



# Universalism lost? The magnitude and spatial pattern of residualisation in the public housing sector in Sweden 1993–2012

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## Abstract

An important feature of the Swedish housing system is universalism, meaning that housing provision should encompass broad income groups and thus not only be directed towards poor households. Considering the recent decades of marketization and liberalisation of the Swedish housing system, concerns have been raised whether universalism remains as a key feature of the Swedish housing system. The aim of this paper is to improve our understanding of processes of residualisation in Sweden. This is a process whereby the public housing sector is becoming dominated by low income households. To describe, analyse and understand processes of residualisation in Sweden and across regions, I use a novel Index of Residualisation and longitudinal register data covering the period 1993–2012. The results indicate that the rental sector as a whole is undergoing a process of residualisation, but that there are clear variations in the magnitude of residualisation across regions. The process of residualisation is most pronounced in sparsely populated regions. The relative size of the public rental sector is a key factor to consider in order to understand the diverging trends. Regions with smaller rental sectors are associated with higher levels of residualisation, indicating that public housing may have the function of social housing in these regions.

**Keywords** Residualisation · Public housing · Sweden · Index of residualisation · Types of municipalities · Universalism · Longitudinal · Register data

## 1 Introduction

The Swedish welfare state has long been characterized as the role model of Esping-Andersen's social democratic welfare state regime. An important feature of this regime type is universalism, i.e. that welfare state services should encompass broad income groups, and not only be directed towards poor households (Esping-Andersen 1990). For housing policy, universalism is achieved through municipal housing companies providing (rental) housing for all segments of the population (Bengtsson 2013). The public housing sector is also,

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through legislation, regulation and negotiation, able to influence the private rental sector, creating a comparatively large unified or integrated rental sector in Sweden, where households from all income groups are expected to be able to find a decent home (Kemeny 1995; Kemeny et al. 2005).

Scholars studying countries following a different pathway in how welfare state provides for housing, e.g. selective models where welfare services are provided only for the poor through means testing, have made us aware of a process called residualisation (Murie 1997b, 1983, 1991; Forrest and Murie 1983, [1988]2010). This is a process “whereby public housing [and other social housing] moves towards a position in which it provides only a ‘safety net’ for those who for reasons of poverty, age or infirmity cannot obtain suitable accommodation in the private sector” (Malpass and Murie 1982:174). The reason for such processes to occur are manifold and interlinked. Pearce and Vine (2014) summarize that tenure restructuring, i.e. increasing home-ownership at the expense of a shrinking rental sector, economic restructuring and retrenchment of governmental support to the housing sector are key factors that need to be taken into account to understand processes of residualisation.

Several scholars have pointed out that, due to policy changes at the national level, public housing in Sweden has lost many of its key characteristics (Andersson and Turner 2014; Grundström and Molina 2016; Holmqvist and Turner 2014; Grander 2017; Christophers 2013; Turner and Whitehead 2002). Such policy changes have for instance been reduced tax benefits, reduced subsidies and reduced housing allowances, and dissolution of tenure neutrality. Thus, during the last few decades, rents have increased and the size of the public rental sector have decreased (Turner and Whitehead 2002; Andersson and Turner 2014; Holmqvist and Turner 2014). From this background, scholars have raised the question whether universalism remains as core feature of the Swedish housing system (Grander 2017; Christophers 2013). Considering this development, it is not surprising that it have been found that residualisation is increasing in Sweden too (Andersson and Turner 2014; Grander 2017; Salonen 2015; Magnusson and Turner 2008). Andersson and Turner (2014) report that the tenants in the reduced public housing stock lag behind on indicators such as income and educational levels, and that the ethnic composition in this stock has changed as more refugee migrants are concentrated in public housing in the outer suburbs of Stockholm. Grander (2017) observe the sharp increase of secondary rental contracts, that is, contracts provided by local authorities after means-testing, and contend that this development may be a sign of increasing residualisation. Salonen (2015) point out that the public housing sector is becoming more residualised as the socio-economic mix is decreasing and the concentration of low-income households is increasing in the public housing sector. Magnusson and Turner (2008) found that vulnerable families in terms of immigrants from poor countries and families on social benefits were overrepresented in public housing and especially in the metropolitan areas and in the larger cities. The pattern was less pronounced in other cities and more rural areas.

However, previous studies on residualisation in Sweden have a few drawbacks that this paper seeks to fill. They are either limited to studying only the capital of Sweden, Stockholm (Andersson and Turner 2014), or to the use of cross-sectional data from 2002 (Magnusson and Turner 2008), or they use a description of development at two time points, 1998 and 2012 (Salonen 2015) or are limited by lack of empirical measures of residualisation (Grander 2017).

Thus, the aim of this paper is to improve our understanding of processes of residualisation in Sweden by describing, analysing and understanding the magnitude of residualisation in Sweden, across regions and over a longer period of time by applying a novel

measurement of residualisation developed by Pearce and Vine (2014). In doing this, I will make use of rich Swedish longitudinal register data covering the total population residing in Sweden between the years 1993–2012.

A useful, but not exhaustive way to capture the process of residualisation in the public or social housing sector have been to study the resources of the tenants (Forrest and Murie 1983; Lee and Murie 1997; Murie and Musterd 1996; Murie 1997b). Pearce and Vine (2014) argues that household income is particularly favourable resource to follow among tenants as it is a simple, available and well-known measure which allows for comparisons over space, time and tenure types. Following other types of resources, such as households in receipt of social benefits, might be affected by changes in eligibility to that social benefit. Thus, *my first research question* is; how have the income profile of tenants within the public housing sector developed 1993–2012? And, following this, *my second research question* is; what is the magnitude of residualisation of the public housing sector in Sweden during the same time period? Considering that the Swedish rental system has been characterized as integrated where the public and private rental sector is linked and competes over the same segment in the population, *my third research question* concerns whether also the private rental sector in Sweden is undergoing a process of residualisation? Moreover, one important aspect which is less researched is the geography of residualisation. Forrest and Murie (1983:466) noted early on that there remained “considerable room” for research that establishes where processes of residualisation are most pronounced. This research gap has to some extent been filled for the UK (Norris and Murray 2004; Lee and Murie 1997) and to some extent for Sweden (Magnusson and Turner 2008; Salonen 2015) but we lack knowledge about variation in the magnitude of residualisation of public housing over time in Sweden. Therefore, *my fourth research question* is (how) does residualisation of the public housing sector vary across municipalities in Sweden? Lastly, I will turn how we can understand the processes of residualisation in Sweden. Scholars often points to the decreasing public rental sector as a reason behind increasing residualisation, segregation, gentrification and polarization (Andersson and Turner 2014; Holmqvist and Turner 2014; Magnusson and Turner 2008; Hedin et al. 2012). Also this paper, in *my fifth and last research question*, examines whether the size of the public housing sector may help us in understanding the magnitude and scope of residualisation in Sweden?

This paper is organised as follows: the next section presents and discusses the concept of residualisation, and previous research. This is followed by a presentation on the specifics of the Swedish context. After that, data and methods are described. The presentation of the results follows the research questions presented above. The paper ends with a discussion.

## 2 Residualisation—concept and earlier research

The process of residualisation entails a changing role and function of public housing in the welfare state as a whole. Several factors are involved in this process. In previous research, a common indicator of a residualised sector is the increased concentration of low-income tenants (Hills 2007; Norris and Murray 2004; Lee and Murie 1997) often in combination with a declining size and quality of the public or social housing sector (Clapham and MacLennan 1983; Forrest and Murie 1983). Malpass (1983) discussed how residualisation can also be reflected in policy decisions such as more restrictive allocation strategies and declining investment from the government, such as reduced subsidies (Abramsson and Borgegård 1998; Grander 2017; Turner and Whitehead 2002). These modifications also

bring about a change in general perception of the housing stock and its residents. The sector becomes stigmatised and a division between “them” in the public or social housing and “us” in other tenure types is created (Forrest and Murie 1983).

## 2.1 Key findings in research on residualisation of social or public housing in Europe

Meusen and Van Kempen (1995) state that the start of the residualisation debate in the UK came with two coinciding developments. First, the dramatic tenure restructuring following the World Wars with an active government investing in social housing and thus replacing the extensive private rental sector. Second, the Conservatives planned a reduction in housing expenditure by more than 50 percent between 1979 and 1983. Moreover, the right-to-buy-scheme launched in 1980 led to a shrinking social housing sector, thus further altering the composition of households in the social housing sector. As the previously large private rental sector used to be quite mixed, the new situation led to an intense debate about the role and the future of the social rented sector. Since then, several scholars have shown the changing profile of tenants within the social housing sector, in terms of characteristics such as income, social class and labour market position (Hamnett 1984; Forrest and Murie 1983, [1988]2010; Malpass and Murie 1982; Bentham 1986; Hills 2007). It is generally acknowledged that the process of residualisation is related to changes in housing policy and government support for social housing, as well as the wider economic restructuring of the society. Another strand of literature argued for the importance of the mobility of the people, and thus the selective mobility among those entering and leaving social housing (Burrows 1999; Clarke and Monk 2011). Keenan et al. (1999) and Murie (1997a) pointed out that a high proportion of vacant dwellings, high mobility and low demand for social housing are at the same time causes of and reinforcing processes of residualisation in the same sector. Norris and Murray (2004) examined national, region and local patterns of residualisation in Ireland and Dublin, noting the increased concentration of poverty among tenants in urban areas.

For the Netherlands, Schutjens et al. (2002) found that households from the lowest income profiles were increasingly concentrated in the social rented sector and that this trend was also true for the bigger cities. Schutjens et al. (2002) found that the process of residualisation was already in full swing before dramatic housing policy changes in 1989, and thus argues that government policy does not have to be the main agent of change of household composition in the housing stock. Musterd (2014) revealed that the income polarisation between tenures is quite low, a large proportion of middle-class households still live in public housing. One reason for this pattern is that public housing in the Netherlands is quite mixed and of very good quality. Nevertheless, Musterd (2014) points out that public housing in the Netherlands is under threat of increasing residualisation and argues that neo-liberal climate in the Netherlands and Europe is pushing the social or public rental sector into a marginal position.

## 3 The Swedish context

The cornerstones of Swedish housing policy has been described as a policy field where the aims of services are universal, where the municipalities own and manage public housing, and where the private and the public rental sectors form an integrated rental market linked through a centralized rent-setting system (Bengtsson 2013). “[U]niversal

housing policy has the aim of supporting the household in its position as a market actor.” (Bengtsson 2001:264). This is generally done through tenure legislation, for instance by linking the public and the private rental sectors through a centralized rent-setting system, keeping both sectors accessible for broad income groups. Thus, there is no means-testing of public housing, but municipal housing companies are expected to be open for all types of households, and especially for those who are less able to find a suitable home in the rest of the housing market (Magnusson and Turner 2008). In the 290 Swedish municipalities, the relative size of the public housing sector differs and as has been shown, the extent to which municipal housing companies accept low-income households varies (Grander 2017; Magnusson and Turner 2008; Salonen 2015). The variation in size of the public housing sector can partly be explained by party politics, Andersson (2014) found there is a stronger public rental sector in municipalities where left-wing parties have had more influence. Thus, there is not a ‘one story fits all’ situation in Sweden; rather, the conflicting goals of being economically efficient while also catering for low-income households have different repercussions in different types of municipalities (Magnusson and Turner 2008; Salonen 2015; Turner 1997; Grander 2017).

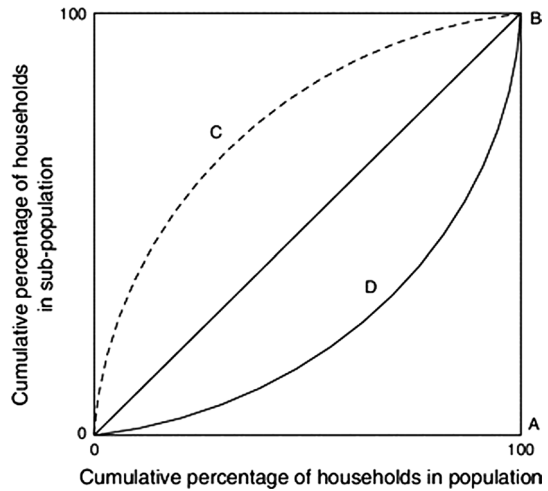
There has been an extensive body of literature emphasising the systematic shift in Sweden’s housing policy since the 1990s (Turner and Whitehead 2002; Grundström and Molina 2016; Christophers 2013). Some researchers argue that Sweden has lost many of the characteristics of the universal aim of the welfare state and has replaced the cornerstones of Swedish housing policy with *new* public housing and a ‘monstrous hybrid’ of regulations and marketisation (Grander 2017; Christophers 2013). The literature seems to agree that these measures have had effects on levels of segregation, residualisation, gentrification and increased polarisation in the larger metropolitan areas (Abramsson and Borgegård 1998; Andersson and Turner 2014; Hedin et al. 2012).

## 4 Data and methods

The data in this study derive from a collection of registers of the total population for the years 1993–2012, made available by Statistics Sweden. I employed information on disposable income from the Longitudinal Integration database for Health Insurance and Labour Market Studies (LISA in the Swedish acronym), and information on tenure from Real Estate Assessment (FTR). These registers are linked through an anonymised ID variable. The population under study in this paper was thus every individual residing in Sweden each year between 1993 and 2012. Individuals were included in the sample if they are over 18 years of age and form a household of their own. Yearly I follow about 7 million individuals and around 4 million households.

To answer my research questions, I make use of descriptive statistics to assess the magnitude of residualisation over time, within and across Sweden over the period 1993–2012. To assess the extent to which the magnitude of residualisation varies within Sweden, I carry out geographical analysis where different types of municipalities are analysed. I also carry out regression analysis techniques in order to assess the extent to which the size of the public rental housing sector may explain variation in the magnitude of residualisation across Sweden. I will describe these techniques more in detail below.

**Fig. 1** Comparison of the household incomes of a population and a sub-population. *Source:* Pearce and Vine (2014)



#### 4.1 Descriptive statistics

For describing the magnitude of residualisation in Sweden over time and across different tenure types, I use the information from three variables; the Index of Residualisation, the tenure types and disposable income. The Index of Residualisation, as coined by Pearce and Vine (2014) was used in order to assess the magnitude of residualisation in Sweden. The Index of Residualisation is a novel and innovative measurement of which bears a resemblance to the Suits Index of tax progressivity (Suits 1977), which in turn borrows characteristics from a well-established measure of inequality, the Gini coefficient. Both of these measures are derived from the well-known Lorenz Curve. The innovative part of the Index of Residualisation is the combination of features from the Gini coefficient and features from the Suits Index of tax progressivity. While the Gini coefficient measures the ratio of the area of income distribution *below* proportionality, the Suits Index of tax progressivity allows for measuring the ratio of the area where income distribution go *above* the line of proportionality. Figure 1, as presented in Pearce and Vine (2014), perhaps reveals the logic of the Index of Residualisation.

In Fig. 1 we can see the income distribution of the households in the total population and compare them with the income distribution of households within a particular tenure. For instance, we can identify the proportion of households in the total population at a specific income and compare this proportion to the proportion of households in a tenure below or above this specific income. Figure 1 shows the way of plotting these two values against each other and thus comparing the two income distributions. The straight line in Fig. 1 (B) represents when the income distribution between the total population and the income distribution in a particular tenure type is equal. The dashed curved line (C) in Fig. 1 appears when the incomes in a particular tenure type are lower compared to the incomes in the total population. The solid curved line (D) represents the opposite situation, when the incomes of households within a particular tenure type are higher than those of the total population. The Index is calculated by measuring the ratio between the area under the curve for households in a particular tenure type and the area under the straight line (given proportionality). As indicated by Fig. 1, the variables are presented as continuous. However, in practice, only discrete values of income are known. Therefore, the calculation of the Index

of Residualisation demands dividing the population incomes into bands such as deciles or percentiles. In this analysis, household income was split into population percentiles following the advice of Pearce and Vine (2014) who themselves used deciles, but states that the preferred bands are percentiles since narrower bands give a better approximation of the Index.

The following equations, adopted from Pearce and Vine (2014), were used to calculate the Index of Residualisation. First, individual disposable equivalised incomes were split into percentiles and compared to the distribution of incomes within each tenure;

$$L_s \approx \sum_{i=1}^{100} \frac{1}{2} [F_s(p_i) + F_s(p_{i-1})] (p_i - p_{i-1}) \quad (1)$$

In this equation  $F$  is the function of the curve,  $p_i$  is the proportion of individuals in the population at or below point  $p_i$  and  $F_s(p_i)$  is the proportion of individuals in each tenure  $s$  at or below point  $p_i$ .

To calculate the Index of Residualisation, we use the following:

$$R_s = \frac{L_s}{K} - 1 \quad (2)$$

In Eq. 2, The Index of Residualisation for each tenure type  $R_s$ , is calculated by dividing the information on income distribution in the total population and the income distribution of individuals within each tenure  $L_s$  by  $K$ , which is the area under or over the curve given proportionality (when the distribution of incomes is following the straight line in Fig. 1).

Tenure type was created by combining information about the owner of a property (private landlord, tenant-owned association, private ownership, public authority) with information on type of dwelling (multifamily dwelling, single family house, semi-detached house). Four tenure types was distinguished: tenant within the public rental sector, tenant renting in the private rental sector, tenant-owner (also known as co-operative) and home-ownership. Included in the home-owning sector was farms and secondary homes where households are registered as permanent residents. Dwellings owned by private foundations was excluded from the analysis (about 200,000 households per year). It should also be noted that information on tenure types as presented in Figs. 6 and 7 was based on households since it seems reasonable that people who share household also share type of tenure, while calculations of the Index of Residualisation was based on individuals. The Index of Residualisation thus follows the idea behind other well-established poverty measures that are calculated for individuals and not households.

Income was based on disposable household income which was equivalised to account for the economic burden of different kinds of household types. The equivalence scale, based on the definition of 2004 by Statistics Sweden and used in all official statistics, gives a weight of 1 to a single-person household, a weight of 1.51 to a couple, an additional factor of 0.60 for other adults, 0.52 for the first child and additional weights of 0.42 for subsequent children. It should be noted that we unfortunately lack information on household's housing costs, we are thus not able to analyse disposable income after housing costs.

## 4.2 Geographical analysis

In order to describe the magnitude of residualisation across different types of municipalities in Sweden a geographical analysis was conducted. The geographical unit under study



was an aggregation of municipalities made by the Swedish Association of Local Authorities and Regions (SKL, in the Swedish acronym) from 2011 (see Fig. 2 below). This aggregation was made by SKL to allow comparison of municipal services such as schools, social benefit services and municipal companies. Municipalities were aggregated on the basis of a number of structural factors such as population size, commuting behaviour and business structure. This aggregation is commonly used for all official statistics in Sweden where regional differences are of key interest. Out of the 290 municipalities, 10 types of regions were defined; large cities (1), municipalities near large cities (2), medium-sized towns (3), municipalities near medium-sized towns (4), commuting municipalities (5), municipalities with visitor industry (6), manufacturing municipalities (7), sparsely populated municipalities (8), municipalities in densely populated region (9), municipalities in sparsely populated regions (10).

### 4.3 Regression analysis

Regression analyses was performed to examine how the size of public housing affects the extent of residualisation, measured by the Index of Residualisation. The dependent and independent variables were measured for municipality types, with one observation per year and municipality type. This gives us 200 observations, as we have 10 types of municipalities and 20 years. This implies a panel data structure allowing the use of one and two-way fixed effects in order to assess the role of public housing, adjusting for other characteristics that do not vary across municipality types and/or over time. Magnusson and Turner (2008) argued that immigrants from poor countries and households receiving social benefits are in the most unfavourable position on the housing market. Thus, these factors may be important determinants of residualisation and were taken into account as covariates in the model as the proportion of visible minorities and proportion of individuals receiving social benefits across types of municipalities.

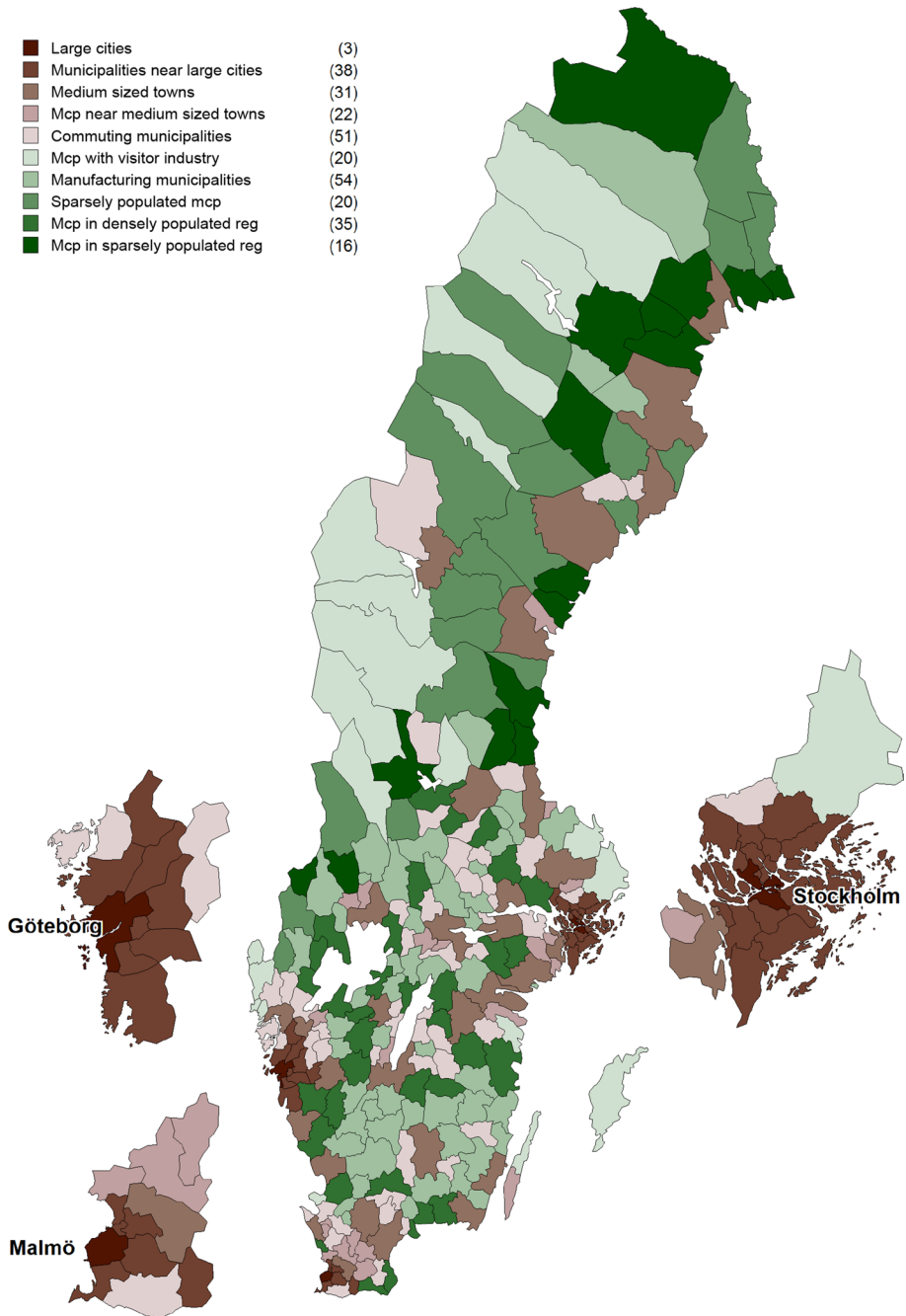
## 5 Results

### 5.1 How have the income profile of tenants within the public housing sector developed 1993–2012?

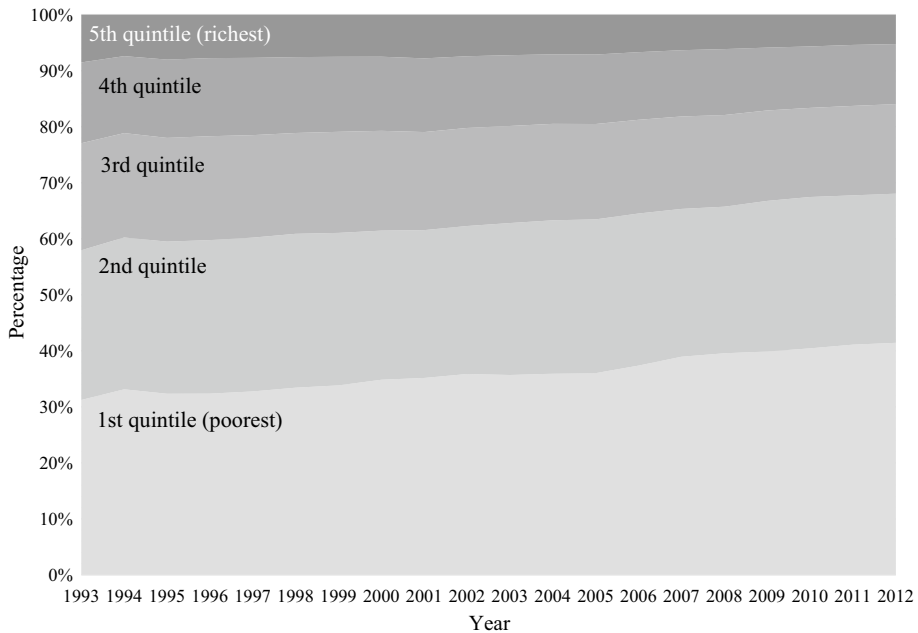
As Fig. 3 shows, in 1993, just above 30 percent of the households within the public housing sector belonged to the first income quintile. In 2012, the proportion of low income households in this quintile had increased to 40%. Conversely, in 1993, eight percent of the public housing tenants belonged to the richest fifth of the population, while in 2012, five percent of the public housing tenants were in the same quintile. There was thus an increasing trend towards concentration of poor households in the public rental sector. A majority of the tenants in the public housing sector are drawn from the first two income quintiles. Over time, Fig. 3 indicates a rapid increase in low-income households in the public rental sector since the 2000s, while the years from 1993 up to 2000 indicate an increase of low-income households, at a slower pace.

At this point, the increasing proportion of low income households in the public rental sector may indicate that the sector is undergoing residualisation. As previous research has indicated, this pattern can be a result of selective residential mobility (Burrows 1999; Clarke and Monk 2011). Bråmă and Andersson (2010) conducted a study on who, in terms





**Fig. 2** Map over classification of municipalities, by the Swedish Association of Local Authorities and Regions (SKL, by Swedish acronym) 2011. Mcp=municipality. *Source:* Statistics Sweden

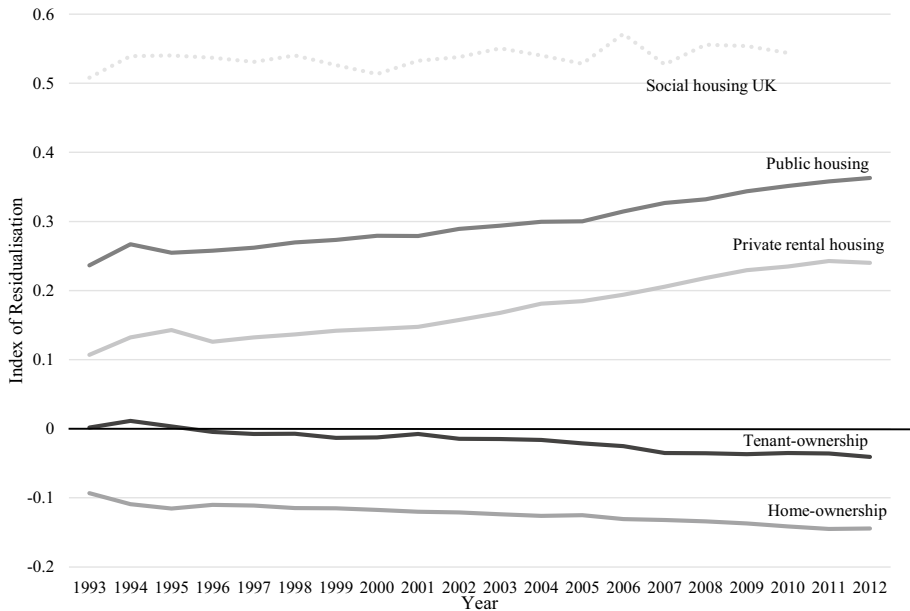


**Fig. 3** Income profile of public housing tenants 1993–2012. Please note that income quintiles are shown for reasons of readability, calculations on Index of Residualisation is based on percentiles. *Source:* GEOSTAR

of ethnic origin and socio-economic position, left public and private rental housing to enter home-ownership or tenant-ownership in Uppsala, Sweden's fourth largest city. Their results indicated that households with more resources were more likely to leave the rental sector, but these factors could not fully explain why immigrant groups had a lower likelihood of leaving the rental sector. It is beyond the scope of this article to analyse the profile of those entering and exiting the public rental sector, but it should be noted that selective mobility may be an important factor explaining the pattern in Fig. 3.

## 5.2 What is the magnitude of residualisation of the public housing sector in Sweden 1993–2012?

The Index of Residualisation shown in Fig. 4 below, compares the incomes of the population in the different tenures, to the income of those in the total population. An Index value of zero indicates that the distribution of income among individuals in the different tenure types is equal to the income distribution of the individuals in the total population. Values above zero indicate that there is a concentration of low-income individuals in this tenure, while values below zero tell us there is an overrepresentation of higher income individuals in this tenure. From Fig. 4 we can see that residualisation is occurring in the public and private rental sector, while owner-occupiers are mostly drawn from the higher income percentiles. The residents within the tenant-owned sector seem to be quite mixed, with an income distribution which resembles the total population, but with a tendency towards higher incomes in the later years. A rapid increase in residualisation in both the public and the private rental sector starts a few years



**Fig. 4** Index of Residualisation by Tenure 1993–2012. *Source:* GEOSTAR

into the new millennium. The private rental sector reaches an Index of Residualisation value above 0.20 and the public rental sector reaches an Index value over 0.30.

Added to Fig. 4 is the magnitude of residualisation of social housing in the UK, which helps us to ascertain the magnitude of residualisation of public housing in Sweden. When the Index of Residualisation of social housing in the UK fluctuated around 0.20 in the 1970s, Pearce and Vine (2014) described this sector as being fairly mixed. Thus, up until the early 2000s, the public housing sector in Sweden can be described as fairly mixed, but is now showing a tendency towards increased residualisation.

### 5.3 Is also the private rental sector is undergoing a process of residualisation in Sweden?

Figure 4 also indicate the magnitude of residualisation in the private rental sector. From Fig. 4 we can see that the private rental sector is following the public housing sector in terms of residualisation, although constantly at a lower level. The fact that the private rental sector is following the public rental sector might indicate that the legislation intended to create an integrated rental sector where the public and the private rental sector competes of the same households is effective. For example, during the period studied, the rent setting in the private rental sector is influenced by the rent levels in the public rental sector. Moreover, it is common that private landlords has an agreement with the municipal housing exchange service, thus allocating for example 50% of available apartments to the municipal housing queue.



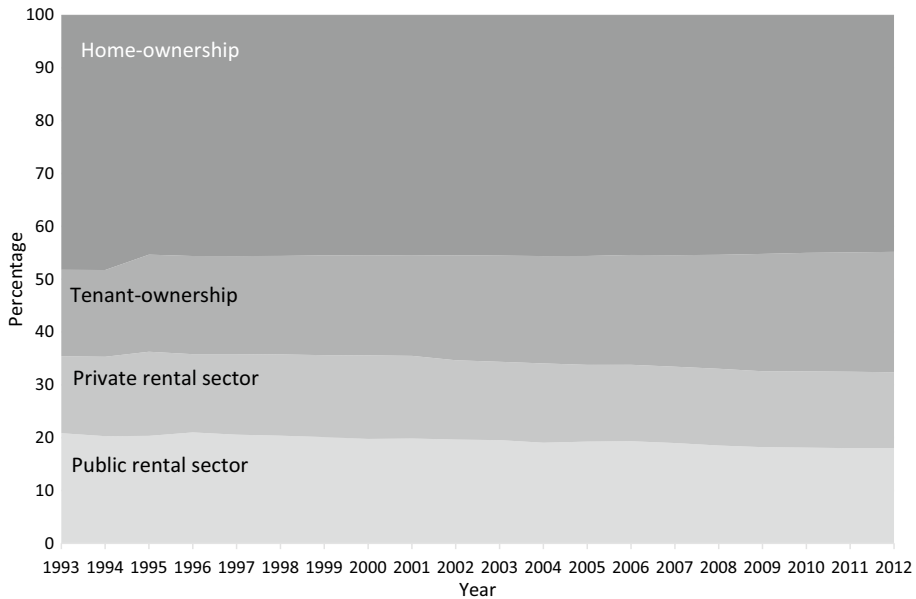
**Fig. 5** Index of Residualisation in public housing across types of municipalities. Please note that the y-axis starts at 0.15. The legend shows the order of municipality types as they appear in the graph. Mcp = municipality. Source: GEOSTAR

#### 5.4 (How) does residualisation of the public housing sector vary across municipalities in Sweden?

Municipalities in Sweden are facing different economic, social and demographic situations. The Index of Residualisation has the advantage of making comparisons between municipality types possible; therefore, the Index of Residualisation across municipality types is shown in Fig. 5.

Figure 5 clearly shows the variation in the extent of residualisation on public housing across the different types of municipalities. The highest levels of residualisation of the public rental sector are found in sparsely populated municipalities. Public housing sectors in large cities and municipalities near large cities are quite mixed, with low levels of residualisation, but these regions have also shown a stark increase in residualisation in the most recent years. Interestingly, Magnusson and Turner (2008:286) found the opposite pattern: “A common and well-known perspective emerged: vulnerable groups are generally over-represented in public housing and especially in the metropolitan cities and in the larger cities. In other cities and in rural areas, this pattern is less pronounced.” This interpretation is probably based on data on the risk of being vulnerable among public housing tenants that have not been adjusted for differing risk of being vulnerable across municipalities (see Magnusson and Turner 2008, Figs. 3–9). When these differing risks of vulnerability across municipalities are controlled for, as Magnusson and Turner (2008) do in their regression analysis using the Index of Responsibility, they get the same results as here.

Over time, there seems to be a common trend towards increasing residualisation from the early years of the 2000s and onwards. The pattern of residualisation before 1990 is



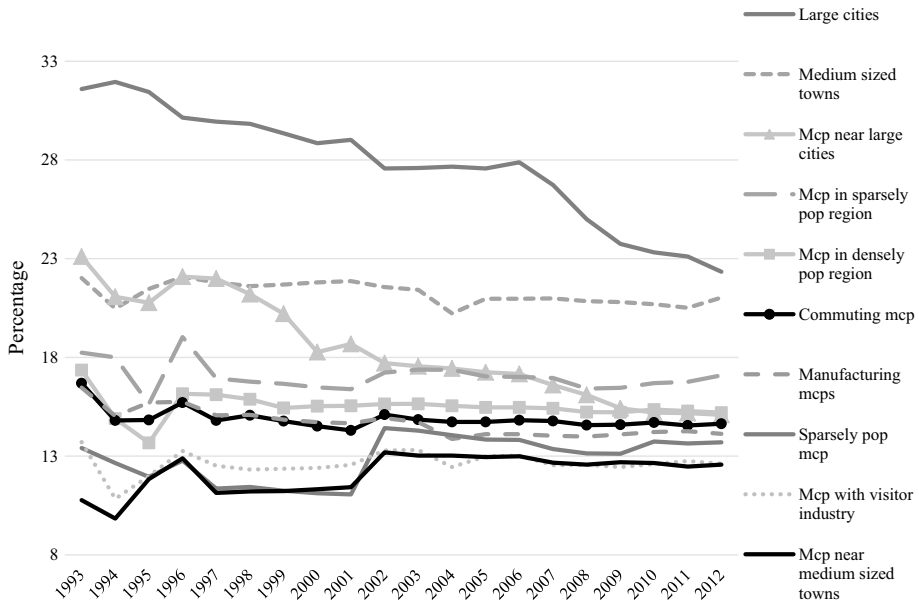
**Fig. 6** Percentage of households in home-ownership, in tenant-ownership, in private rental sector and in public rental sector in Sweden 1993–2012. *Source:* GEOSTAR

more diverse across municipalities. Municipalities in sparsely and densely populated regions with the second and third highest levels of residualisation follow a similar path over the years studied. Four types of municipalities followed each other quite closely over the period; manufacturing municipalities, municipals with visitor industry, commuting municipalities and medium-sized towns. They all fluctuated around an Index value of 0.30 up until 2005, after which they all increased more rapidly. Municipalities near medium-sized towns seemed to follow the national average quite well over the years.

### 5.5 Can the size of the public housing sector help us in understanding the magnitude of residualisation in Sweden?

Residualisation is often discussed in conjunction with a shrinking public/social housing sector (Forrest and Murie 1983, [1988]2010; Lee and Murie 1997; Murie and Musterd 1996; Murie 1997a, b; Andersson and Turner 2014). When the public rental sector is shrinking, one can assume that more well-off households choose to move to either home-ownership or tenant-ownership, and thus the less well-off tenants are left in the public housing sector, which thus becomes residual. Figure 6 below shows the percentage of households in the four different tenure types in Sweden.

From Fig. 6 we can see that the percentage of households within the home-owning sector and the private rental sector was quite stable over the years studied. It is in the percentage of households within the tenant-owned and the public rental sector where most changes took place. The percentage of households within the public rental sector decreased from 21% in 1993 to 18% in 2012. At the same time, the percentage of households in the tenant-owning sector increased from 16 to 23% between 1993 and 2012. However, we



**Fig. 7** Percentage of households in public rental housing across types of municipalities. Please note that the y-axis goes from 8–33% for reasons of readability. The legend shows the order of municipality types as they appear in the graph. *Source:* GEOSTAR

should note that these trends at the national level obscures changes at a regional level. Thus Fig. 7 shows variation in size of the public rental sector across different municipality types.

The most salient trend in Fig. 7 is the decrease in the percentage of households in the public rental sector in the cities of Stockholm, Gothenburg and Malmö (Large cities). Municipalities near the larger cities also show a significant decline in percentage of households living in public housing. Medium-sized towns, with levels close to the national average of households in the public rental sector, are quite stable over the time period studied. There is a cluster of municipality types where the percentage of households within the public rental sector fluctuates around 15% and shows a rather stable trend. Municipalities in sparsely populated regions, municipalities in densely populated regions, commuting municipalities and manufacturing municipalities are the municipalities where the percentage of households in public rental are slightly shrinking, but there is not such a salient decrease as seen in other types of municipalities. In the municipality types with the lowest levels of households within the public rental sector; municipalities with a visitor industry, sparsely populated municipalities and municipalities near medium-sized towns, show an increase in the percentage of households in the public rental sector. Thus, there are clear variations in the extent of the public rental sector in Sweden. In the general debate, the most striking development is the decreasing rental sector in large cities, but, as Salonen (2015) notes “...[w]e should be careful with general judgements about where public housing is heading and pay more attention to diverging trends on a local level” (Salonen 2015:145, my translation).

It has previously been found that the relative size of the public housing sector is an important factor to explain the variation in residualisation across Sweden (Magnusson and Turner 2008). Magnusson and Turner (2008) calculated an Index of Responsibility to

**Table 1** One and two way fixed effect regression analysis on Index of Residualisation across types of municipalities 1993–2012

	Model 1	Model 2	Model 3	Model 4
Constant	0.453*** (31.68)	0.585*** (13.12)	0.295*** (13.94)	0.075 (1.59)
Share public housing	−0.754*** (−9.16)	−1.201*** (−7.56)	−0.304*** (−4.33)	−0.267* (−2.58)
<i>Municipality (mcp) type</i>				
Large cities		Ref	Ref	Ref
Mcp near large cities		−0.147*** (−8.31)	−0.063*** (−8.42)	0.022 (1.24)
Medium sized towns		−0.004 (−0.33)	0.053*** (9.01)	0.134*** (7.82)
Mcp near medium sized towns		−0.126*** (−4.71)	0.014 (1.24)	0.149*** (4.82)
Commuting mcp		−0.074** (−3.28)	0.041*** (4.20)	0.169*** (6.01)
Mcp with visitor industry		−0.097*** (−3.75)	0.038*** (3.39)	0.176*** (5.60)
Manufacturing mcps		−0.066** (−2.89)	0.050*** (5.12)	0.179*** (6.32)
Sparsely pop mcp		0.000 (0.00)	0.133*** (11.99)	0.268*** (8.58)
Mcp in densely pop region		−0.034 (−1.56)	0.075*** (8.05)	0.196*** (7.29)
Mcp in sparsely pop region		−0.024 (−1.23)	0.071*** (8.53)	0.201*** (7.27)
Year fixed-effects	No	No	Yes	Yes
Share visible minorities				1.068*** (4.77)
Share receiving social benefits				1.322*** (5.19)
R-squared/Adj. R-squared	0.30/0.29	0.79/0.78	0.97/0.96	0.98/0.97
N	200	200	200	200

t Statistics in parentheses. \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

denote the level of residualisation of public housing in Sweden, with immigrants from poor countries and families living on social benefits taken as indicators of responsibility. They tested a hypothesis asserting that the smaller the public housing sector, the larger the representation of vulnerable families. Representation here denotes the prevalence of vulnerable families, taking the existing general concentration of vulnerable groups in a municipality into account. Following regression analysis at the municipal level, they were able to confirm this hypothesis; a small public housing sector tends to co-vary with an increasing representation of vulnerable families within the municipal housing stock (Magnusson and Turner 2008).

To re-explore this hypothesis, a regression analysis was performed to examine how the size of public housing affects the extent of residualisation, measured by the Index of Residualisation. Results from these analyses are shown in Table 1 below.

In Models 1–4, the coefficient for public housing is consistently negative and significant, in line with previous research (Magnusson and Turner 2008). This implies that larger



public housing sectors are associated with lower levels of residualisation. In Model 2, the heterogeneity across municipalities is accounted for, and the coefficient for size of the public housing sector is larger. In Model 3, time-fixed effects were included and a Wald test<sup>1</sup> was performed to assess whether the year dummies were equal to zero. If they were not, then time-effects were needed. This test showed that  $\text{Prob} > F = 0.0000$ , and we therefore accepted the null hypothesis and used time-fixed effects in the subsequent model.

Model 4 adds the covariates proportion of visible minorities and proportion of individuals receiving social benefits. Both of these factors are important as they are positively associated with the Index of Residualisation, indicating that the higher the prevalence of visible minorities and individuals receiving social benefit, the higher the levels of residualisation. It should be noted that size of public housing is highly correlated to both the proportion of visible minorities ( $r=0.7$ ) and the proportion of households receiving social benefits ( $r=0.6$ ). Thus, Model 4 might show a case of multicollinearity.

In sum, the role of the size of public housing is important—the larger the public housing sector, the less residualisation exists. Examining the pattern across types of municipalities, it seems that moving from urban to more rural types of municipalities, the level of residualisation increases, confirming the pattern in Fig. 5. Thus, when taking the overall level of low-income households into account, which is done in the Index of Residualisation as well as the Index of Responsibility in Magnusson and Turner (2008), a key factor for understanding the geography of residualisation is the relative size of the public housing sector.

## 6 Discussion

The aim of this paper was to improve our understanding of processes of residualisation within and across Sweden 1993–2012, a period where “[D]eregulation and liberalization have fundamentally changed the special features on the Swedish housing market” (Holmqvist and Turner 2014:237). Grander (2017:349) argues that the universal character of the Swedish housing model is being replaced by an “ambiguous model of universal discourse, but with selective output”. Indeed, as has been shown in this paper, the situation is diverse across Swedish regions. The high levels of residualisation of public housing in sparsely populated regions are particularly notable. Previous studies have reported on the overrepresentation of vulnerable families in the public housing sector in the metropolitan areas and larger cities (Magnusson and Turner 2008; Andersson and Turner 2014). This study adds to the literature by pointing to the unfavourable situation in rural parts of Sweden. Moreover, regression analyses revealed the enduring importance of the size of the public housing sector for the magnitude of residualisation. Municipalities with smaller public housing sectors tend to be more residualised and tend to have a large proportion of households facing difficulties on the local housing market.

Several explanations to these regional patterns can be discussed. The role of employment possibilities in more sparsely populated regions should not be understated. Borg and Brandén (2018) found that regions with high home-ownership (accompanied by small rental sectors) in the sparsely populated areas tend to have small labour markets where firms and workers are poorly matched. Another explanation raised by Magnusson and Turner (2008) is the role of politics, where liberal- and conservative-run municipalities

<sup>1</sup> Using the command `testparm _Iyear*` in Stata.

tend to use public housing companies more as social housing companies. Grander (2017) offers a convincing argument to why residualisation is lower in the larger cities; municipal housing companies in strong housing markets such as those in the larger cities have imposed financial thresholds for tenants to become eligible for a rental contract. Thus, these policies may dampen residualisation. There could also be a demographic pattern where the ageing population in more sparsely populated types of municipalities are over-represented within the public housing sector.

This paper started with the question “Universalism lost?” Public housing in Sweden is currently at a cross-road where municipal housing companies have to adapt to competitive market principles (Grander 2017; Bengtsson 2015). The repercussions of these changes are now unfolding, in Sweden and in countries with a similar system (Grander 2017; Elsinga and Lind 2013). The geographical pattern of residualisation in Sweden shown in this paper reveals a tension between the universal aims of housing policy at the national level, while highly autonomous and diverse municipals housing companies have the main responsibility in implementing universal aims. What we see may thus be the effect of what has been called “decentralized universalism” (Bureau and Kröger 2004). Pearce and Vine (2014) mention a few drawbacks by tracing processes of residualisation using the Index of Residualisation that should be discussed also in the Swedish context. One such important aspect is the role of housing costs. In Sweden, renters are often found to devote a higher share of their disposable income on housing than owners, but not because of higher housing costs, but rather that renters’ disposable income are lower (Statistics Sweden 2014). Thus, a fuller understanding of processes of residualisation may be achieved with availability of data on household’s wealth and resources. In relation to wealth and resources of the households, it should be noted that the increasing income inequality cannot be reflected in the Index of Residualisation. This is particularly severe as Sweden is one of the countries where income inequality have increased the most during the last decades (OECD 2011).

Thus, the Index of Residualisation captures a process where we can see diverging income distributions of households in different types of tenures. The Index reveals interesting patterns, but it is important to understand that processes of residualisation is far more complex than so. To understand the process of residualisation we need to understand changes to housing policy and at the same time recognise the role of wider social and economic processes. During the 20 years covered in this paper, the Swedish housing system has undergone retrenchment. Reduced tax benefits, reduced subsidies and reduced housing allowances, and dissolution of tenure neutrality are some of the key changes to the Swedish housing policy during recent decades (Turner and Whitehead 2002; Holmqvist and Turner 2014; Christophers 2013; Grander 2017). At the same time, various measures such as the abolition of real estate tax, the introduction of subsidies for maintenance and renovation work, credit guarantees to first time buyers, and banks offering generous lending conditions and low interest rates have made private ownership more attractive and accessible to broader income groups. As the rental sector as a whole seems to be undergoing processes of residualisation, it might be the case that well-off households have turned to private ownership. Thus, inspired by analyses from Gurney (1999), Flint (2003) and Smith (2015) who studied the normalisation of home-ownership in the UK, this development might be occurring in Sweden too. In this process, the home-owners are given the identity of responsible, active, moral and rational consumers (Flint 2003) while tenants are conceptualised as a stigmatised out-group and non-rational consumers (Gurney 1999; Andersson 2007). However, one important aspect of public housing in Sweden is the lack of means-testing, a procedure known to be stigmatising to the recipient (Stuber and Schlesinger 2006; Titmuss and Seldon 1968). Thus, legislation which supports the household being an actor in

a housing market like Sweden's has an integrative function, which is not damaging to the recipient. Nevertheless, the process of residualisation itself could be a starting point for prejudices, which in turn reinforces the residualisation processes of public housing, even more so where the process of residualisation is most pronounced and the public housing sector is small.

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