0.593	0.029	0.601	0.028	0.027	9
Sorsele	0.341	0.078	0.312	0.058	0.330	0.069	0.333	0.068	0.348	0.074	0.007	166
Sotenäs	0.262	0.010	0.265	0.009	0.266	0.009	0.269	0.008	0.292	0.007	0.031	229
Staffanstorp	0.327	0.018	0.333	0.020	0.341	0.021	0.345	0.019	0.357	0.019	0.030	155
Stenungsund	0.279	0.058	0.283	0.060	0.287	0.063	0.295	0.062	0.307	0.067	0.027	217

	2012		2013		2014		2015		2016			
Municipalities	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Stockholm	0.526	0.097	0.529	0.095	0.532	0.093	0.536	0.091	0.541	0.090	0.015	27
Storfors	0.416	0.042	0.445	0.044	0.475	0.052	0.463	0.055	0.483	0.066	0.067	47
Storuman	0.184	0.024	0.204	0.022	0.216	0.030	0.230	0.025	0.245	0.023	0.062	274
Strängnäs	0.343	0.042	0.354	0.045	0.363	0.049	0.371	0.048	0.389	0.048	0.046	116
Strömstad	0.526	0.032	0.542	0.036	0.559	0.032	0.572	0.030	0.588	0.022	0.062	11
Strömsund	0.286	0.087	0.294	0.078	0.304	0.082	0.307	0.093	0.333	0.081	0.047	185
Sundbyberg	0.578	0.077	0.586	0.080	0.590	0.080	0.596	0.078	0.603	0.073	0.025	8
Sundsvall	0.270	0.082	0.279	0.088	0.288	0.090	0.293	0.087	0.303	0.085	0.033	221
Sunne	0.214	0.025	0.220	0.026	0.246	0.037	0.279	0.041	0.313	0.050	0.099	209
Surahammar	0.469	0.026	0.476	0.026	0.488	0.024	0.499	0.024	0.505	0.024	0.036	39
Svalöv	0.369	0.027	0.387	0.028	0.405	0.033	0.425	0.034	0.447	0.032	0.078	62
Svedala	0.281	0.011	0.283	0.012	0.284	0.012	0.290	0.011	0.309	0.013	0.027	213
Svenljunga	0.347	0.038	0.361	0.039	0.375	0.039	0.394	0.036	0.416	0.034	0.068	90
Säffle	0.266	0.052	0.285	0.061	0.316	0.069	0.339	0.076	0.373	0.092	0.107	134
Säter	0.206	0.043	0.217	0.040	0.216	0.041	0.226	0.041	0.228	0.036	0.023	283
Sävsjö	0.338	0.063	0.362	0.061	0.394	0.050	0.410	0.047	0.430	0.048	0.093	74
Söderhamn	0.248	0.068	0.272	0.086	0.287	0.104	0.310	0.114	0.335	0.117	0.087	184
Söderköping	0.186	0.015	0.189	0.014	0.192	0.016	0.196	0.018	0.215	0.020	0.029	287
Södertälje	0.661	0.126	0.671	0.126	0.679	0.121	0.687	0.117	0.691	0.113	0.030	2
Sölvesborg	0.311	0.022	0.315	0.023	0.332	0.023	0.345	0.026	0.363	0.026	0.051	146
Tanum	0.305	0.027	0.309	0.031	0.312	0.040	0.321	0.047	0.339	0.043	0.034	179
Tibro	0.310	0.054	0.321	0.059	0.344	0.065	0.367	0.067	0.380	0.077	0.070	126
Tidaholm	0.261	0.041	0.264	0.041	0.289	0.044	0.298	0.052	0.310	0.059	0.048	212
Tierp	0.275	0.057	0.283	0.057	0.296	0.059	0.314	0.060	0.327	0.056	0.052	192
Timrå	0.261	0.056	0.271	0.065	0.271	0.062	0.275	0.059	0.282	0.057	0.021	235
Tingsryd	0.322	0.033	0.346	0.031	0.370	0.032	0.396	0.033	0.418	0.038	0.096	88
Tjörn	0.227	0.014	0.235	0.014	0.239	0.018	0.243	0.012	0.254	0.013	0.028	268
Tomelilla	0.291	0.039	0.295	0.041	0.303	0.045	0.320	0.044	0.338	0.050	0.048	180
Torsby	0.308	0.031	0.317	0.033	0.341	0.033	0.353	0.038	0.402	0.031	0.094	104
Torsås	0.251	0.027	0.262	0.031	0.277	0.029	0.301	0.026	0.346	0.045	0.095	172
Tranemo	0.370	0.045	0.379	0.046	0.394	0.057	0.398	0.056	0.417	0.051	0.047	89
Tranås	0.287	0.054	0.303	0.057	0.321	0.053	0.339	0.059	0.361	0.065	0.073	149
Trelleborg	0.405	0.056	0.410	0.054	0.418	0.053	0.424	0.051	0.430	0.051	0.025	75
Trollhättan	0.434	0.158	0.447	0.163	0.455	0.167	0.461	0.163	0.468	0.161	0.034	53
Trosa	0.333	0.020	0.345	0.019	0.354	0.024	0.356	0.023	0.381	0.022	0.048	122
Tyresö	0.409	0.053	0.414	0.055	0.418	0.055	0.426	0.055	0.433	0.053	0.023	72
Täby	0.414	0.034	0.417	0.033	0.423	0.031	0.431	0.031	0.441	0.031	0.027	68
Töreboda	0.274	0.033	0.284	0.047	0.313	0.058	0.344	0.068	0.372	0.076	0.098	136
Uddevalla	0.344	0.108	0.353	0.113	0.363	0.114	0.373	0.118	0.391	0.126	0.047	114
Ulricehamn	0.310	0.027	0.317	0.024	0.324	0.029	0.335	0.030	0.351	0.034	0.040	159
Umeå	0.293	0.083	0.299	0.083	0.305	0.086	0.307	0.081	0.318	0.079	0.025	203

	2012		2013		2014		2015		2016			
Municipalities	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Upplands Väsby	0.571	0.046	0.583	0.048	0.588	0.046	0.600	0.047	0.615	0.046	0.043	6
Upplands-Bro	0.532	0.041	0.539	0.040	0.546	0.043	0.554	0.042	0.567	0.042	0.035	18
Uppsala	0.424	0.091	0.431	0.088	0.436	0.086	0.444	0.087	0.459	0.088	0.035	54
Uppvidinge	0.439	0.020	0.456	0.023	0.455	0.023	0.473	0.024	0.493	0.028	0.053	43
Vadstena	0.240	0.014	0.250	0.014	0.251	0.015	0.257	0.015	0.272	0.023	0.032	250
Vaggeryd	0.362	0.055	0.374	0.051	0.378	0.051	0.388	0.055	0.402	0.048	0.040	102
Valdemarsvik	0.229	0.034	0.238	0.045	0.253	0.049	0.289	0.056	0.321	0.068	0.092	200
Vallentuna	0.358	0.032	0.361	0.029	0.365	0.027	0.371	0.023	0.383	0.025	0.024	120
Vansbro	0.188	0.023	0.200	0.030	0.202	0.030	0.226	0.045	0.276	0.059	0.087	242
Vara	0.245	0.037	0.251	0.039	0.261	0.036	0.275	0.040	0.292	0.046	0.046	230
Varberg	0.277	0.053	0.285	0.051	0.288	0.050	0.295	0.049	0.304	0.047	0.027	220
Vaxholm	0.311	0.028	0.315	0.027	0.317	0.026	0.315	0.025	0.316	0.028	0.005	206
Vellinge	0.254	0.010	0.257	0.009	0.261	0.008	0.266	0.008	0.277	0.009	0.023	239
Vetlanda	0.312	0.080	0.326	0.085	0.346	0.087	0.361	0.086	0.380	0.078	0.069	125
Vilhelmina	0.203	0.111	0.214	0.134	0.234	0.139	0.243	0.129	0.248	0.136	0.045	272
Vimmerby	0.250	0.094	0.258	0.096	0.268	0.089	0.288	0.097	0.315	0.096	0.065	207
Vindeln	0.224	0.014	0.231	0.014	0.261	0.023	0.264	0.027	0.286	0.025	0.062	232
Vingåker	0.298	0.064	0.329	0.082	0.342	0.088	0.343	0.112	0.361	0.125	0.063	148
Vårgårda	0.276	0.085	0.286	0.081	0.291	0.079	0.303	0.081	0.317	0.084	0.041	205
Vänersborg	0.295	0.120	0.313	0.122	0.336	0.125	0.357	0.123	0.379	0.124	0.084	127
Vännäs	0.195	0.021	0.208	0.024	0.216	0.031	0.223	0.033	0.238	0.034	0.042	279
Värmdö	0.342	0.031	0.345	0.031	0.352	0.031	0.354	0.032	0.362	0.031	0.020	147
Värnamo	0.410	0.083	0.420	0.078	0.428	0.075	0.433	0.070	0.446	0.066	0.035	64
Västervik	0.255	0.045	0.269	0.047	0.276	0.042	0.290	0.040	0.315	0.038	0.060	208
Västerås	0.460	0.073	0.466	0.073	0.472	0.074	0.476	0.075	0.486	0.077	0.026	45
Växjö	0.384	0.128	0.394	0.127	0.402	0.125	0.407	0.122	0.418	0.119	0.034	87
Ydre	0.241	0.032	0.267	0.032	0.282	0.037	0.287	0.033	0.299	0.032	0.058	224
Ystad	0.269	0.017	0.272	0.016	0.278	0.016	0.284	0.016	0.306	0.022	0.037	219
Åmål	0.308	0.034	0.329	0.042	0.354	0.059	0.390	0.074	0.411	0.081	0.104	92
Ånge	0.213	0.032	0.222	0.039	0.230	0.040	0.239	0.043	0.259	0.038	0.046	263
Åre	0.243	0.022	0.263	0.023	0.281	0.022	0.305	0.028	0.346	0.024	0.103	171
Årjäng	0.454	0.039	0.483	0.053	0.481	0.050	0.501	0.054	0.517	0.062	0.063	36
Åsele	0.279	0.019	0.286	0.021	0.299	0.019	0.329	0.028	0.364	0.029	0.086	143
Åstorp	0.503	0.039	0.511	0.038	0.526	0.041	0.541	0.051	0.563	0.052	0.060	20
Åtvidaberg	0.190	0.025	0.198	0.025	0.215	0.031	0.229	0.036	0.240	0.036	0.050	278
Älmhult	0.412	0.078	0.421	0.082	0.441	0.079	0.468	0.076	0.497	0.085	0.085	42
Älvdalen	0.219	0.035	0.222	0.038	0.231	0.038	0.247	0.038	0.260	0.042	0.041	261
Älvkarleby	0.318	0.030	0.322	0.033	0.339	0.036	0.367	0.044	0.392	0.043	0.074	113
Älvsbyn	0.229	0.022	0.237	0.035	0.251	0.037	0.261	0.039	0.279	0.040	0.049	237
Ängelholm	0.303	0.044	0.310	0.044	0.316	0.048	0.322	0.049	0.332	0.048	0.029	186
Öckerö	0.164	0.007	0.171	0.007	0.175	0.007	0.182	0.004	0.198	0.005	0.034	289

	2012		2013		2014		2015		2016			
Municipalities	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Ödeshög	0.249	0.030	0.264	0.031	0.279	0.034	0.293	0.034	0.318	0.050	0.069	204
Örebro	0.382	0.132	0.387	0.133	0.392	0.133	0.397	0.134	0.405	0.133	0.023	99
Örkelljunga	0.395	0.038	0.402	0.037	0.414	0.040	0.427	0.046	0.450	0.034	0.055	59
Örnsköldsvik	0.214	0.062	0.218	0.062	0.226	0.066	0.242	0.076	0.258	0.079	0.045	265
Östersund	0.212	0.034	0.229	0.037	0.239	0.041	0.245	0.042	0.256	0.040	0.044	267
Österåker	0.381	0.037	0.385	0.036	0.395	0.035	0.409	0.033	0.426	0.033	0.045	82
Östhammar	0.254	0.051	0.257	0.051	0.261	0.049	0.270	0.050	0.281	0.051	0.027	236
Östra Göinge	0.296	0.019	0.328	0.024	0.358	0.028	0.399	0.034	0.432	0.042	0.136	73
Överkalix	0.259	0.031	0.271	0.032	0.283	0.042	0.306	0.057	0.308	0.048	0.049	215
Övertorneå	0.509	0.029	0.521	0.031	0.539	0.037	0.548	0.040	0.561	0.045	0.052	21

Appendix B

Diversity and segregation in the city districts of major cities 2012–2016

City districts	2012		2013		2014		2015		2016			
Stockholm city districts	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Bromma	0.410	0.039	0.415	0.039	0.417	0.037	0.422	0.035	0.429	0.034	0.020	13
Enskede-Årsta-Vantör	0.556	0.081	0.560	0.079	0.563	0.078	0.569	0.076	0.572	0.074	0.017	5
Farsta	0.531	0.037	0.533	0.036	0.537	0.036	0.536	0.036	0.542	0.036	0.011	6
Hägersten-Liljeholmen	0.446	0.017	0.445	0.015	0.447	0.015	0.453	0.015	0.460	0.018	0.014	9
Hässelby-Vällingby	0.575	0.058	0.581	0.055	0.595	0.055	0.602	0.054	0.611	0.053	0.036	4
Kungsholmen	0.414	0.009	0.421	0.009	0.429	0.009	0.439	0.010	0.444	0.010	0.030	11
Norrmalm	0.436	0.012	0.437	0.011	0.443	0.011	0.446	0.010	0.453	0.010	0.017	10
Rinkeby-Kista	0.707	0.030	0.708	0.027	0.708	0.025	0.709	0.022	0.707	0.021	0.000	2
Skarpnäck	0.498	0.048	0.501	0.049	0.500	0.049	0.502	0.048	0.502	0.046	0.004	7
Skärholmen	0.715	0.023	0.717	0.023	0.719	0.023	0.719	0.023	0.718	0.023	0.003	1
Spånga-Tensta	0.658	0.123	0.659	0.120	0.660	0.117	0.661	0.111	0.662	0.108	0.005	3
Södermalm	0.397	0.008	0.401	0.007	0.405	0.008	0.409	0.008	0.419	0.012	0.023	14
Älvsjö	0.421	0.044	0.421	0.041	0.422	0.043	0.430	0.043	0.434	0.044	0.012	12
Östermalm	0.454	0.062	0.454	0.055	0.455	0.047	0.460	0.048	0.468	0.051	0.014	8

	2012		2013		2014		2015		2016			
Göteborg city districts	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Angered	0.734	0.075	0.738	0.075	0.737	0.074	0.738	0.072	0.735	0.070	0.002	1
Askim-Frölunda	0.434	0.072	0.439	0.070	0.444	0.068	0.449	0.067	0.459	0.068	0.025	7
Centrum	0.438	0.021	0.442	0.019	0.446	0.020	0.452	0.017	0.463	0.016	0.025	6
Lundby	0.499	0.029	0.507	0.026	0.512	0.026	0.515	0.025	0.522	0.023	0.023	5
Majorna-Linné	0.373	0.007	0.382	0.007	0.391	0.008	0.394	0.008	0.402	0.007	0.029	10
Norra Hisingen	0.530	0.064	0.538	0.064	0.545	0.062	0.554	0.061	0.564	0.059	0.034	4
Västra Göteborg	0.389	0.119	0.394	0.122	0.398	0.123	0.403	0.121	0.410	0.116	0.022	8
Västra Hisingen	0.546	0.164	0.551	0.169	0.563	0.172	0.568	0.175	0.574	0.174	0.028	3
Örgryte-Härlanda	0.380	0.030	0.387	0.029	0.395	0.030	0.397	0.029	0.406	0.031	0.025	9
Östra Göteborg	0.668	0.073	0.670	0.071	0.670	0.069	0.670	0.069	0.668	0.069	0.000	2

	2012		2013		2014		2015		2016			
Malmö city districts	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Innerstaden	0.553	0.062	0.559	0.062	0.563	0.063	0.564	0.062	0.570	0.062	0.017	5
Norr	0.597	0.024	0.599	0.023	0.599	0.023	0.604	0.023	0.611	0.024	0.015	3
Söder	0.742	0.049	0.747	0.046	0.745	0.046	0.745	0.044	0.744	0.043	0.002	1
Väster	0.561	0.095	0.564	0.092	0.566	0.091	0.571	0.089	0.577	0.088	0.016	4
Öster	0.677	0.119	0.681	0.116	0.682	0.110	0.679	0.106	0.680	0.103	0.002	2

Appendix C

Diversity and segregation at national and county level

	2012		2013		2014		2015		2016			
Nationwide/County	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*	Diff. *En* 2016-12	Diversity ranking 2016
Nationwide	0.411	0.123	0.419	0.121	0.427	0.120	0.436	0.117	0.448	0.114	0.037	
Blekinge county									0.382	0.115		11
Dalarna county									0.342	0.103		15
Gävleborg county									0.341	0.115		16
Jämtland county									0.286	0.052		20
Jönköping county									0.408	0.089		8
Kalmar county									0.363	0.080		13
Kronoberg county									0.453	0.095		5
Norrbotten county									0.322	0.105		17
Region Gotland									0.218	0.033		21
Region Halland									0.361	0.084		14
Region Skåne									0.497	0.102		2
Stockholm county									0.546	0.097		1
Södermanland county									0.463	0.117		4
Uppsala county									0.422	0.090		7
Värmland county									0.364	0.086		12
Västerbotten county									0.286	0.074		19
Västernorrland county									0.303	0.079		18
Västmanland county									0.477	0.083		3
Region Västra Götaland									0.441	0.117		6
Örebro county									0.396	0.113		9
Östergötland county									0.385	0.124		10

Appendix D

Diversity and segregation in classifications of municipalities, area types and in forms of tenure

		2016	
SALAR's classification of municipalities	Code	*En*	*H*
Large cities	A1	0.561	0.098
Commuting municipalities near large cities	A2	0.480	0.099
Medium-sized towns	B3	0.441	0.122
Commuting municipalities near medium-sized towns	B4	0.379	0.081
Commuting municipalities with a low commuting rate near medium-sized towns	B5	0.385	0.098
Small towns	C6	0.343	0.096
Commuting municipalities near small towns	C7	0.397	0.082
Rural municipalities	C8	0.363	0.076
Rural municipality with a hospitality industry	C9	0.380	0.112

		2016	
SCB Area Types	Code	*En*	*H*
Outside urban area	A	0.274	0.049
In urban area	B	0.346	0.062
In the municipality's main town	C	0.485	0.106

	2016							
	Nationwide		Stockholm		Göteborg		Malmö	
Forms of tenure	*En*	*H*	*En*	*H*	*En*	*H*	*En*	*H*
Home ownership	0.324	0.061	0.411	0.054	0.371	0.067	0.518	0.058
Tenant-owner apartment	0.495	0.065	0.492	0.055	0.505	0.052	0.630	0.058
Rented apartment	0.557	0.105	0.622	0.096	0.600	0.104	0.679	0.084

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