Urban Economics

Lecture 7: Low-Income Housing Policy

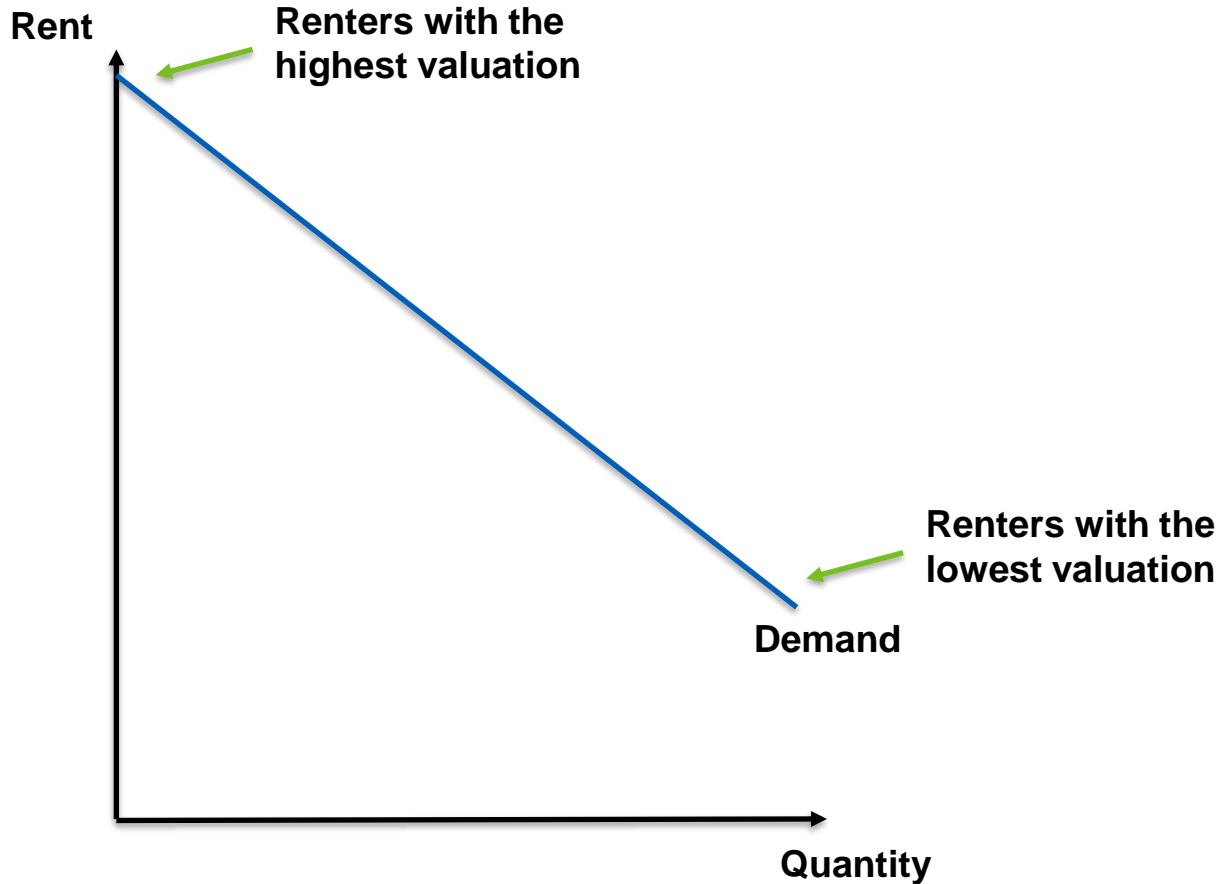*Spring 2023*
Tuukka Saarimaa

Outline

- **In this lecture, we discuss housing policy**

  - What are the effects of rent control?

  - How should we subsidize poor/low-income households?

  - What are the relative merits of

    - *giving people money,*

    - *giving people money earmarked for housing consumption and*

    - *giving people housing units that are cheaper than free-market units?*

- **The lecture does not follow the textbook**
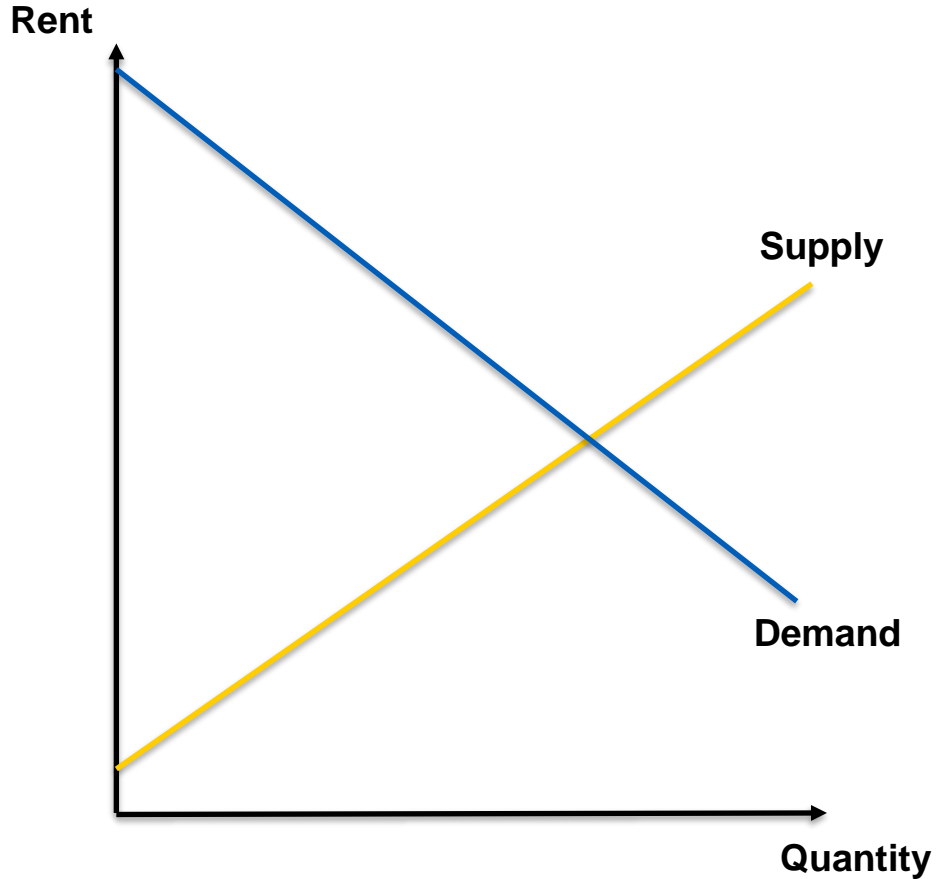
Rent control

Rent control

- **Rent control is government regulation that sets a limit on the amount that a landlord can charge**

  - These can be strict rent ceilings or limits on rent increases
  - They can apply to all rental units or only to existing contracts so that rents in new contracts are unregulated

- **The goal is to provide affordable housing and housing security, but rent control may have adverse effects on**

  - e.g. housing supply, quality and allocation

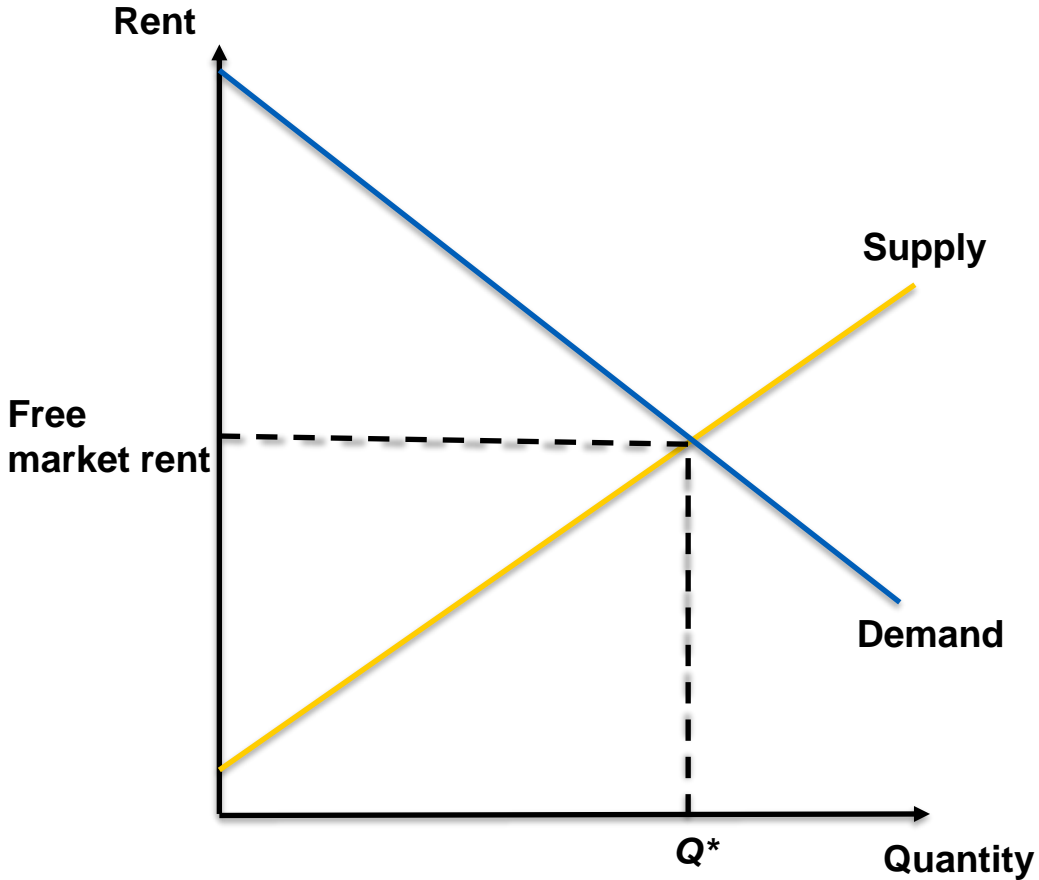# Equilibrium in the rental market

Rent

Renters with the highest valuation

Renters with the lowest valuation

Demand

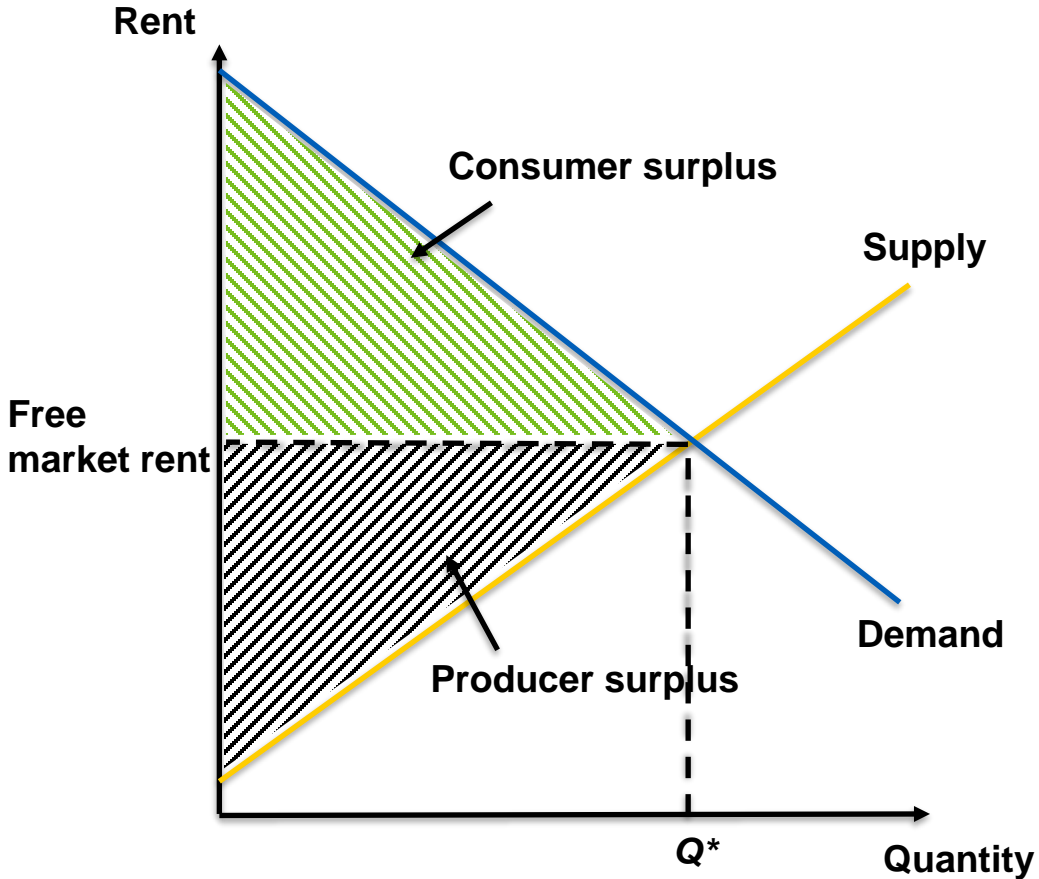**Quantity**

Equilibrium in the rental market
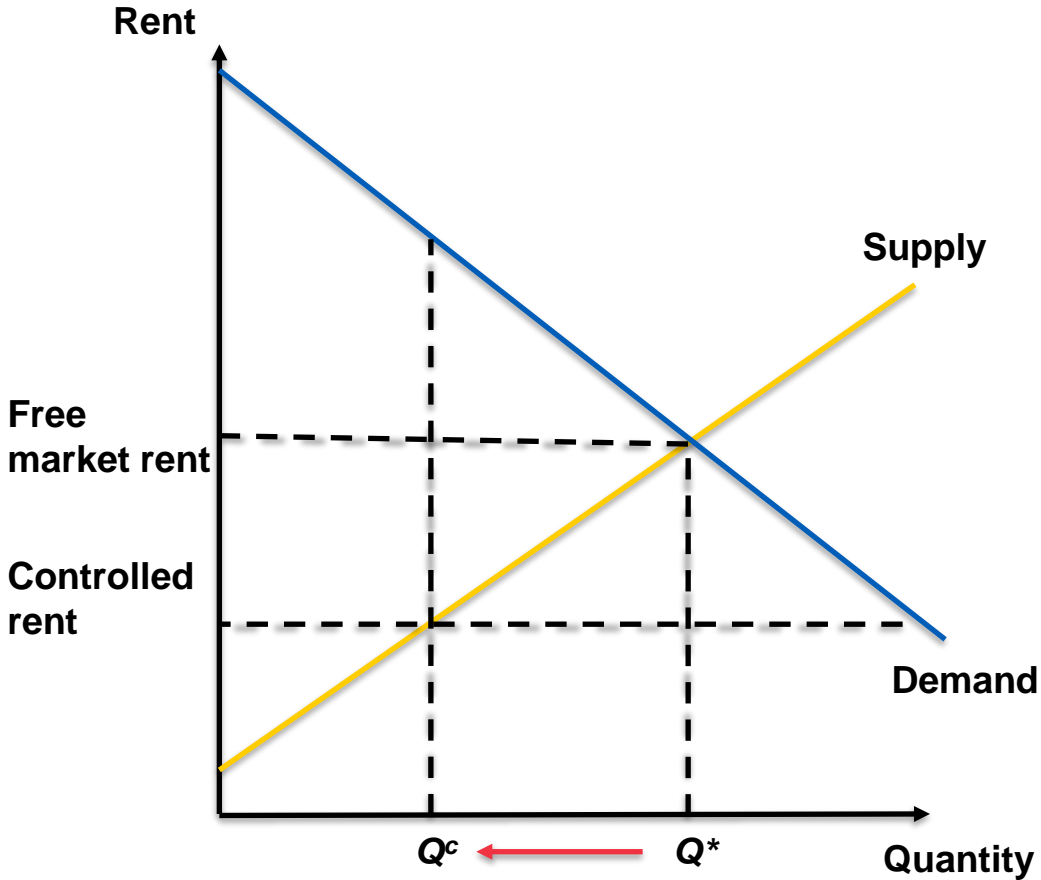

Rent

Supply

Demand

Quantity

Equilibrium in the rental market

Equilibrium in the rental market

Welfare loss due to undersupply

Welfare loss due to undersupply

Rent

Lost consumer surplus

Supply

Free market rent

Controlled rent

Demand

Lost producer surplus

Q^c ← Q^* Quantity
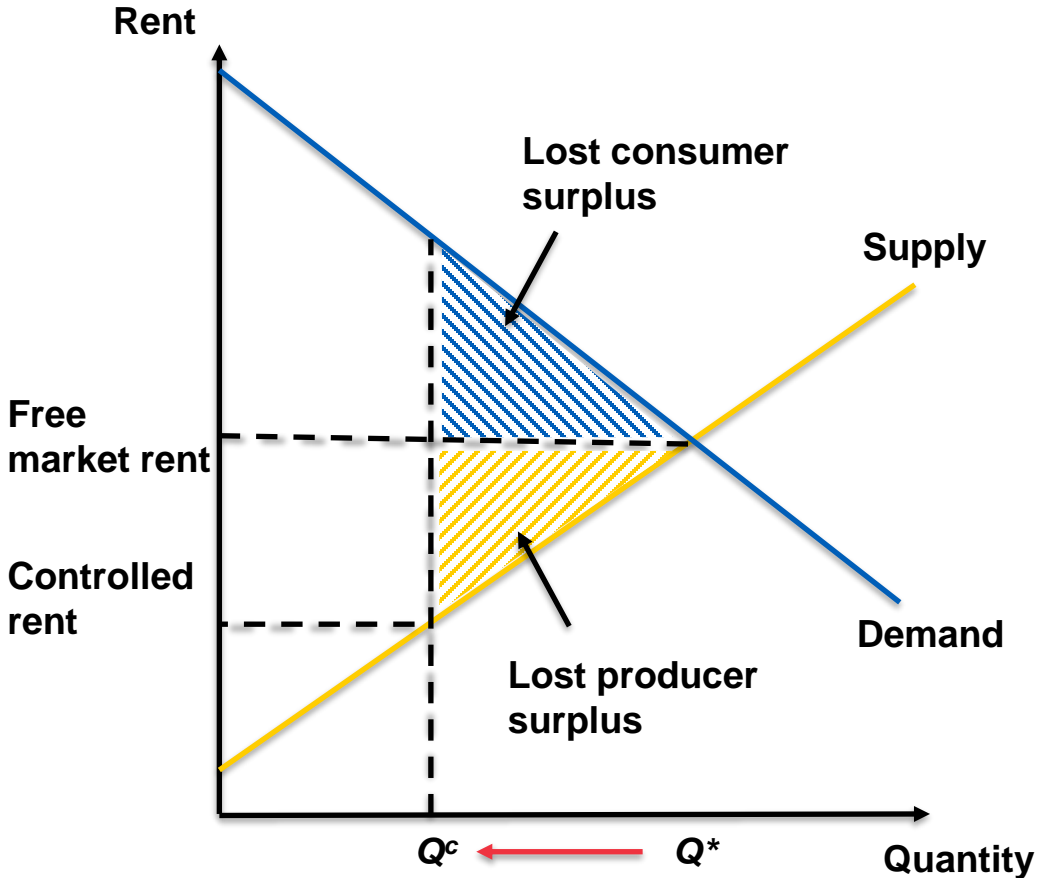
Welfare loss due to undersupply
= Lost consumer surplus
+ lost producer surplus

Welfare loss due to undersupply

Rent

Remaining consumer surplus

Supply

Free market rent

Controlled rent

Demand

Transfer from producers to consumers

Remaining producer surplus

Q^c ← Q^*

Quantity
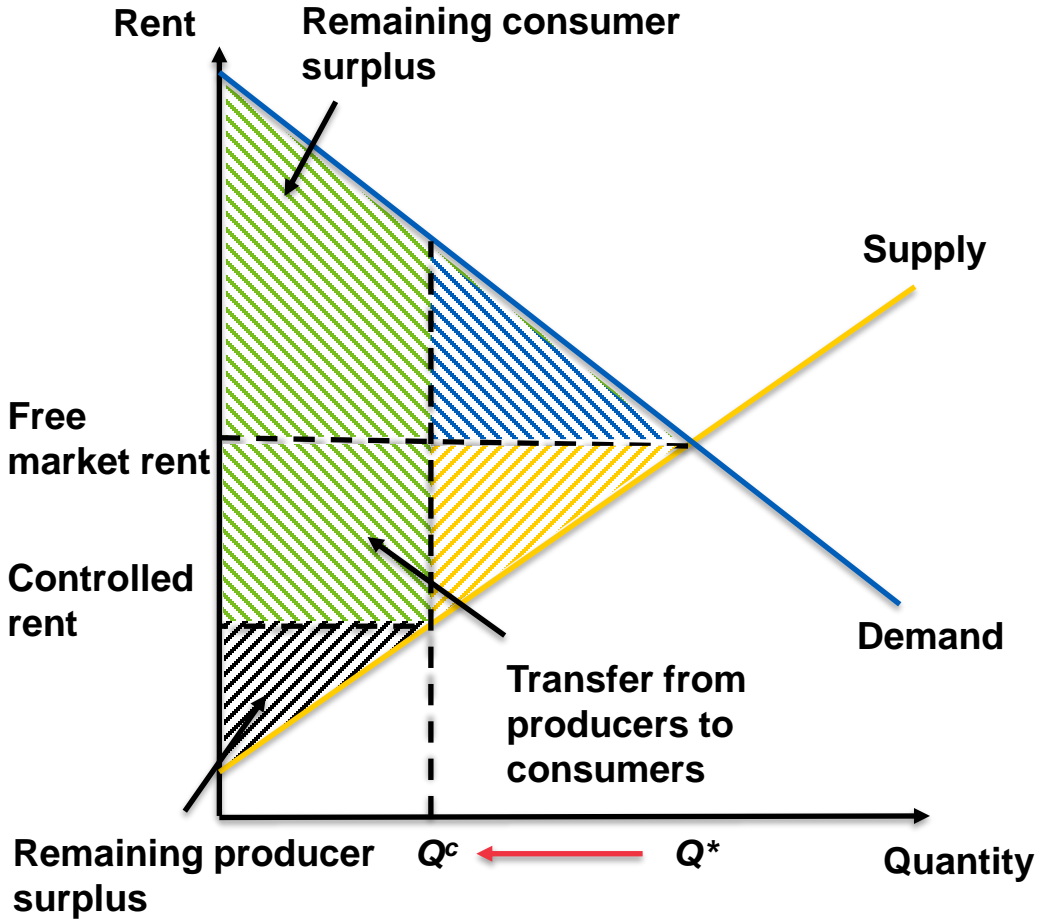
Welfare loss due to undersupply

In the analysis so far, the only welfare loss came from undersupply

However, this is true only if the individuals or households who value the apartments most get the rent-controlled apartments

This is why we get the remaining consumer surplus (CS)

Welfare loss due to misallocation
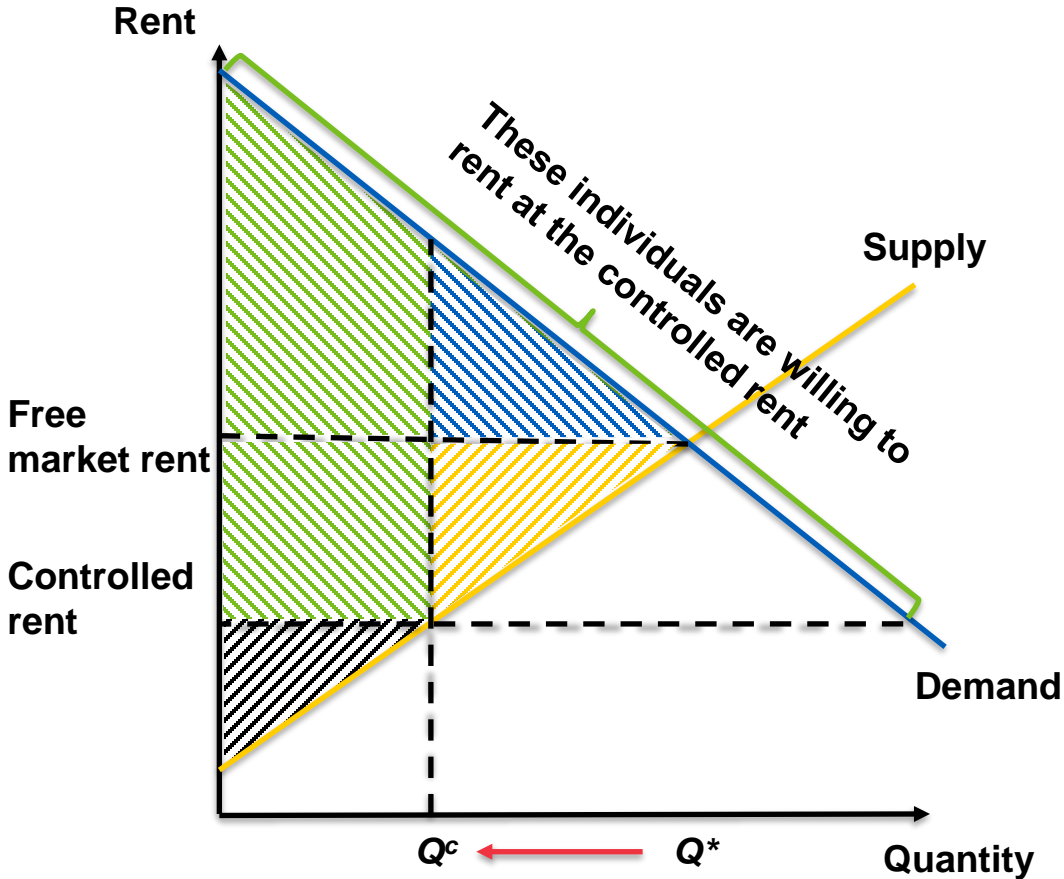
However, this is unlikely to happen

Under rent control, some renters who would never have rented an apartment under free market rents, obtain rental apartments

Welfare loss due to misallocation

Rent

Average valuation of rental unit

Supply

Free market rent

Controlled rent

Demand

Q^c ⟵ Q^*

Quantity
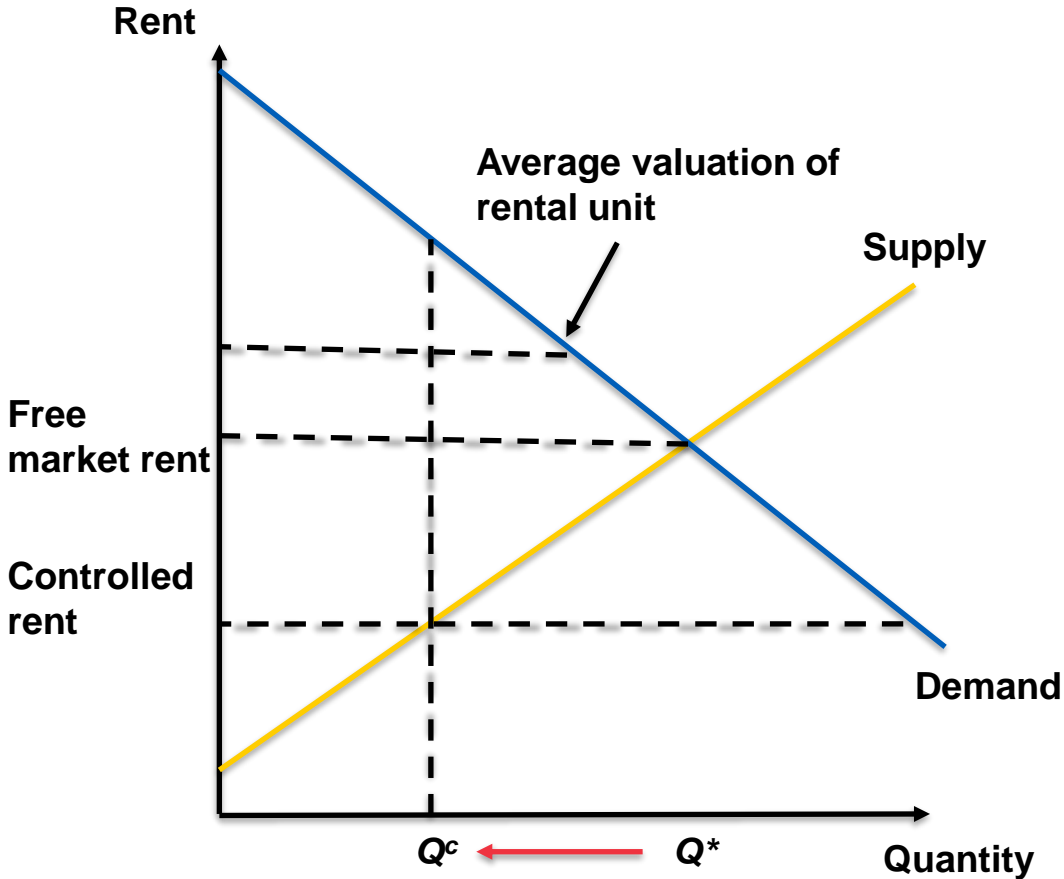
Consider what happens if apartments are allocated randomly to everyone who is willing to rent

Welfare loss due to misallocation

Rent

Lost consumer surplus due to misallocation

Remaining consumer surplus

Supply

Free market rent

Controlled rent

Demand

Q^c ← Q^* **Quantity**
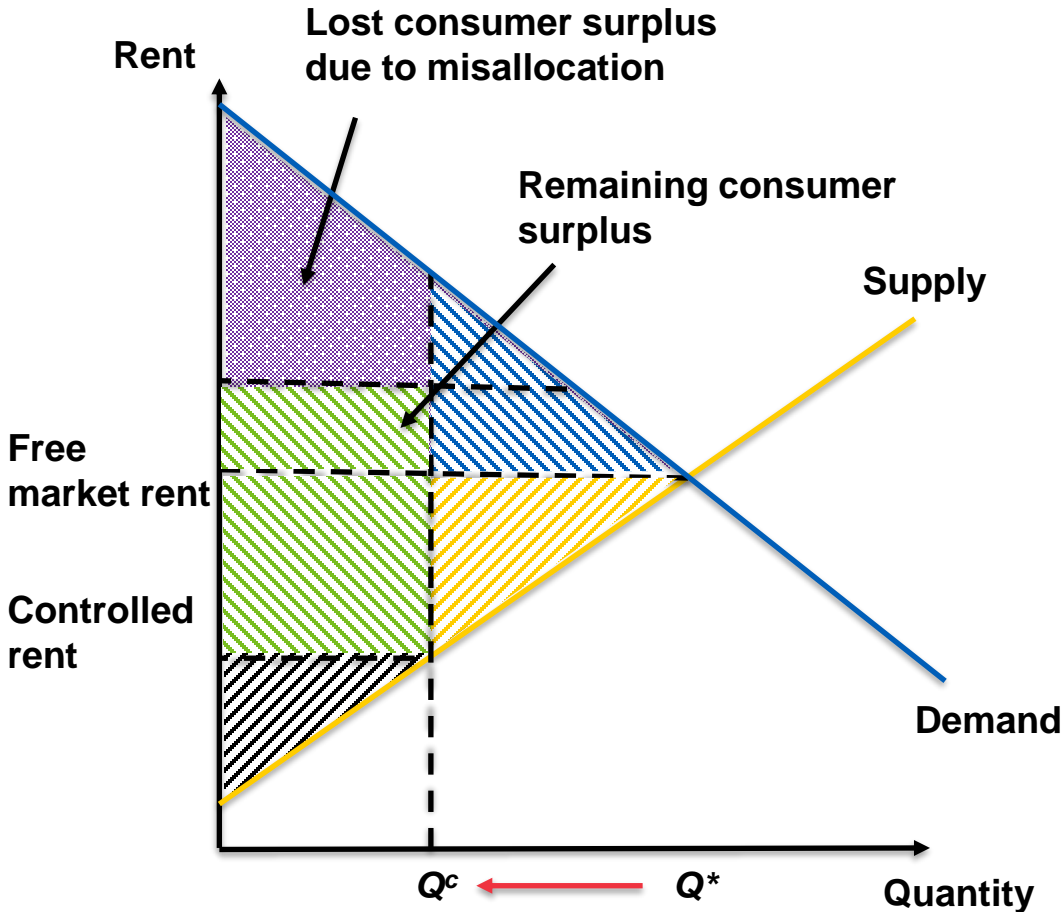
This reduces consumer surplus!

This happens because the average person who gets a rent-controlled apartment does not value that apartment as much as the people who value the apartment most

The welfare loss due to misallocation can be larger than the welfare loss due to undersupply

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Partial rent control and free market prices

- **In some cases, only part of the housing stock is under rent or price controls**

  - For example, public rental housing (ARA) and Hitas in Finland

- **In these cases, there are also going to be welfare losses from misallocation**

  - However, in these cases there are other interesting effects worth considering

- **The analysis framework helps to understand these other effects as well**

Partial rent control and free market prices

- **When only some fraction of the city's housing stock is price- or rent-controlled, control may influence the price and rent level in the free market**

- **This is because now the people competing on the free-market apartments have on average higher valuation for them**
  - For example, some people who would not have moved to Helsinki in the absence of rent-controlled units
  - Assuming that public rentals and Hitas apartments do not add to the housing stock (reasonable assumption)

Low-income housing policy

How to subsidize the poor?

- **The simplest way is to give money that is not earmarked to anything**
  - People are free to choose how to spend their money

- **Alternatively, we can earmark the subsidy to housing**
  - At least part of the subsidy must be used to pay for housing

How to subsidize the poor?

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- **There are two ways of doing this:**
  1. Tenant-based programs, such as the Finnish housing allowance system (HA) or housing vouchers etc.
  2. Place-based programs, such as the so-called ARA-system in Finland, which offers rental housing at below market level rents

- **These subsidies may also overlap**

Comparing different subsidy types

- **Consider a household living in a public housing unit (owned by the municipality) with a monthly rental cost of €700**

- **The rent of the unit is below the market rent, which for a similar free-market unit would be €1000**
  - Thus, by occupying the public housing unit instead of a free-market unit, the household has €300 more to spend on something else
  - The municipality forgoes the €300 and must either increase taxes on all the taxpayers or provide less or lower quality services

- **Thus, the tenant receives a €300 subsidy**
  - In other words, all the taxpayers own an asset that they rent to one household (in this example) at a discount

Comparing different subsidy types

Let's consider two alternative budget neutral subsidy schemes

1. A housing allowance:

- The household must pay the market rent, but the municipality gives the household a €300 housing allowance
- This can be used to rent any housing unit, but the household must have a rental contract in order to receive the subsidy

2. A general monetary subsidy:

- The household must pay the market rent, but the municipality gives the household a €300 subsidy that can be used on anything
- Housing, other consumption, savings

Comparing different subsidy types

1. **Housing allowance**

   - The household cannot be any worse off

     - *It can continue to live in the same unit and have as much money for other things after housing costs (the rental cost after the housing allowance is €700)*

     - *The household can also move to another unit, and it moves only if the move makes the household better off*

Comparing different subsidy types

2. General monetary subsidy

- Again, the household cannot be any worse off
  - *It can continue to live in the same unit and have as much money for other things after housing costs*
  - *The household can also move to another unit, however, in this case the household can also use the subsidy for other consumption*
  - *It can move to a cheaper unit (smaller or different n'hood) and use some of the subsidy on food, clothes etc.*
  - *The household only does this if it makes the household better off*

- What is the difference to the housing allowance?

Comparing different subsidy types

- **The place-based subsidy was the worst way of subsidizing households, and the housing allowance was worse than the monetary subsidy**
  - Given the costs of the subsidies to taxpayers (that is, the amount of subsidy that was given to a household)

- **Why are these type of housing subsidies so prevalent if they seem to be worse than simply giving money?**
  - There are several issues that were left out of these simple comparisons

Why subsidize housing?

- **The classic justification for using in-kind transfers, instead of cash transfers, is that poor households do not consume enough of the subsidized good**

  - Donor preferences

  - The household member who chooses the level of consumption in the household does not consider the welfare of other members (e.g. a parent does not take enough care of the children's needs)

  - Residential stability

- **Imperfect information where the government is unable to distinguish between the neediest and others**

  - Can be used as a way for people who truly need them, to self select

Housing allowance vs. public housing – Redistribution

- **Both are transfers to some households funded by taxes**

- **Which of the subsidies is better targeted to households who are in most need of subsidies?**

  - This is an empirical question (example coming up)

Housing allowance vs. public housing – Fairness

- **Are similar people treated similarly in the subsidy schemes?**

- **Anyone who is eligible for the housing allowance receives the housing allowance (you must apply for it)**
  - Similar people are treated similarly
  - Depends on program characteristics (e.g. US housing vouchers)

- **There is a limited number of public housing units available, and everyone cannot obtain a unit**
  - Similar people are not treated similarly!
  - Often, the application process is a black box to outsiders

Housing allowance vs. public housing – Segregation and social mixing

- **Segregation may be a problem if there are neighborhood effects (next lecture!)**
  - It may matter who your neighbors are

- **Neighborhood level**
  - Public housing buildings can be scattered throughout the city, which may lead to less segregation at neighborhood level
  - At the same time, it is difficult to affect where high-income households live
  - Also the housing allowance can help low-income households to choose higher quality neighborhoods

Housing allowance vs. public housing – Segregation and social mixing

- **Building level**
  - Public housing units are often provided so that entire buildings contain only public housing units
  - You get a cheap apartment, but you must live with other low-income people => leads to segregated buildings
  - This can be mitigated through tenant selection so that also middle- and high-income households can obtain a unit
  - Housing allowance recipients can live in free market buildings with, e.g. homeowners

- **Ultimately, effects on segregation is an empirical question (example coming up)**

Housing allowance vs. public housing – Transparency

- **Housing allowance criteria are transparent**

  - The total costs of the system are transparent and are reported systematically

- **The criteria for obtaining public housing units are not transparent**

  - The costs of the system are not reported systematically

- **Because of these differences there is a constant public pressure on the housing allowance, but practically no public debate about the costs of the public housing system**

Housing allowance vs. public housing – Effects on market rents

- **Both subsidies aim to help the tenants, however the economic incidence (who actually benefits) of a subsidy may not be the same as the statutory incidence**
  - This is because prices may change and if so, part of the subsidy is captured by landlords in the form of higher rents
  - Both subsidies may increase housing demand and if supply does not adjust, market rents and prices may increase
  - In the case of public housing units this might be slightly difficult to understand (See rent control slides)
- **Details of the programs are crucial in understanding these effects**

Housing allowance vs. public housing – Effects on total housing stock

- **Do public housing units add to the housing stock or simply replace private units that would have been built anyway?**
  - Whenever prices are above construction costs private developers have an incentive to build
  - In these areas, public housing crowd-outs private construction
  - If prices are below construction costs, private developers do not have incentives to build
  - In these areas, public housing units increase the total housing stock, but these are areas where housing is already cheap
- **Depends on what happens to prices and rents**

Housing allowance vs. public housing – Exclusion from the private market

- **Some households may be excluded from the private rental market**

  - For example, not able to get credit and pay the rental deposit even with a housing allowance

  - Public housing units may be the only option for these people

  - How many public housing units do we need just for this policy?

- **On the other hand, public housing units may provide better tenure protection and protection against rent risk**

  - But why would we want to give this to only some households?

Empirical example

Delivering affordable housing and neighborhood quality: A comparison of place- and tenant-based programs

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ARTICLE INFO

ABSTRACT

This paper analyzes the relative merits of large place- and tenant-based housing programs in Finland in terms of housing affordability and neighborhood quality. Using hedonic regression methods and household micro data, we find that the rent savings to public housing tenants are considerable and comparable in size to the housing allowance. Furthermore, this public housing subsidy is less targeted towards low-income households than the housing allowance. At the same time, low-income public housing tenants live in poorer, less educated and lower quality neighborhoods than similar low-income households living in private rental housing. This suggests that place-based programs may lead to more segregation than tenant- based alternatives even when neighborhood mixing is an explicit aim of the program, as is the case in Finland.

Tenant-based housing allowance

- **You receive a subsidy based on your rental contract (or housing costs if homeowner)**
  - So-called general housing allowance

- **In Finland, the allowance is 80% of your rental payment**
  - But depends on your income, the higher your income is the lower is your housing allowance
  - And there is also a maximum rent limit
  - If your rent is above the limit, allowance compensates only the maximum limit, not actual rent (Helsinki: 516 €/month for singles)
  - Does not depend on the characteristics of the unit (within a municipality)

Place-based subsidy scheme

- **In our study, we focus on units owned by the city of Helsinki**

- **Units are subject to regulation (often 40 years):**
  - Units cannot be sold
  - Rents based on maintenance and capital costs and the idea is that the rents are below market rents => subsidy to tenants

- **Tenant selection**
  - Based on housing need, income and wealth
  - Other objectives: diverse tenant structure within buildings and socially balanced neighborhoods =>aims to prevent segregation

Our paper

- **Use detailed register data on the private and public rental housing units and their tenants in the city of Helsinki**

- **We ask:**
  - How much do the public housing tenants benefit in terms of rent savings?
  - What are the distributional effects (relative to HA)?
  - How do the two subsidy schemes compare in delivering neighborhood quality and how do they affect segregation?

Analysis in a nutshell

- **Define subsidy to public housing tenants as**

    Subsidy = predicted market rent – actual rent

- **Predict market rents for public housing units using hedonic regression and private market data**

    - Data on market rents and unit attributes collected from www.vuokraovi.com in 2012 and 2013
    - Data on actual rents from the city of Helsinki

- **Link the estimated subsidy to register data on households**

- **Compare the neighborhoods (zip codes / buildings) of similar low-income hh's in public housing and private rental housing**

Helsinki housing market

- **330,000 housing units in total**
  - 147,000 rental units
  - 70,000 social housing (public housing and privately-owned subsidized rental housing)

- **Social housing stock:**
  - 43,000 regular rental units owned by city of Helsinki (public housing)
  - 9,000 regular privately-owned subsidized rental units
  - Rest: rental housing for elderly, students etc.

Predicting rents

- **Estimate a hedonic rent regression:** $p_{ij}^{free} = \mathbf{x}'_{ij}\boldsymbol{\beta} + \mu_j + u_{ij}$,

- **Calculate the subsidy for each public housing unit**

$$subsidy_j = \hat{p}_j^{free} - p_j^{sub},$$

- **The subsidy is correctly estimated only if**
  - Unobservable unit attributes are not correlated with observable attributes and
  - Unobservable unit attributes in the private market are not present in public housing
- **Otherwise, the difference in predicted and actual rent can arise from omitted unit attributes**

Fig. 1. Share of public housing units by zip code.
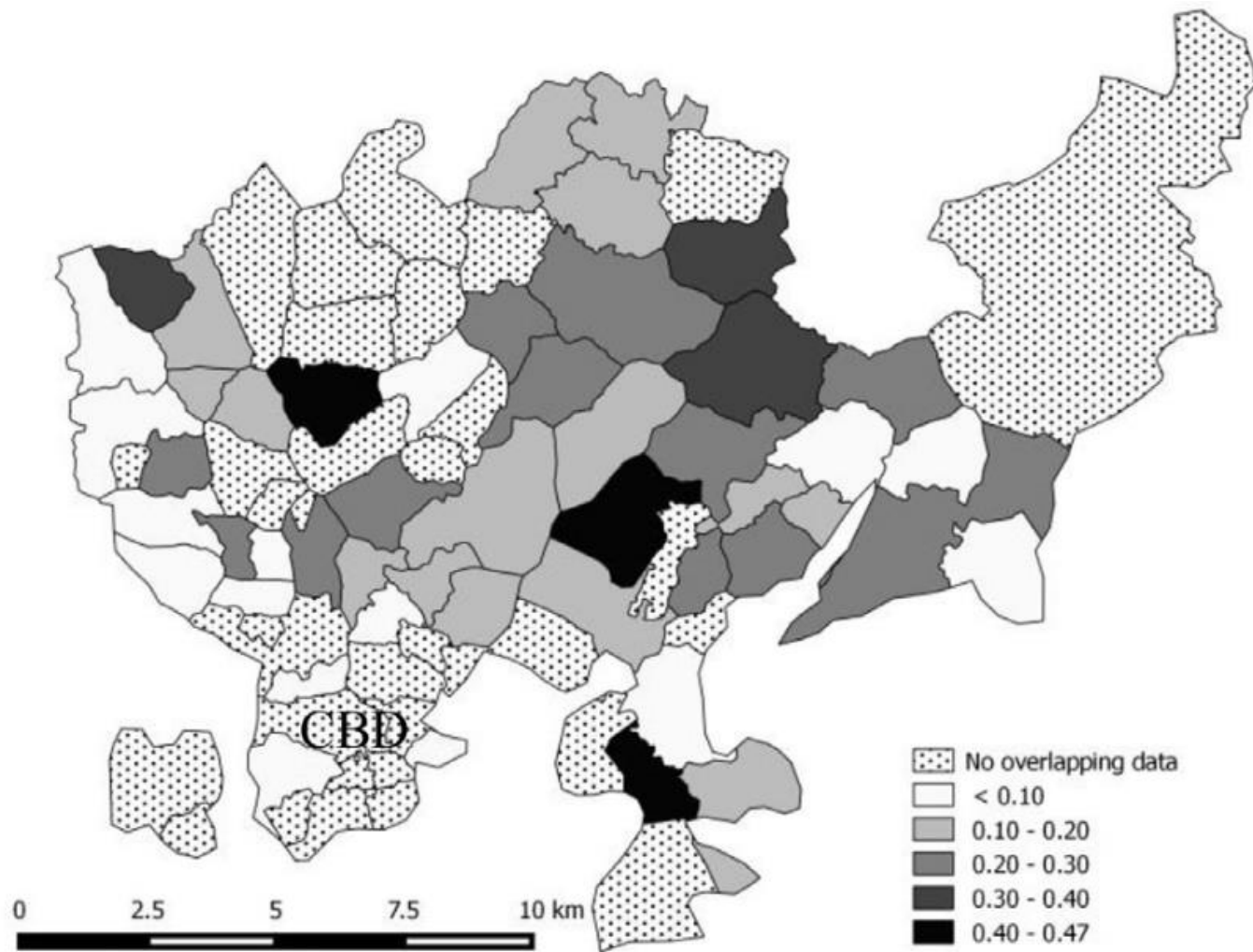
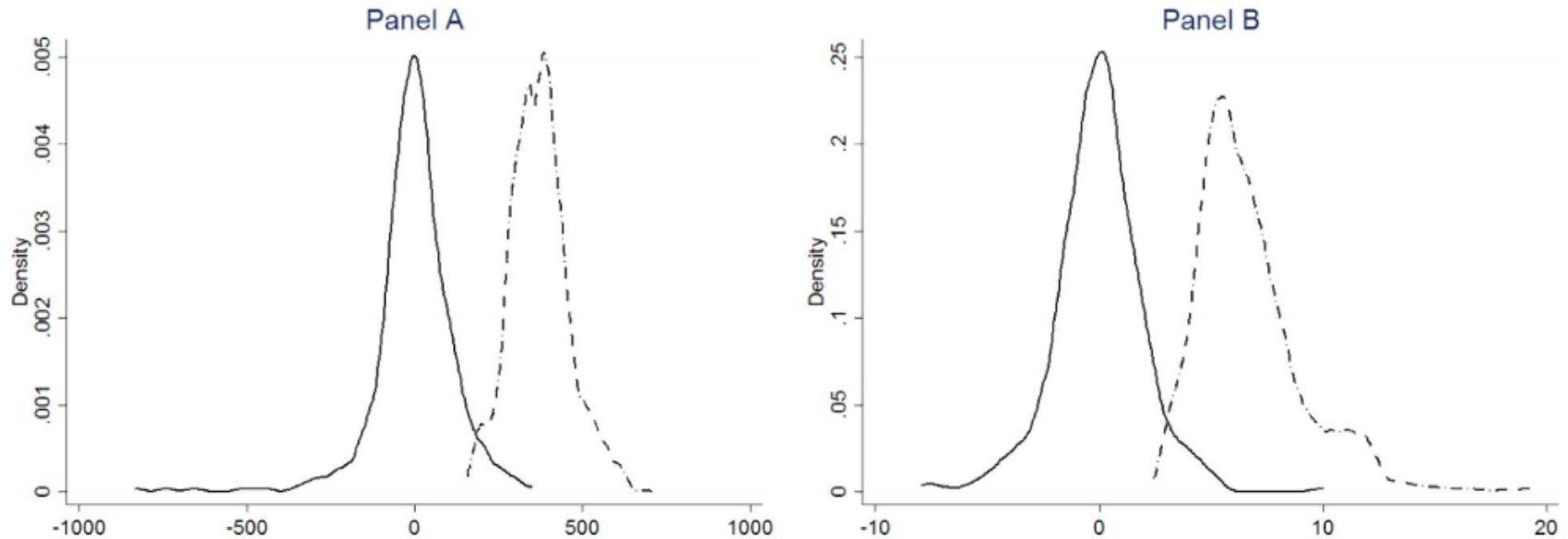# Distribution of the subsidy

Fig. 2. Distributions of public housing subsidy and prediction error for private units.

Notes: Panel A depicts the monthly subsidy (€) and Panel B the monthly subsidy per square meter (€/m²). The solid line refers to private rental units and the dashed line to public housing units.

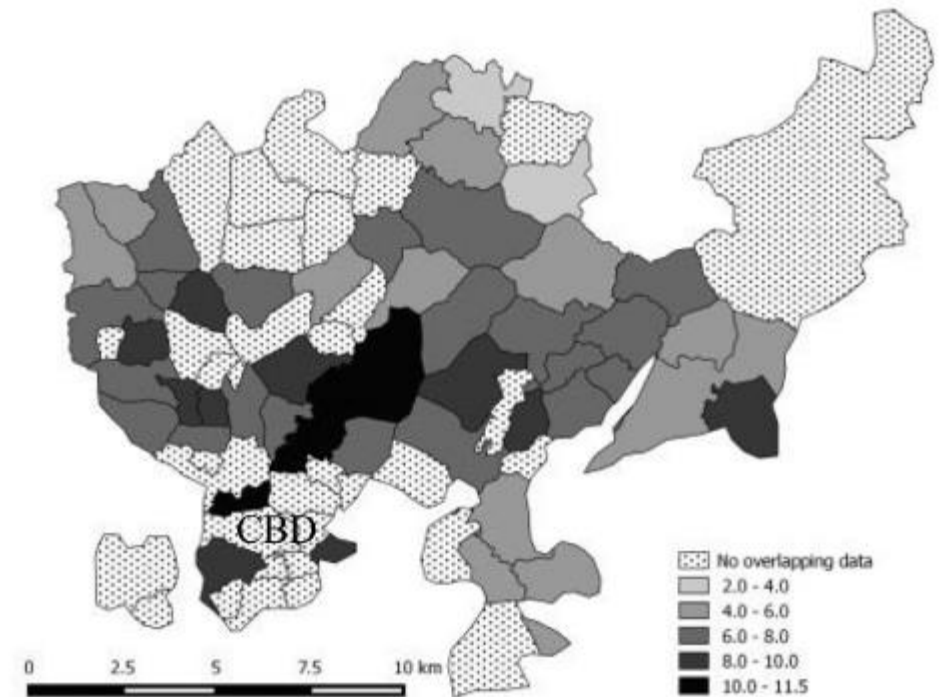# Market rents and subsidy across neighborhoods
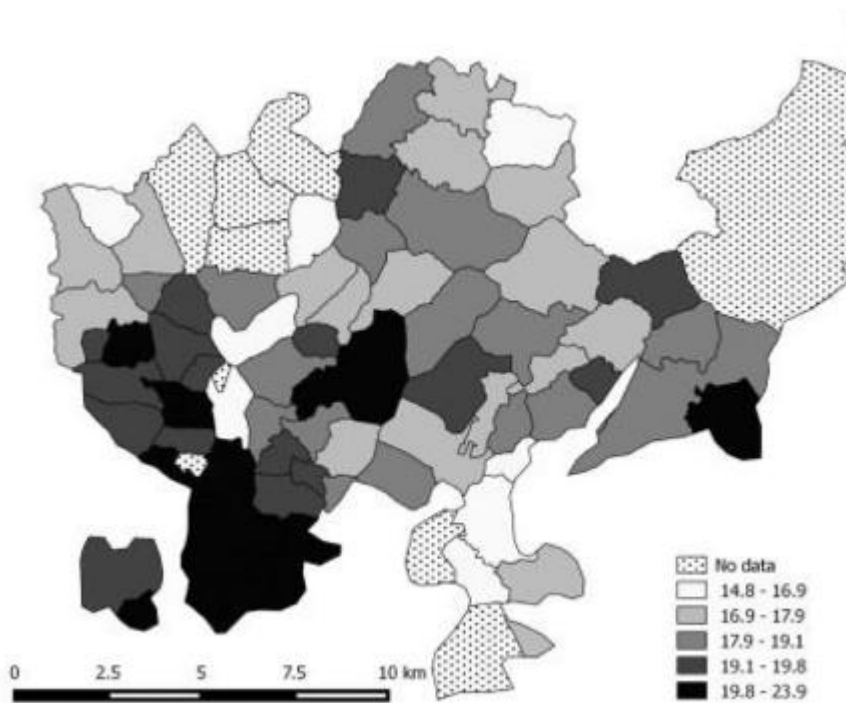
Table 3
Descriptive statistics: households.

	Homeowners		Private rental		Public housing	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Observations	21,934		10,915		5109	
Age of household head (years)	54.1	17.0	40.1	16.4	48.5	16.6
Disposable income (€/year)	34,659	47,877	22,953	19,685	18,519	8206
Master's degree (0/1)	0.27	0.45	0.16	0.36	0.04	0.19
Household size	1.93	1.10	1.49	0.85	1.94	1.26
Household with children (0/1)	0.10	0.30	0.07	0.25	0.13	0.34
Housing allowance recipient (0/1)	0.02	0.13	0.13	0.33	0.23	0.42
Housing allowance (€/year)	2775	2307	3521	2601	4321	2567
Public housing subsidy (€/year)					4449	1033

Notes: The mean housing allowance and the mean public housing subsidy are calculated over households that received these subsidies. Disposable income includes the housing allowance, but does not include the public housing subsidy.

Housing tenure and distribution of subsidy by income decile
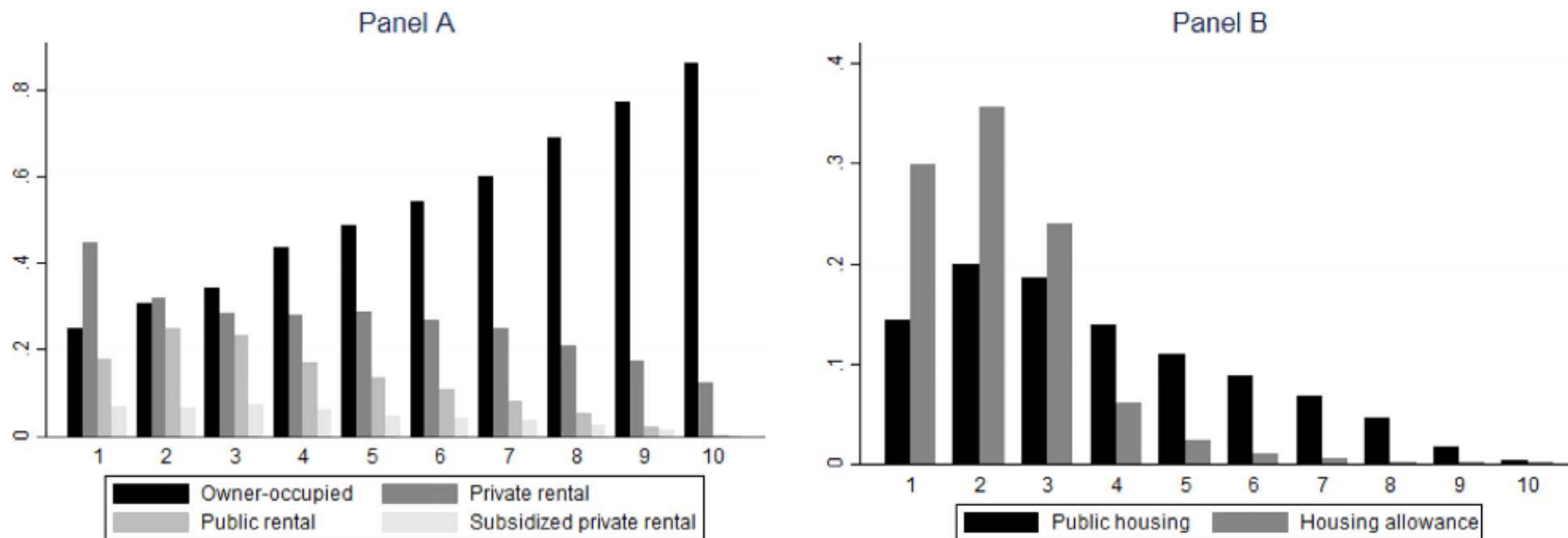
Fig. 5. Housing tenure and distribution of subsidy by income decile.

Notes: The income deciles are based on disposable income scaled by the OECD equivalence scale. Panel A describes the tenure structure of each income decile. Panel B describes the shares of the total public housing subsidy and the housing allowance received by households in each income decile.

Segregation

- **Public housing collects poor households into same buildings and neighborhoods**
  - It is an extra subsidy that a poor household receives IF the household moves to a building with other poor households
  - On the other hand, it may be possible to mitigate this concentration by locating the buildings to sought-after neighborhoods and
  - by applying tenant selection rules that allow middle- and even high-income households to occupy the units

- **Housing allowance recipients can choose their location more freely (within their budget constraint of course)**
  - They can use the allowance either to consume larger units and/or enter better quality n'hoods

Segregation

- **We consider four neighborhood "quality" measures:**
  - Median disposable income,
  - Share of hh's below local poverty line,
  - Share of hh's with master's degree and
  - Market rent per square meter

- **Use zip codes and buildings to define neighborhoods**
- **Compare exposure of public housing and private rental tenants to neighborhood characteristics by income quintile**

Neighborhood exposure

Results from OLS regressions using hh level data.

Outcome variables measured at zip code level.

Sample includes only renters and zip codes with at least 20 hh's in our data.

	Median income (1)	Poverty rate (2)	Share with a master's degree (3)	Mean rent (€/m²) (4)
Constant	23397***	0.199***	0.206***	20.90***
	(613.0)	(0.011)	(0.015)	(0.606)
2. quintile	54.18	-0.004**	0.002	0.051
	(122.7)	(0.002)	(0.004)	(0.142)
3. quintile	683.9***	-0.011***	0.016***	0.326*
	(171.8)	(0.002)	(0.004)	(0.170)
4. quintile	1315***	-0.016***	0.034***	0.761***
	(263.0)	(0.004)	(0.006)	(0.249)
5. quintile	2622***	-0.029***	0.066***	1.370***
	(400.6)	(0.005)	(0.010)	(0.342)
1. quintile * public tenant	-2392***	0.014*	-0.076***	-2.407***
	(476.6)	(0.008)	(0.013)	(0.509)
2. quintile * public tenant	94.71	-0.000	0.003	0.029
	(145.0)	(0.003)	(0.004)	(0.168)
3. quintile * public tenant	-253.6	0.002	-0.004	-0.259
	(212.7)	(0.003)	(0.006)	(0.199)
4. quintile * public tenant	-742.81*	0.007	-0.019**	-0.456
	(319.5)	(0.005)	(0.008)	(0.306)
5. quintile * public tenant	-1451**	0.011	-0.036**	-0.764*
	(565.5)	(0.008)	(0.014)	(0.412)
N	14,534	14,534	14,534	14,412
R^2	0.20	0.08	0.24	0.24
Household controls	yes	yes	yes	yes

Neighborhood exposure

Dummy variables (0/1) indicating the income quintile

Interaction terms of dummy variables

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Neighborhood exposure

A free market tenant in the lowest income quintile is exposed to neighbors whose median income is €23,397

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Neighborhood exposure

A free market tenant in the lowest income quintile is exposed to neighbors whose median income is €23,397

A free market tenant in the highest income quintile is exposed to neighbors whose median income is €26,019 (€23,397+€2622)

Evidence of segregation so that higher income people have higher income neighbors

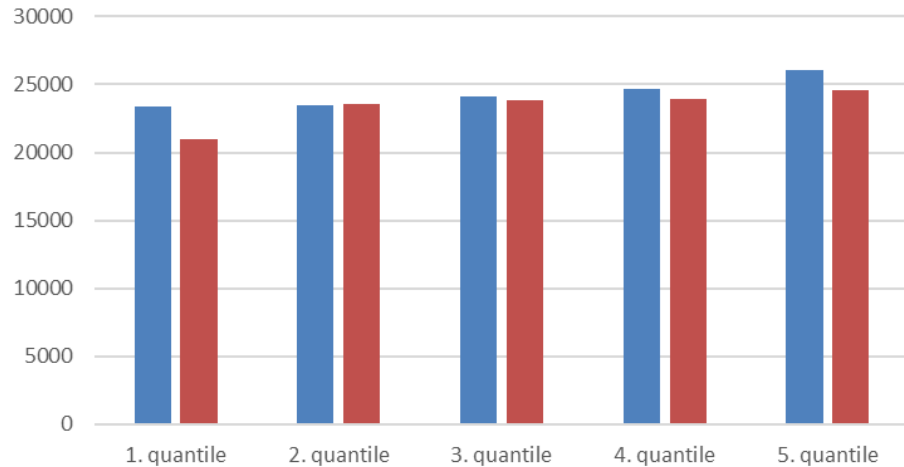|	Median income (1)	Poverty rate (2)	Share with a master's degree (3)	Mean rent (€/m²) (4)
Constant	23397***	0.199***	0.206***	20.90***
	(613.0)	(0.011)	(0.015)	(0.606)
2. quintile	54.18	-0.004**	0.002	0.051
	(122.7)	(0.002)	(0.004)	(0.142)
3. quintile	683.9***	-0.011***	0.016***	0.326*
	(171.8)	(0.002)	(0.004)	(0.170)
4. quintile	1315***	-0.016***	0.034***	0.761***
	(263.0)	(0.004)	(0.006)	(0.249)
5. quintile	2622***	-0.029***	0.066***	1.370***
	(400.6)	(0.005)	(0.010)	(0.342)
1. quintile * public tenant	-2392***	0.014*	-0.076***	-2.407***
	(476.6)	(0.008)	(0.013)	(0.509)
2. quintile * public tenant	94.71	-0.000	0.003	0.029
	(145.0)	(0.003)	(0.004)	(0.168)
3. quintile * public tenant	-253.6	0.002	-0.004	-0.259
	(212.7)	(0.003)	(0.006)	(0.199)
4. quintile * public tenant	-742.81*	0.007	-0.019**	-0.456
	(319.5)	(0.005)	(0.008)	(0.306)
5. quintile * public tenant	-1451**	0.011	-0.036**	-0.764*
	(565.5)	(0.008)	(0.014)	(0.412)
N	14,534	14,534	14,534	14,412
R^2	0.20	0.08	0.24	0.24
Household controls	yes	yes	yes	yes

Neighborhood exposure

A free market tenant in the lowest income quintile is exposed to neighbors whose median income is €23,397

A public housing tenant in the lowest income quintile is exposed to neighbors whose median income is €21,005 (€23,397–€2392)
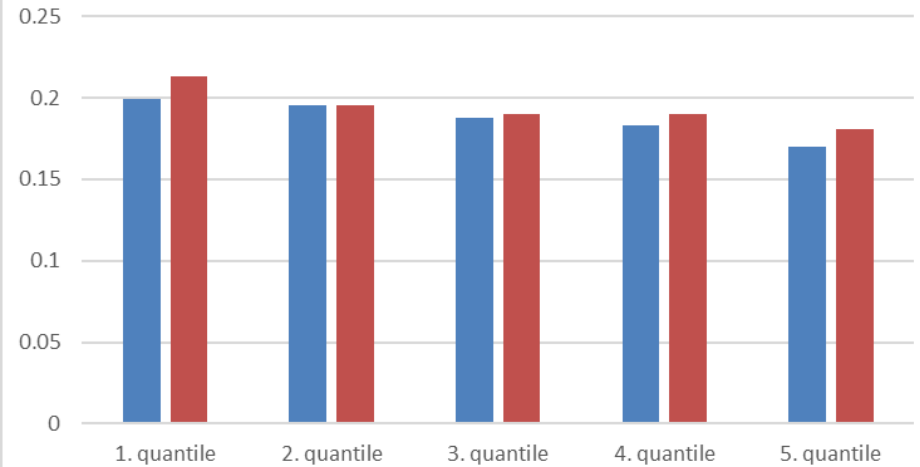
	Median income (1)	Poverty rate (2)	Share with a master's degree (3)	Mean rent (€/m²) (4)
Constant	23397***	0.199***	0.206***	20.90***
	(613.0)	(0.011)	(0.015)	(0.606)
2. quintile	54.18	-0.004**	0.002	0.051
	(122.7)	(0.002)	(0.004)	(0.142)
3. quintile	683.9***	-0.011***	0.016***	0.326*
	(171.8)	(0.002)	(0.004)	(0.170)
4. quintile	1315***	-0.016***	0.034***	0.761***
	(263.0)	(0.004)	(0.006)	(0.249)
5. quintile	2622***	-0.029***	0.066***	1.370***
	(400.6)	(0.005)	(0.010)	(0.342)
1. quintile * public tenant	-2392***	0.014*	-0.076***	-2.407***
	(476.6)	(0.008)	(0.013)	(0.509)
2. quintile * public tenant	94.71	-0.000	0.003	0.029
	(145.0)	(0.003)	(0.004)	(0.168)
3. quintile * public tenant	-253.6	0.002	-0.004	-0.259
	(212.7)	(0.003)	(0.006)	(0.199)
4. quintile * public tenant	-742.81*	0.007	-0.019**	-0.456
	(319.5)	(0.005)	(0.008)	(0.306)
5. quintile * public tenant	-1451**	0.011	-0.036**	-0.764*
	(565.5)	(0.008)	(0.014)	(0.412)
N	14,534	14,534	14,534	14,412
R^2	0.20	0.08	0.24	0.24
Household controls	yes	yes	yes	yes

Neighborhood exposure

Neighborhood exposure

Building exposure

Results from OLS regressions using hh level data.

Outcome variables measured at building level.

Sample includes only renters and buildings with at least 20 hh's in our data.

	Median income (1)	Poverty rate (2)	Share with a master's degree (3)
Constant	20320***	0.319***	0.191***
	(687.5)	(0.027)	(0.017)
2. quintile	799.1***	-0.078***	0.001
	(263.5)	(0.011)	(0.008)
3. quintile	2434***	-0.109***	0.006
	(305.1)	(0.011)	(0.009)
4. quintile	4899***	-0.136***	0.059***
	(599.4)	(0.018)	(0.011)
5. quintile	5913***	-0.149***	0.093***
	(747.6)	(0.020)	(0.014)
1. quintile * public tenant	-4139***	0.083***	-0.122***
	(482.0)	(0.022)	(0.010)
2. quintile * public tenant	515.5	-0.027	0.004
	(390.4)	(0.020)	(0.009)
3. quintile * public tenant	-514.2	-0.005	-0.001
	(512.1)	(0.024)	(0.010)
4. quintile * public tenant	-2863***	0.033	-0.060***
	(853.4)	(0.034)	(0.013)
5. quintile * public tenant	-2896**	0.044	-0.087***
	(1198)	(0.045)	(0.020)
N	3,343	3,343	3,343
R^2	0.35	0.20	0.34
Household controls	yes	yes	yes

Segregation

- **Both private rental and public housing tenants in higher income quintiles live in better quality neighborhoods compared to tenants in lower income quintiles**

- **Low-income public housing tenants live in lower quality neighborhoods than similar private rental tenants**
  - They live in zip codes with 10% lower median income, 7 percentage points lower share of hh's with a master's degree and lower market rent (2.4 Euros/m2)
  - The same is true at the building level

- **The results hold when sample is restricted to include only hh's that received HA for 12 months**

Conclusions

- **Public housing subsidy is comparable to HA in size in Helsinki**

- **HA is better targeted to low-income households**
  - Of course, ultimately depends on potential rent effects

- **Low-income public housing tenants are more isolated into poorer neighborhoods and buildings compared to other low-income households**

- **Results can be explained by lock-in effects together with other features of the program**

Recap

- **Rent control destroys welfare due to undersupply and misallocation**

- **There are several ways to subsidize low-income households**
  - Cash, housing allowance, public housing

- **All the subsidy types have their merits and downsides**
  - Fairness, transparency etc.

  - Which subsidy is the best, depends on what you want to accomplish