

Rent control and potential underutilization of housing resources

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Abstract

Purpose – Rent control may lead to inefficient use of subsidized apartments. This paper aims to empirically investigate if this phenomenon exists under the Swedish rent control regime.

Design/methodology/approach – The quantitative part of the study uses data from Statistics Sweden to calculate, for all municipalities in Sweden, the fraction of residential rental units where no one is living permanently. The qualitative part augments the quantitative results with a survey where representatives for 14 municipal and four private property companies in small, mid-sized and large municipalities were interviewed.

Findings – This paper finds that a surprisingly large fraction of the rental housing stock, about 9.4% on a national level, is underused in the way that rent is paid but no one is living permanently in the apartment according to the official Swedish population register. The underutilization rate is negatively correlated to the median rent in a municipality.

Research limitations/implications – The study is limited to Swedish data. This paper does not explore the potential effects of regional economic and demographic conditions on the measure of underutilization.

Practical implications – A policy implication of the present results is that underutilization of the Swedish rental housing stock can be reduced by limiting the supply of rent-controlled housing to households that are in economic or social need.

Originality/value – Numerous papers have analysed various aspects of rent control. However, few papers have empirically analysed how a general rent control system where all tenants, irrespective of economic or social need, have access to rent controlled apartments may contribute to housing inefficiencies. This research contributes to the empirical literature on rent control by analysing the relationship between non-targeted housing subsidies and underutilization of housing units.

Keywords Sweden, Housing policy, Inefficiency, Rent control, Rental housing, Subsidized housing

Paper type Research paper

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1. Introduction

Rent control is, since long, widely analysed in the academic literature as well as in the public debate. Numerous papers arrive at the conclusion that rent control seriously damages markets and social welfare. In an often-cited article, [Alston *et al.* \(1992\)](#) report a strong consensus among economists that rent control reduces the quantity and quality of housing available. Still, many different rent control regimes prosper all over the world.

The problems related to rent control are plentiful and diverse. For an extensive overview, see [Turner and Malpezzi \(2003\)](#). Certain problems are repeatedly reported. In a Swedish classic housing supply analysis by [Bentzel *et al.* \(1963\)](#), the main shortcoming of the then prevailing rent control regime (still remnant of a wartime first-generation control) was found to be the undersupply of rental housing. This conclusion is very much in line with [Dixit \(1991\)](#), who shows, in a model of irreversible investment in a competitive industry, that a price ceiling reduces investment. [Downs \(1988\)](#) reports under-maintenance in rental properties because of rent control.

Later analyses have addressed more indirect, and in some cases less obvious, negative consequences of rent control. These include the effect on homelessness ([Early and Olsen, 1998](#)), the effect on unemployment ([Svarer *et al.*, 2005](#)), and negative spillover to neighbouring housing ([Sims, 2007](#)). [Glaeser and Luttmer \(2003\)](#) found that housing is inefficiently distributed under rent control, relative to housing preferences. They concluded that the welfare cost of misallocation may even be greater than the cost of undersupply. Rent control limits renters' mobility and reduces the number of rental housing units as landlords redevelop properties and sell them to owner-occupants ([Diamond *et al.*, 2019](#)). Households' mobility under rent control is found to be negatively related to the attractiveness of their residential location and positively related to the level of the controlled rent ([Karpestam, 2023](#)).

It is important, however, to recognize that many results concerning the effect of rent control have been questioned. An often-raised argument is that most economic analyses build on models of rent control that disregard many of the complicated aspects of the regulation. For one such example, see [Albon and Stafford \(1990\)](#). Contrary to other findings, [Olsen \(1972\)](#) concludes that rent control that creates a ceiling on rent below market-clearing rent may lead to underconsumption of housing.

In a recent paper, [Gandhi *et al.* \(2022\)](#) investigate the rental housing market in India and find that housing resources are inefficiently used under rent control. The market suffers from the simultaneous presence of high housing costs and high vacancy rates. They conclude that the inefficiency is a consequence of weak property rights and strong tenant protection regulations. Thus, a reformation of rent control and strong tenant protection could reduce India's housing shortage substantially. We have not found any other study that addresses the potential underutilization consequences of rent control.

In this paper, we also investigate whether a market under rent control suffers from a systematic underutilization of the housing stock. The study is applied to the Swedish rental market. The institutional conditions are quite different from those in India, and the methodological approach we use is different. Still, our conclusions point in the same direction.

We count the number of rental apartments and how they are distributed among different household sizes. We find that in a large fraction of the housing stock under rent control (about 9.4% on a national level), no person is living permanently according to the official Swedish population register. We consider this observation an indication of inefficient use of the rental stock. By comparing the fraction of rental units where no one is officially registered with vacancy data from Statistics Sweden, we find that this form of underutilization is mainly not

because of economic vacancies. That is, in the majority of the underutilized apartments, a lease exists and rental payments are made. We also discuss potential types of rationale for holding a rent-controlled rental apartment where one is not registered.

A limitation of the study is that we do not explore the potential effects of regional economic and demographic conditions on our measure of underutilization. Furthermore, we do not analyse possible relationships between high underutilization rates and other well documented negative effects of rent control.

2. The market under study

Rent control comes in different shapes. Several attempts to overview and classify rent control regimes exist in the literature. Following [Arnott \(1995, 2003\)](#), rent control is quite often referred to as belonging to one of three categories: the first, second and third generation. [Kettunen and Ruonavaara \(2021\)](#) categorize the Swedish dominating rent-setting regime as belonging to the second generation, i.e. a set of regulations governing rent and rent increases, but control is “soft” and allows certain reasonable rent changes over time and a reasonable rate of return to the property owner. Furthermore, rent control also applies to new tenancies, in contrast to what characterizes third generation regimes where rent is controlled within but not between tenancies.

Still, within the family of second generation rent control regimes, there is considerable variation with respect to legal and organizational details, as shown in [Lind \(2001\)](#), where an alternative approach to classifying rent control regimes with a more elaborate set of characteristics is found. A few important features of the Swedish model may be illustrated by emphasizing some of the consequences often raised as major market problems in the domestic housing debate.

The Swedish housing market in general and the controlled rental sub-market in particular are markets characterized by the insider-outsider problem. A tenant is protected from termination of the rental contract after leasing the premises for at least nine months. That is, after nine months, the tenant has the right to stay indefinitely in the leased premises. This is the case even if the building is vacated for major redevelopment. The tenant always has the right to move back again after completing renovation. The problem here is that tenant protection in combination with a rent below market rent reduces turnover rates, making it difficult for outsiders to enter the rental market.

The transformation of multi-family rental houses to cooperatives is quite common. The property owner can capitalize on part of the difference in market value between a property under rent control and the value of the property as an unregulated cooperative. The price in such transactions normally ends up somewhere between the value of the property, assuming indefinite rent control and the total market value of the apartments in a cooperative. As a result, many multi-family rental properties are converted into cooperatives, and the rental housing segment is gradually decreasing.

The Building and Planning Act is a strong tool for the local municipalities to determine what may be built and where. However, when they allow construction of multi-family housing, they cannot determine whether the property should be a rental property and thus subject to rent control or a cooperative, i.e. where apartments are subject to free-market prices. As a result, developers are generally more interested in producing cooperatives. To meet the potential problem of too little new construction of rental apartments, a modification of the Rent Act made it possible, from 2006, to set higher rents than what would be possible within the rent control during an initial period of 15 years. Even though this parallel rent-setting regime only affects a small fraction of the stock, it contributes to some confusion in the market among potential tenants and developers.

Depending on one's academic and/or ideological point of departure, it is possible to arrive at quite different conclusions regarding the potential problems related to rent control. There is some controversy about whether the rental market should at all be considered controlled. See, for example, [Bengtsson \(2022\)](#), who stresses that the Swedish rent setting should be described as determined by negotiations between the established organizations in the market (the tenant association and two property-owner associations) rather than determined by control.

3. Study design

We applied the following study design. By combining data from the official population register, including information on each individual's permanent address, with housing data, including information on the size of each housing unit, we were able to produce statistics on the total number of housing units for each group of household size. This was done for each type of housing tenure (owner-occupied single-family, cooperative multi-family and rental multi-family) for each of the 290 municipalities in Sweden over the period 2012–2023.

The focus of the study is housing units that are underused or not at all used. As a measure of underutilization of the housing stock, we use the fraction of the total number of housing units in the stock on a municipal level and for each housing type, for which no households are registered. These housing units accounted for 6.32% of the total housing stock in Sweden in 2023 (which corresponds to 311,533 housing units). There is regional variation in the data and an overall tendency towards a modest decrease of underutilization over the period under study.

The most natural explanation for the underutilization of rental apartments is low demand. We, therefore, compare the number of underused apartments with the statistics on vacancy rates on a municipal level obtained from Statistics Sweden.

Another indicator of demand for rental housing is the length of the official queue for apartments. However, we only have access to such data for Greater Stockholm, where the number of people in the queue exceeded 820,000 (December 2023). We interpret this as an indicator that the rental housing stock in Stockholm is not underused because of low demand.

4. Data

We use data from three of the basic records on the Swedish population and the stock of housing:

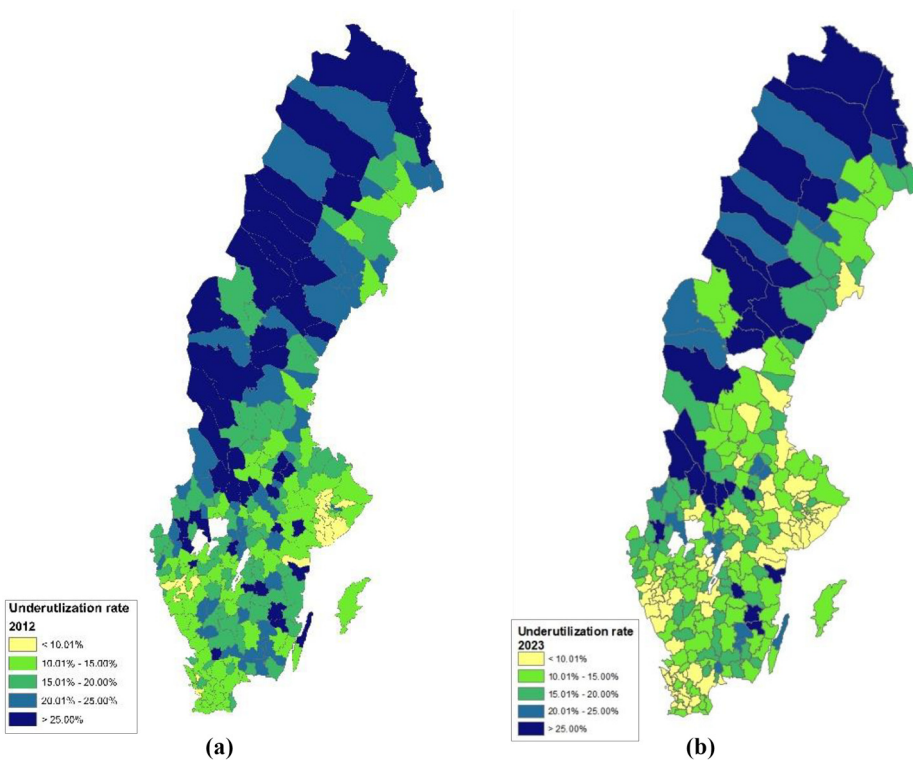
- (1) The Swedish tax authority keeps a record of all households in Sweden and where they live.
- (2) The property assessment register has assessment information for all properties in Sweden, including all single-family owner-occupied properties. Register data are available for more than 50 years back in time.
- (3) The apartment register keeps records of all rental and cooperative apartments. The records exist since 2012.

We do not have direct access to these registers, but through Statistics Sweden it has been possible to combine data from the registers. We use each individual's official permanent address in combination with the corresponding housing data to produce statistics on the number of housing units for each household size. This was done for each type of housing (owner-occupied single-family, cooperative multi-family and rental multi-family) for each of the 290 municipalities of the country over the period 2012–2023.

To verify that our results concerning underutilization do not simply reflect vacancies in the normal meaning, i.e. apartments for which the property owner does not receive rental income, we compare our measure of underutilization with statistics on vacancy rates. We have obtained such statistics from Statistics Sweden. The vacancy statistics are, however, only available for five different categories: Greater Stockholm (26 municipalities), Greater Göteborg (13 municipalities), Greater Malmö (12 municipalities) and remaining municipalities with a population greater than 75,000 and municipalities with a population smaller than 75,000. We, therefore, do the comparison of underutilization and vacancy rates for these categories.

5. Results

Figure 1(a and b), shows the geographical representation of underutilization rates in the rental housing segment for all 290 municipalities in Sweden for the years 2012 and 2023. Underutilization is defined as the ratio of rental units where no one lives permanently



Note: Underutilization rate is, for each municipality, calculated as the ratio of rental units where no one is registered to the total stock of rental units

Source: Authors elaboration on original data from Statistics Sweden

Figure 1. Underutilization rates for rental units in all Swedish municipalities for the years 2012 (a) and 2023 (b)

according to the official population register to the total stock of rental units in each municipality. From a visual inspection, it can be seen that the underutilization rates have somewhat diminished between 2012 and 2023. The average rate went down from 13.5% in 2012 to 10.2% in 2023. [Appendix 1](#) provides a more detailed picture of the dispersion of underutilization rates for all municipalities.

The highest degree of underutilization is concentrated in the northern part of Sweden, with the exception of some of the municipalities bordering the Baltic Sea and parts of mid-west and southeast Sweden. The least amount of underutilization is found in densely populated areas around and including the regions of Greater Stockholm, Greater Göteborg, and Greater Malmö. As seen in [Table 1](#), in 2023, the underutilization rates for rental units were around 6%–7% in those regions. In municipalities with more than 75,000 inhabitants, excluding Greater Stockholm, Greater Göteborg, and Greater Malmö, the rate was 9.9%, and in municipalities with less than 75,000 inhabitants, the rate was 14.4%.

It appears to be a negative correlation between underutilization and the size of the municipalities. Knowing that the controlled rent level varies regionally, reflecting variation in demand, we analyse whether the rate of underutilization can be explained by the median rent level in the respective municipalities.

[Figure 2](#) displays the median rent level in all municipalities in 2023. Median rents are highest in the regions of Greater Stockholm, Greater Göteborg and Greater Malmö (where underutilization is lowest) and lowest in northern and mid-west Sweden as well as in parts of southern Sweden (where underutilization is highest). A comparison between underutilization rates in [Figure 1\(b\)](#) and rent levels in [Figure 2](#) indicates a quite strong common pattern. Apparently, higher rents in larger cities, reflecting higher demand, reduce the incentive to rent an apartment without using it as one’s own permanent home.

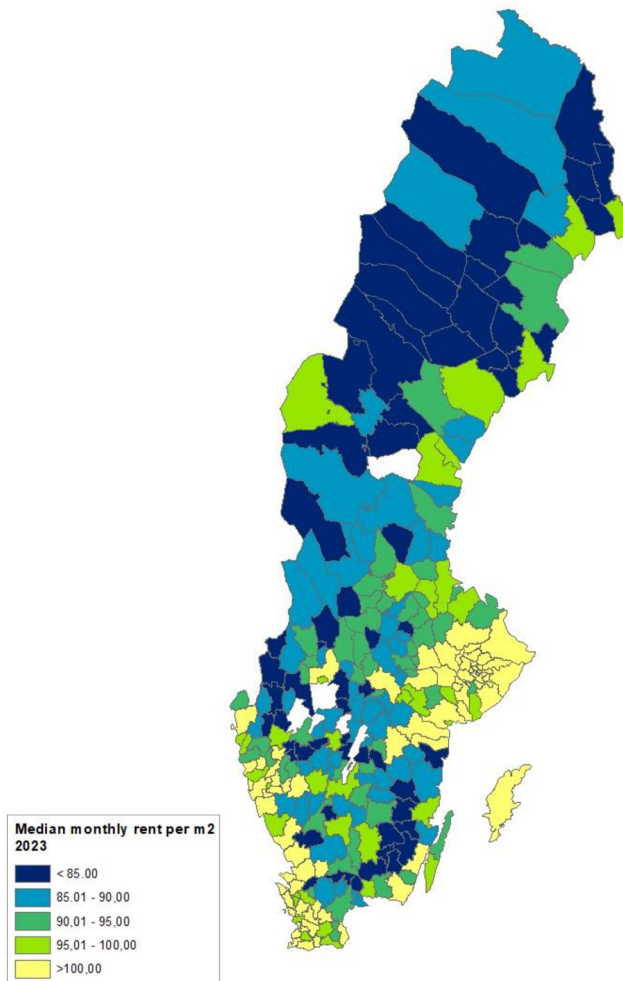
The visual similarities between underutilization in [Figure 1\(b\)](#) and median rents in [Figure 2](#) are confirmed statistically by regressing underutilization on median rent for the 290 municipalities in Sweden. The overall median rent in Sweden was 104 SEK/m² in 2023; the highest was 179 SEK/m² and the lowest was 64 SEK/m². [Table 2](#) shows the output of the regression. The coefficient on median rent is statistically significant and an increase in the median rent of 10 SEK/m² reduces underutilization by 2.5 percentage points. Including median rent squared as an independent variable increases the *R*-squared of the regression to 0.38, but for simplicity of interpretation, we report the regression with a linear term only.

It is of interest to compare underutilization in the rental segment with that in cooperatives and single-family houses as displayed in [Table 1](#). The underutilization rates in the

Table 1. Vacancy rates 2021 and underutilization rates 2023

Municipalities	Vacancy rental units (%)	Underutilization rental units (%)	Underutilization cooperatives (%)	Underutilization single-family houses (%)
Sweden	0.8	10.2	8.7	2.0
Greater Stockholm	0.2	7.3	7.6	1.6
Greater Göteborg	0.1	6.0	7.9	1.1
Greater Malmö	0.3	7.1	8.1	1.3
>75,000 inhabitants	0.6	9.9	8.2	1.5
<75,000 inhabitants	1.6	14.4	12.2	2.5

Source: Authors’ elaboration on original data from Statistics Sweden



Source: Authors elaboration on original data from Statistics Sweden

Figure 2. Median monthly rent per m2 for all municipalities in Sweden for the year 2023

Table 2. OLS regression of underutilization on median rent

Variables	Coeff.	<i>t</i> -Stat
Median rent	-0.0025	-10.14
Number of observations	290	
<i>R</i> -squared	0.26	

Source: Authors

cooperative segment are rather similar to those in the rental apartment segment, while the rates are significantly lower for single-family houses. The lower rates for single-family houses are likely related to the fact that underutilization in rental units and cooperatives is mainly found in smaller apartments and very few single-family houses are as small. For example, in 2023, the average living area of underused housing units was 59 m² for both rental apartments and cooperatives and 100 m² for single-family houses. These observations support the hypothesis that underutilization is more common for housing units where the cost of underutilization is comparatively low.

We need to distinguish between our measure of underutilization and underutilization that is simply vacancy in the traditional meaning because of low demand, i.e. a rental unit is empty and the property owner does not receive rent. We therefore compare our measure of underutilization 2023 with vacancy rates in the rental segment 2021 obtained from Statistics Sweden, for the whole of Sweden, and the five municipal categories in Table 1 [1]. For all five categories, vacancy rates are just a small fraction of underutilization rates. We draw the conclusion that our measure of underutilization at least partially measures the phenomenon that a rather large fraction of the rental units in Sweden is leased but not fully used. In the next section, we discuss possible reasons for this observation.

6. Discussion

We see a number of possible explanations for a substantial fraction of the stock of rental units in Sweden having no person officially registered as a permanent resident. Possible reasons are:

- The apartment is used as a secondary dwelling. This may be true for commuters who live permanently outside the municipality but have a business-related need to make shorter stays there.
- In certain municipalities, rental units may in practice periodically be used as recreational second homes, for example in some coastal areas or ski resorts. The opposite may occur; the household is permanently residing in a former second home and keeps the urban rental apartment as a secondary home for recreational purposes.
- The apartment is used as a student apartment, i.e. someone is living there for a substantial part of the year but is registered elsewhere, which may often be the previous permanent first home.
- The apartment is held as an option, without really being used, to potentially solve a future housing need for children or other relatives. For example, the apartment may have been obtained through the municipality's queue for rental housing, and the holder of the lease may have registered on the unit but never moved in and simply waited for nine months for the tenant protection before officially moving somewhere else.
- The apartment is used for a purpose that is not legally allowed, e.g. as an office or for other business use.
- The apartment is sub-leased without permission from the property owner, and therefore the leaseholder does not want the sub-leasing tenant to register on the flat.
- Someone is living permanently in the apartment but prefers to be registered in another housing unit in another municipality. The motive can, for example, be that the local income tax rate is lower in the municipality of registration or that it is easier to use various subsidies in that municipality.

The common denominator for the suggested reasons for keeping an apartment where no one is registered, and where no one lives permanently, is that the apartment may have an

economic value that is higher than the controlled (subsidized) rent. Apart from the suggested rationales listed above, there may be several reasons for false permanent registration in connection to various types of serious criminal activities.

It is worth pointing out that according to Swedish law, people are required to register at the address where they are mainly living, and it is only possible to be registered at one address. There are, however, only limited efforts undertaken by authorities to enforce this requirement, and similarly, it seems that property companies do not, to a wider extent, perform routine checks that would reveal leasing arrangements where a tenant pays rent but does not live in the apartment. To examine the latter point in more detail, a survey was undertaken where representatives for 14 municipal and four private property companies in small, mid-sized and large municipalities were interviewed. The interviews were undertaken over the telephone. Five questions were asked:

- Q1. Does the company cross-check the lessee with the official population registry?
- Q2. Does the company organize a queue for presumptive tenants?
- Q3. How many vacant apartments does the company have?
- Q4. Does the company provide apartments for tenants that are prioritized in their own queue or the municipality's queue for apartments?
- Q5. How does the company perceive the status of the housing market (balanced, oversupply, undersupply)?

The anonymized interview results are displayed in [Appendix 2](#).

As can be seen from the answers in Column 2 in [Appendix 2](#), in the majority of the municipal property companies, control of the official living address is undertaken when a lease is signed, but only a minority of the companies undertake regular and systematic controls later. Similarly, only one of the private property companies makes regular (annual) controls and one plan to introduce a new system that allows controls every third month. The answers in Column 3 show that all the surveyed companies either organize their own queue for apartments or assign vacant apartments to the municipal queue or both. The one exception is one private company that advertises apartments at the company website on a first-come basis given that the presumptive tenant fulfils the company's criteria for being able to lease an apartment.

While the answers in Column 4 do not provide information about the vacancy on a municipal level, it is clear that most of the surveyed companies have a low to very low level of vacancy. For those companies that report higher vacancy rates, the vacancies are mainly in new developments with high rent. This pattern confirms the results reported in Section 5, i.e. the large fraction of apartments where no one is officially registered cannot be explained by economic vacancies where apartments are not leased. Column 6 displays the answers regarding company policy with respect to reserving apartments (keeping a stock of empty apartments) for tenants with special needs. The answers indicate that most companies do reserve apartments for tenants with special needs, but this policy mainly concerns apartments that become vacant. That is, the companies do not seem to keep a significant fraction of their apartments vacant as a reserve for tenants with special needs. Summarizing the survey results, a lack of rigorous control of the officially registered addresses of tenants by property companies is likely a contributing factor to the surprisingly high degree of underutilization of rental units in Sweden. Furthermore, policy decisions to keep an inventory of unleased apartments for tenants with special needs do not seem to be a major factor in explaining underutilization, as such inventories seem to be very small.

7. Policy implications

Rent control subsidizes the tenant. In Sweden, the rent control regime comprises (close to) all rental units built earlier than 2006 and overall dominates the rental housing market. The subsidy is not related to the economic capacity or specific housing needs of the tenant. Thus, as rent control economically supports housing consumption, the Swedish regime is more likely to support overconsumption and inefficient use of housing than are other housing support regimes. A policy implication of our results is that underutilization of the Swedish rental housing stock can be reduced by limiting the supply of rent-controlled housing to households that are in economic or social need.

Implementation of substantial changes to a long-standing rental system may, however, lead to unintended consequences. Given that the full consequences of a reformation of the system are difficult to foresee and that changes to the system would affect a substantial part of the population, it is understandable that housing policy regimes tend to remain in a path dependency as discussed by [Bengtsson and Ruonavaara \(2010\)](#). Reforms should therefore be carried out in small steps, followed by successive evaluations. The initial step might be to distribute a certain share of rental apartments in a certain region only to households fulfilling some definition of economic needs.

In the general housing debate, two potential problems are commonly raised whenever reforms are proposed. Changes may lead to segregation, and certain groups may be stigmatized. The former problem, as an argument against changes, may possibly be overstated. Studies have shown that quite substantial segregation, in several respects, already exists in the present system (e.g. [Enström Öst et al., 2014](#)). Potential stigmatization of certain groups of households or even of certain neighbourhoods as a consequence of the distribution of rental apartments to households in need is a more subtle change that is not as easily observed or measured. However, the current classification of certain neighbourhoods as “vulnerable” or “particularly vulnerable” shows that the problem is already in place. For a thorough analysis of measurement techniques, see [Salonen \(2023\)](#). We believe that both of these potentially unintended consequences should be monitored in future evaluations.

More radical changes of the Swedish rent control system have been proposed in numerous studies. Some of these have included step-wise reformations of the system, including Pareto-optimal economic compensations to tenants (e.g. [Andersson and Söderberg, 2012](#)). Still, these studies have so far caught limited attention. We conclude that changes in housing policy have to be slow, even if the negative consequences of the current regime are obvious.

Alternatively, other conclusions could be drawn. If one adopts the view that the Swedish rent control system is working well in other aspects than the one examined in this paper, a conclusion would instead be that there should be a much more rigorous control of where households actually are residing permanently and where they are registered.

Note

1. The latest vacancy rates reported to Statistics Sweden are for the year 2021, but we assess that those figures are valid for comparison with underutilization rates in 2023 since vacancy rates change slowly.

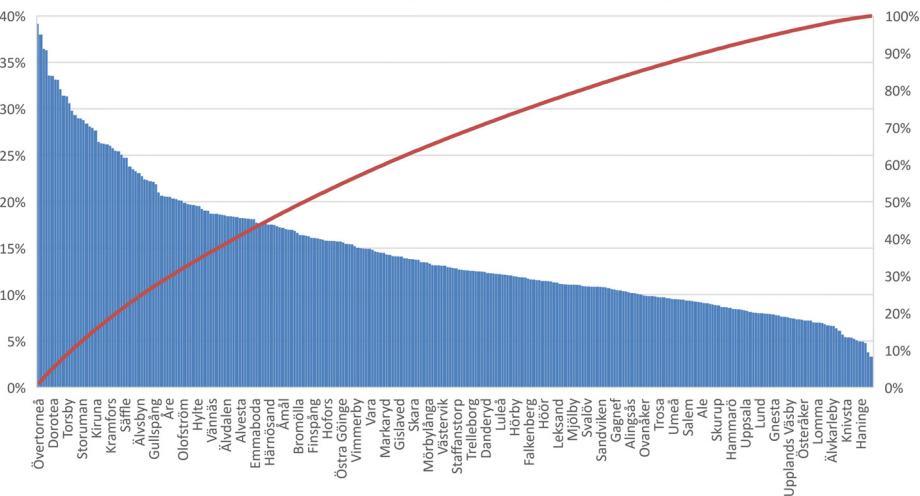
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Appendix 1

Underutilization rate apartments per municipality, 2023



Source: Authors elaboration on original data from Statistics Sweden

Appendix 2

Table A1. Survey answers

Municipality size	Control of registration	Company-organized queue for apartments	Vacant apartments	Prioritized queue for tenants with special needs	Perceived supply situation
<i>Small municipalities</i> Population <25,000					
Small_1	No	Yes	3 of 531	Yes, tenants who have recently relocated because of new employment. Proof of employment is required	Balanced
Small_2	No	Yes, 200–300 in queue	40 of 1,036 – of which 30 are vacant because of renovation	Yes, tenants who have recently relocated because of new employment and tenants with problematic family situation	Undersupply
Small_3	No, but “everyone knows everyone” because the municipality is small	Yes	0 of 199	Yes, tenant employed by the municipality	Balanced
Small_4	Yes, but only when a new tenant moves in	Yes, 4,500 in queue. Mostly single-family homeowners	1 of 1,500. Never longer vacancies; everything is leased fast	No, the company CEO can approve prioritization of tenants with special medical needs when apartments become vacant	Undersupply
<i>Mid-sized municipalities</i> Population < 100,000					
Mid_1	No, too costly	Yes, 10–12 years in queue for attractive apartments	Approximately 10 in new developments	No, but may lease to the municipal social services when apartments become vacant	Undersupply
Mid_2	Yes, but only when a new tenant moves in	Yes, about 2 years in queue. A fraction of the apartments is available without queuing through randomized selection	Seven in less attractive locations	Yes, for tenants with health related or economic problems	Undersupply

(continued)

Table A1. Continued

Municipality size	Control of registration	Company-organized queue for apartments	Vacant apartments	Prioritized queue for tenants with special needs	Perceived supply situation
Mid_3	No, but tenants have to state in writing that they plan to use the apartment as permanent home. Control with official registry and investigation in suspicious cases	No, apartments go to municipal queue serving a group of municipalities	Approximately 100. Private property companies have recently developed many apartments that are expensive to rent	5% of newly developed apartments are reserved for the municipal social services authority	Balanced
Mid_4	No, but company employee visits tenant if suspicion arises	Yes, 12,800 in queue, but the majority does not have acute needs and are using the queue as an option for future needs	About 40 of 3,030	No, but the municipal social services authority always have two places in the queue that can be used for tenants with special needs	Undersupply
Mid_5	No, but the company has started to investigate how controls can be made	Yes	9 of 4,800 apartments are vacant because of unattractive location and requirement that tenants must be older than 50 years with no children living in the apartment	Yes, 112 apartments per year are reserved for the municipality to distribute to tenants with special needs. Newly employed relocating to the municipality can get extra queuing points corresponding to approximately four years in the queue	Undersupply
Mid_6	Yes. tenants are required to register on the apartment when signing the lease and follow-ups are undertaken later	Yes, 32,600 in queue, of which about 14% have been searching actively the past 12 months	32 of 5,109 apartments vacant, which is an unusually high number. Normal vacancy is 12–18 apartments. Apartments that were used temporarily when renovating other properties have	No, the municipal social services authority leases apartments for tenants with special needs (max 10% of vacant apartments), but such leases are not prioritized. Priority for newly	Undersupply

(continued)

Table A1. Continued

Municipality size	Control of registration	Company-organized queue for apartments	Vacant apartments	Prioritized queue for tenants with special needs	Perceived supply situation
Mid_7	No, too costly	No, apartments go to municipal queue	recently become vacant. The market has been slower than normal as well 204 of 9,000 apartments, which is a historical high. Oversupply because of many new developments and the majority of vacancies in the new developments	employed relocating to the municipality Priority for tenants with medical needs handled by the social services authority. Priority for skilled labour moving to the municipality, about 5–10 apartments per year	Balanced
<i>Large municipalities</i> Population > 100,000					
Large_1	Yes, tenants are required to register on the apartment address when signing the lease. The company has a special unit that works with violations of lease conditions and part of their work is to check that the tenant is registered on the apartment	No, apartments go to a regional queue and search engine with over 60 municipal and private property companies	No, the only vacancies are apartments in properties that are being renovated	No, except for apartments that the municipality leases and sublets to tenants with special needs. The tenant who sublets must be registered on the apartment address	Undersupply
Large_2	No, but tenants have to state in writing that they plan to use the apartment as permanent home. Control after 3 months and then every third year	No, apartments go to the municipal queue	–	No, but the municipality rents 700–800 apartments and sublets to tenants with special needs, which correspond to 1% of the total supply of rental units in the municipality	Undersupply
Large_3	Yes, but not systematically.		No vacancies other than when	No, the social services authority	Undersupply

(continued)

Municipality size	Control of registration	Company-organized queue for apartments	Vacant apartments	Prioritized queue for tenants with special needs	Perceived supply situation
	Crosschecks with the tax authority twice a year	No, apartments go to the municipal queue	renovating properties	sublets some apartments where the tenants can take over the lease after two years if they have fulfilled all contractual obligations and have not disturbed neighbours	
<i>Private property companies</i>					
Private_1 Small municipality	Yes, control once a year	Yes	Approximately 10% of 900 apartments	No, relocating to the municipality because of employment is awarded 1,000 point in the queue. The social services authority has 1–2 apartments that they sublet to tenants with special needs	–
Private_2 Small municipality	Yes, tenants are required to register on the apartment address, except for workforce commuting weekly and for businesses renting apartments for employees. The company has a new system for checking tenant registration and will do so every third month	Yes, Approximately 1,500 actively searching. Time in queue between 3 weeks and 6 months	34 of 686 apartments vacant. The bulk of the vacancies is because of the completion of a large wind power development leading to a part of the labour force relocating from the municipality. Mainly small apartments vacant because tenants prefer and can afford larger apartments because of low rent level in the municipality	No, not formally but if the social services authority needs apartments, the company can usually provide a vacant apartment Labour relocating to the municipality gets 1,500 extra queuing points upon proof of employment. Students admitted to the high school with ski specialization (students from all Sweden can apply) can be prioritized in the queue No	–

(continued)

Table A1. Continued

Municipality size	Control of registration	Company-organized queue for apartments	Vacant apartments	Prioritized queue for tenants with special needs	Perceived supply situation
Private_3 Mid-sized municipality	No, a tenant should be registered on the apartment address, but there is no control. The company worries more about subletting without permission	No, all apartments are advertised on the company website and the company has various criteria for accepting a tenant	900 apartments and no vacancies		
Private_4 Large municipality	Yes, but registration is only checked when a tenant signs a lease. No follow-up later	Yes, but only for tenants who have leased an apartment from the company for at least three years	Approximately 6,000 apartments and no vacancies	No	–

Source: Authors

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