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FIG Working Week 2011  
Bridging the Gap between Cultures  
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## Leasehold discount in dwelling prices

A neglected view to the challenges facing the leasehold institution

### The leasehold institution

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City of Helsinki owns 68 % of its land area (prior to changes in subdivision in 2010).

Public land has played and still plays an important role in housing.

220,000 people, or 40 % of the city population, lives on leased public land, either as tenants or owner-occupiers of apartments.

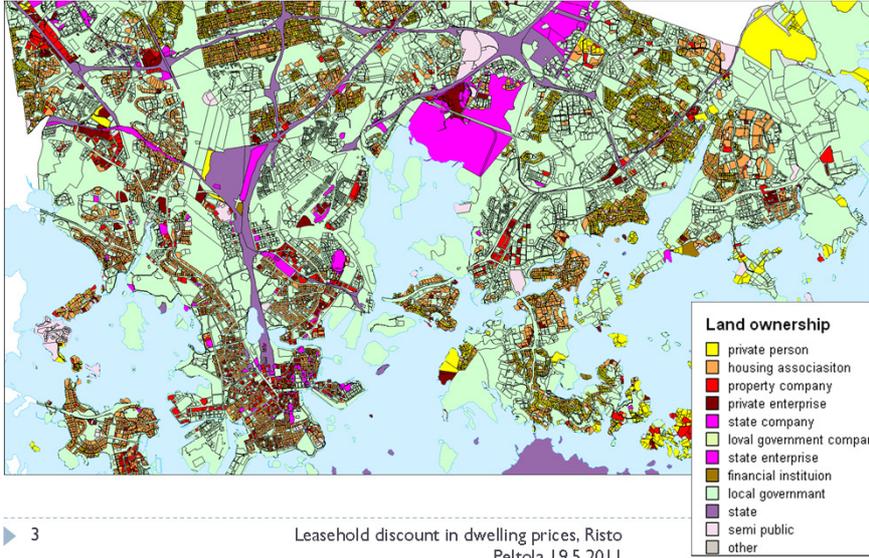
In Finland, as in many other countries, the most expansive years of public land leasing are behind.

Most of the growth of Helsinki metropolitan area has for the last 40 years occurred in communities where leasing has only been a marginal form of land supply.

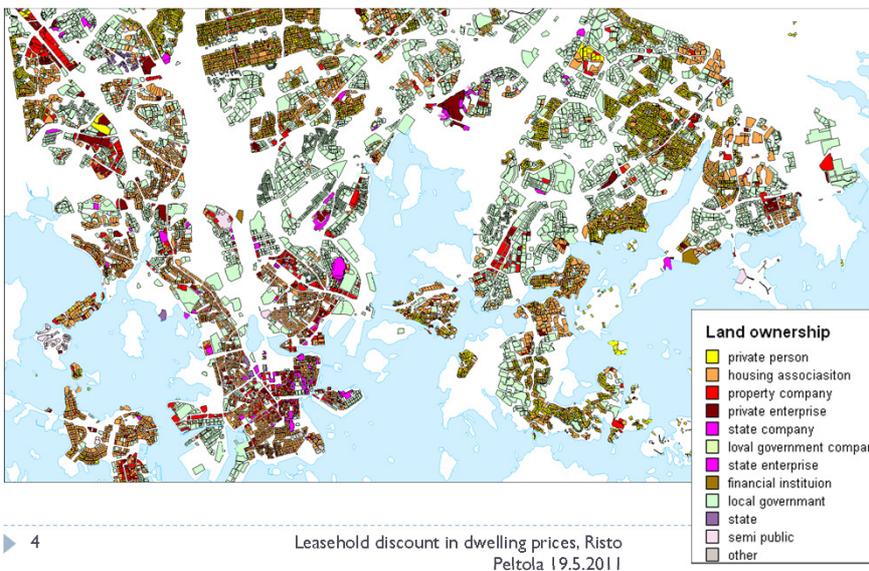
However, the vast stock of leased land needs management. Several problems arises: should the lease be extended for another 30-100 years? Or should the land be sold to the lessee, or to a third party? At what price?

How should the new rent and other terms be determined? How to handle the negotiations process, especially when the lessee claims to be ill-prepared to a rent rise? How to be fair between all lessees and the taxpayers and stakeholders of the city as a whole?

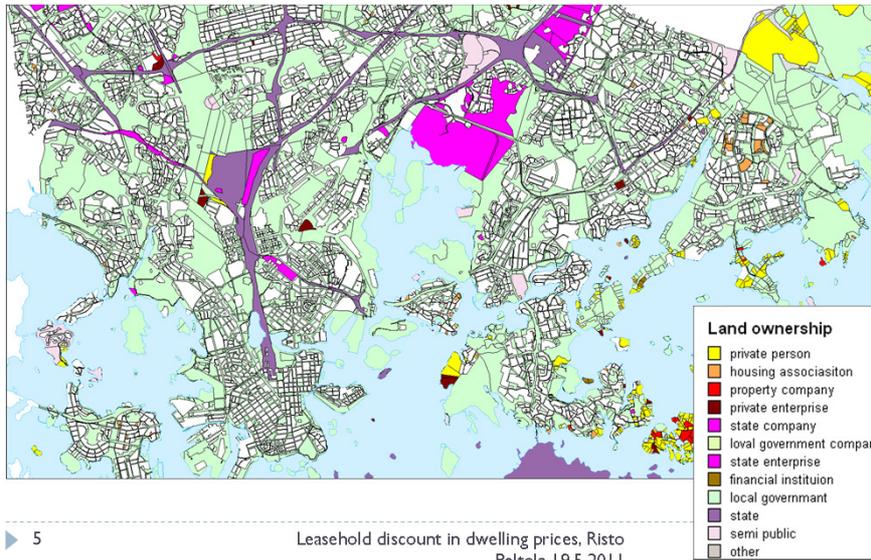
## Land ownership in Helsinki



## Land ownership in Helsinki (lots within detailed plan)



## Land ownership in Helsinki (without lots within detailed plan)



## The focus of this presentation: The leasehold discount in dwelling prices

This article focuses on a particular aspect of leasing land market, namely, sales of apartments that are built on leased land.

In dwelling prices, there is always an implicit price on land. In leasehold cases, there is always an implicit price on the lease contract.

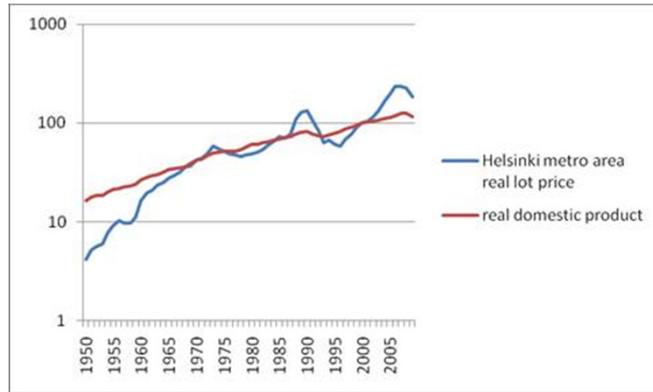
What do the selling prices of dwellings tell us about the value of the lease contract? And what is most interesting, what is told about a contract, where the lease term is about to expire?

These questions have become very acute, as the 60-year lease contracts of the 1950-ies are to be extended, or otherwise dealt with.

The lease payments of the 1950-ies are all but nominal today, as the land prices were low at the time of contract, and have since then increased 30-100-fold in real terms, and lease payment have only increased with general price level.

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## Real lot price appreciation



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## Statistics of urban expansion in city of Helsinki and Helsinki metropolitan area

era	1945	1946-1970	1971-2009	
Helsinki city land area	35	180	180	(km <sup>2</sup> )
population, city of Helsinki, in end of period	0,28	0,52	0,58	(million)
population, Helsinki metropolitan area, end of period	0,4	0,8	1,3	(million)
Helsinki city population density	8000	2889	3222	per km <sup>2</sup>
Helsinki city share of HMA population	70 %	65 %	45 %	
Helsinki city share of HMA population growth		60 %	12 %	
Main urban growth located in	Inner city, less than 4 km from centre	Suburbs, 4-12 km from centre	Metropolitan area outside of Helsinki, more than 12 km from centre	

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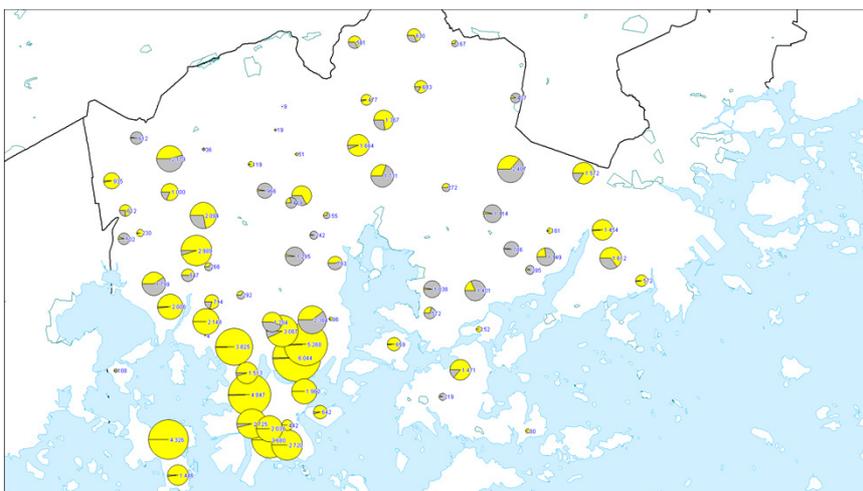
## Public land leasing as a tool to manage urban housing problems in city of Helsinki and Helsinki metropolitan area

era	1945	1946-1970	1971-2009
Helsinki city	marginal: first leases in the 1920-ies	more than half of new housing construction and more than a third of new owner-occupied housing were on public leasedhold	
Helsinki MA	no	marginal	marginal

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## The housing market: Number of dwelling sales (31 years) freehold = yellow, leasehold=grey

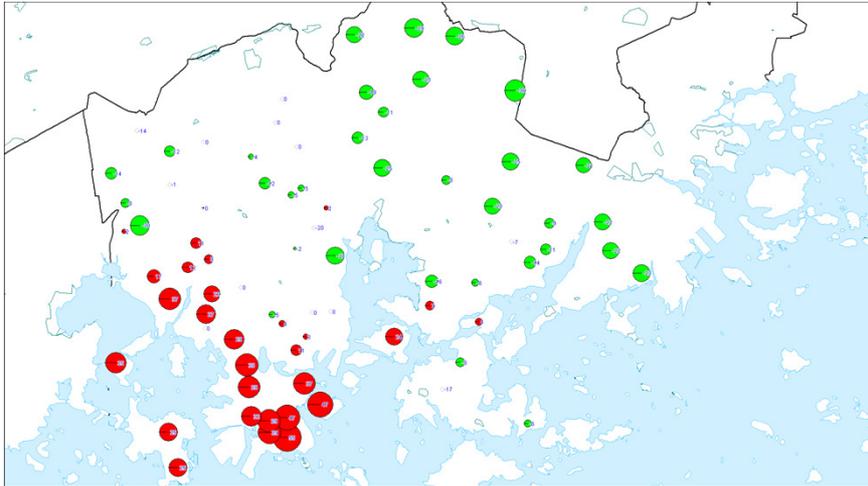


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## The housing market:

Price of a freehold dwelling compared to city average (freehold)  
red = above average (+), green = below average (-),  
the larger the circle the larger the deviation from average



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## The data

The dwelling sales data consists all dwelling transactions in Helsinki in 2008 in multi-family buildings (blocks of flats). Descriptive statistics is given in pages 15 and 25, where the results of the analysis are also found.

Land price data consists of all lot sales in Helsinki in years 1985-2009.

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## Specification of variables

### Leasehold discount in dwelling prices (constant quality) (% e/m2)

For each dwelling in a leasehold lot, a dwelling price is estimated assuming the lot is freehold. Leasehold discount is then calculated simply as a difference between the estimated and actual selling prices. In the price model these variables were controlled: zip code, age of building, quality of dwelling (good, average, poor), floor number of the dwelling and number of floors in the building. The price model also controls the fact that the depreciation is slower the more expensive the area is due to better maintenance.

### Land price

Land price on the dwelling lot was estimated with a rather rough price model, which only controls distance to city centre, lot size and lot ratio. Some rather important variables are omitted, e.g. distance to seashore. The model was fit to a very large dataset of all lot sales in Helsinki during years 1985-2009.

### Implicit land share of dwelling price (% freehold)

is a ratio of lot price (€/m2) estimate and actual dwelling selling price in a freehold lot, both measured per dwelling area unit (m2).

### Implicit land price (% of actual) in leasehold sales

is calculated as a function of lot price (€/m2) and dwelling prices in freehold and leasehold lots:

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## Implicit land price (% of actual) in leasehold sales

$$\text{implicit land price (\% of actual) in leasehold sales} = \left( \frac{\text{dwelling price in leasehold lot} - \frac{\text{estimated price of the same dwelling assuming a freehold lot}}{\text{land price/100}} + \text{land price}}{\text{land price/100}} \right)$$

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The leasehold discount DOES NOT significantly depend on location: close to the centre or distant from it, the discount is in the same order of magnitude

distance to city centre	number of dwellings sold		dwelling price €/m2		Leasehold discount in dwelling prices (constant quality)		implicit land share of dwelling price (%) in leasehold sales	implicit land price (% of actual) in leasehold sales
	ownership		ownership		(%)	€/m2	Mean	Median
	freehold	public leasehold	freehold	public leasehold				
0-2 km	1367	20	4815	4298	0	17	27	91
2-4 km	1658	192	3856	3270	-10	-341	28	60
4-6 km	475	335	3582	3267	-4	-143	24	84
6-8 km	447	478	2953	2731	-6	-151	25	77
8-10 km	389	414	2706	2360	-8	-178	25	70
10-12 km	268	345	2820	2291	-9	-230	24	57
12-14 km	374	130	2679	2271	-10	-280	23	42

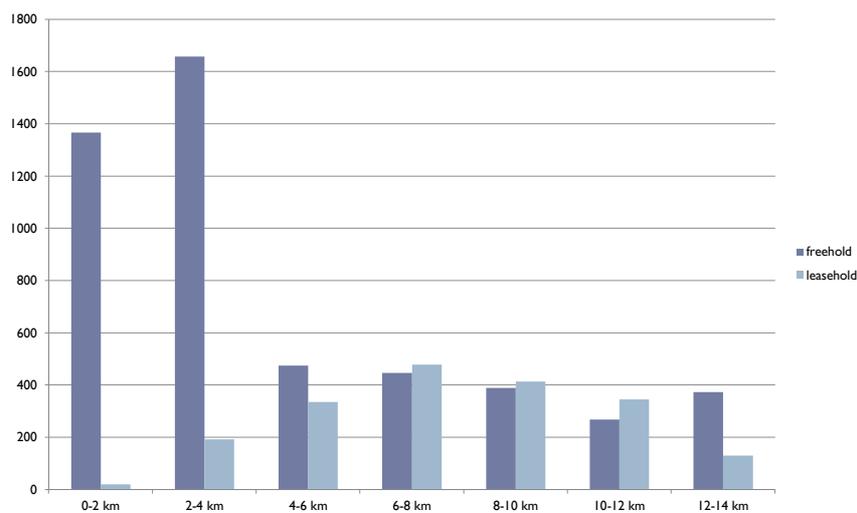
  

distance to city centre	lot price (€/m2)		lot ratio	expenses (€/m2/month)		leasehold effect on expenses		vintage
	(dwelling m2)	(land m2)		ownership	(%)	€/m2/month	Mean	
	Mean	Mean	Mean	freehold	public leasehold	Mean	Mean	Mean
0-2 km	1240	3067	292	2.80	3.35	61	1.46	1933
2-4 km	1049	1788	216	3.04	3.37	12	0.33	1951
4-6 km	816	783	122	2.95	3.35	12	0.29	1963
6-8 km	676	481	84	2.92	3.19	16	0.38	1969
8-10 km	619	435	84	2.85	3.24	18	0.45	1977
10-12 km	607	379	74	3.04	3.37	21	0.55	1976
12-14 km	530	401	90	2.80	3.27	25	0.64	1983

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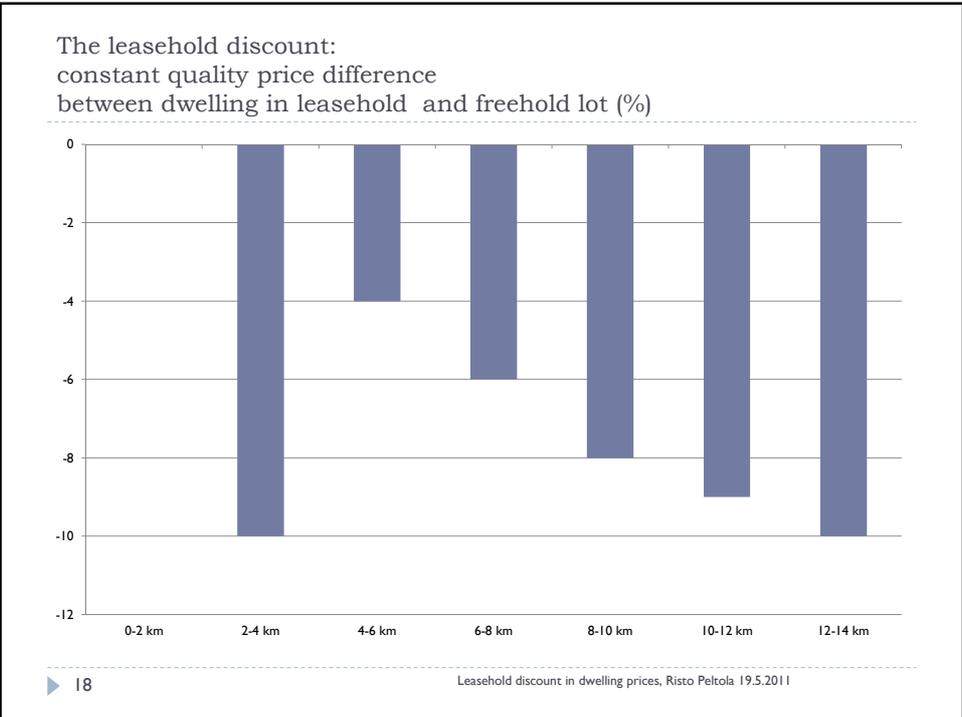
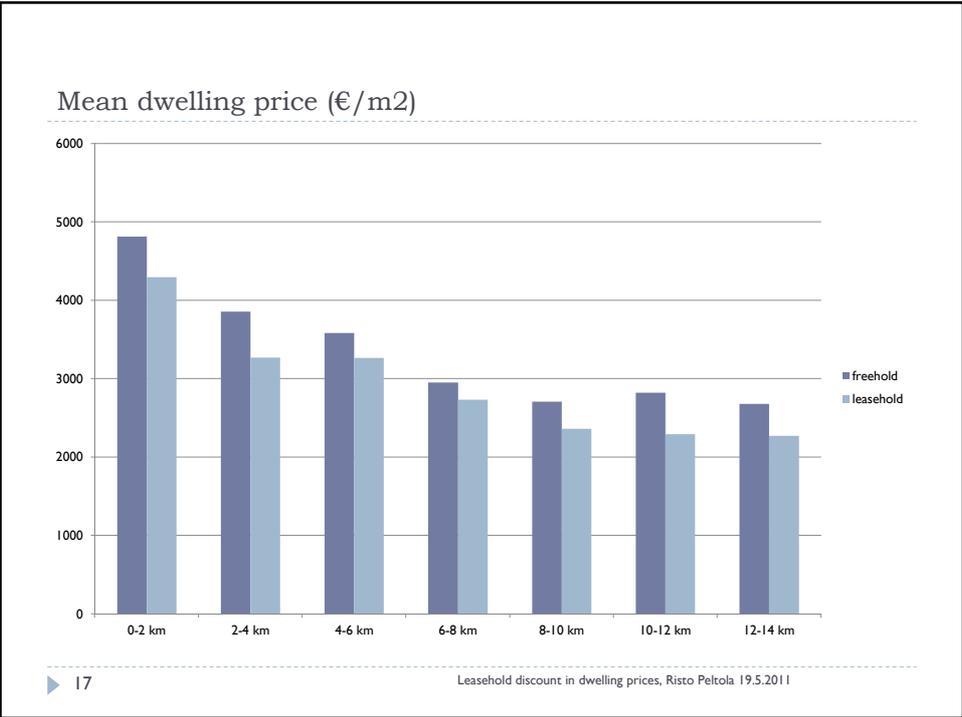
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number of dwellings sold

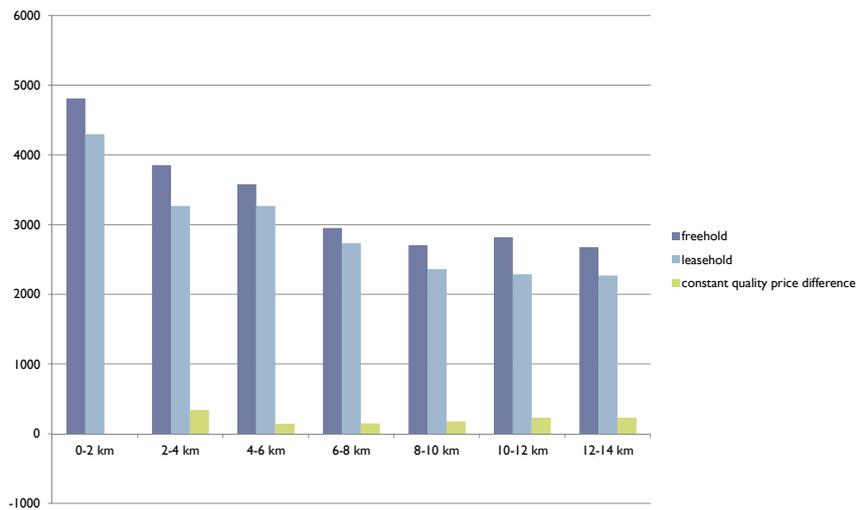


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Leasehold discount in dwelling prices, Risto Peltola 19.5.2011



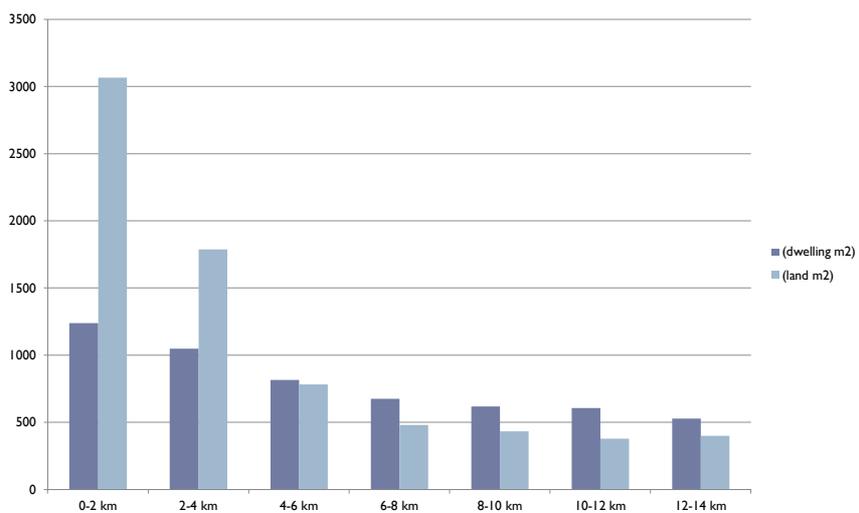
Mean dwelling price and leasehold discount (constant quality) (€/m<sup>2</sup>)



▶ 19

Leasehold discount in dwelling prices, Risto Peltola 19.5.2011

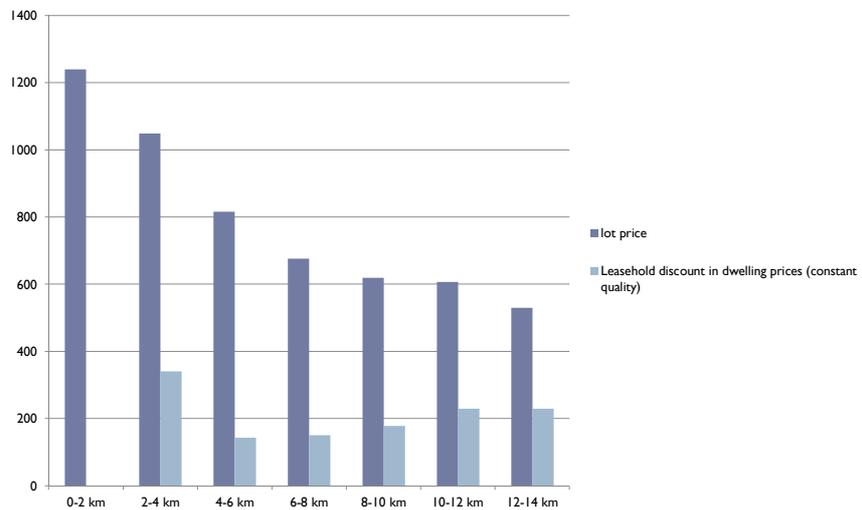
lot price (€/m<sup>2</sup>)



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Leasehold discount in dwelling prices, Risto Peltola 19.5.2011

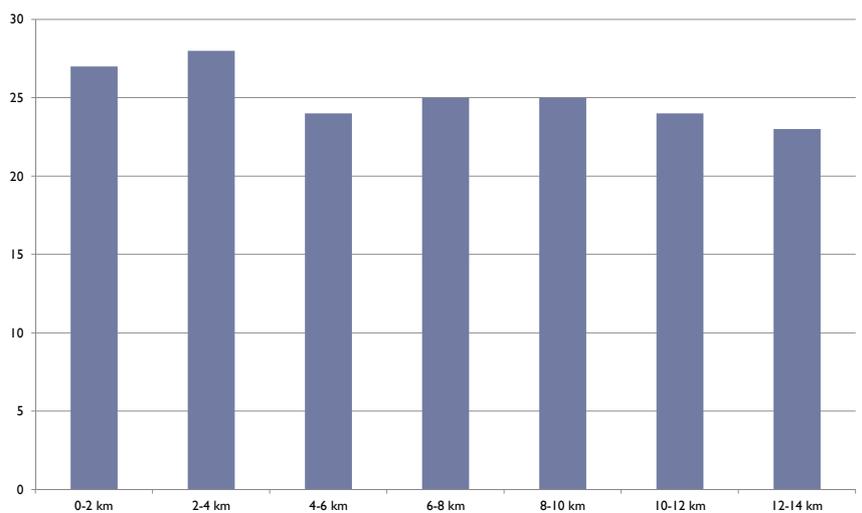
lot price (€/m<sup>2</sup>) and  
constant quality price difference  
between dwelling in freehold and leasehold lot (€/m<sup>2</sup>)



▶ 21

Leasehold discount in dwelling prices, Risto Peltola 19.5.2011

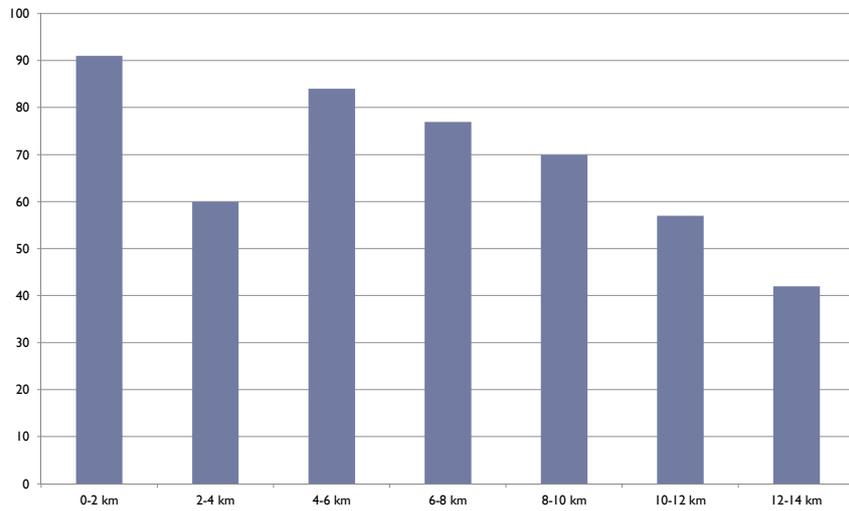
lot share of freehold-lot dwelling price (%)



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Leasehold discount in dwelling prices, Risto Peltola 19.5.2011

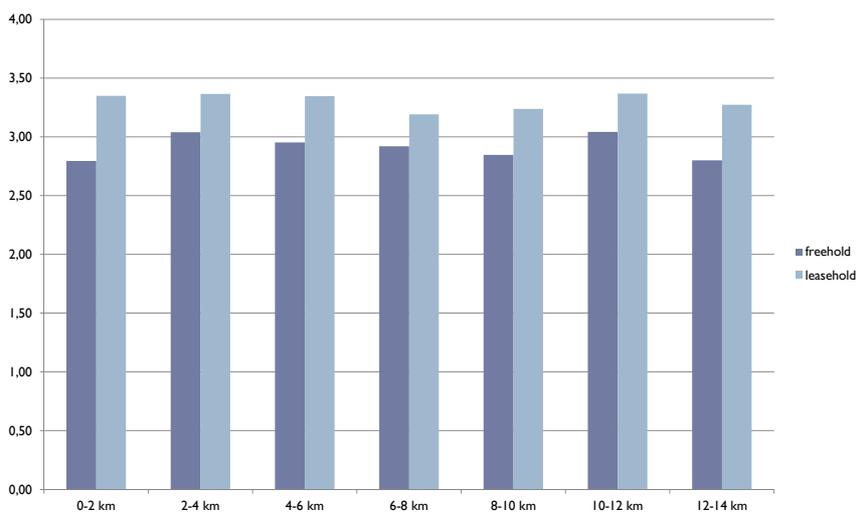
### implicit land price (% of actual) in leasehold sales



▶ 23

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### expenses (e/m<sup>2</sup>/month)



▶ 24

Leasehold discount in dwelling prices, Risto Peltola 19.5.2011

The leasehold discount DOES significantly depend on the age of the leasehold contract: the older the contract, the less the discount.

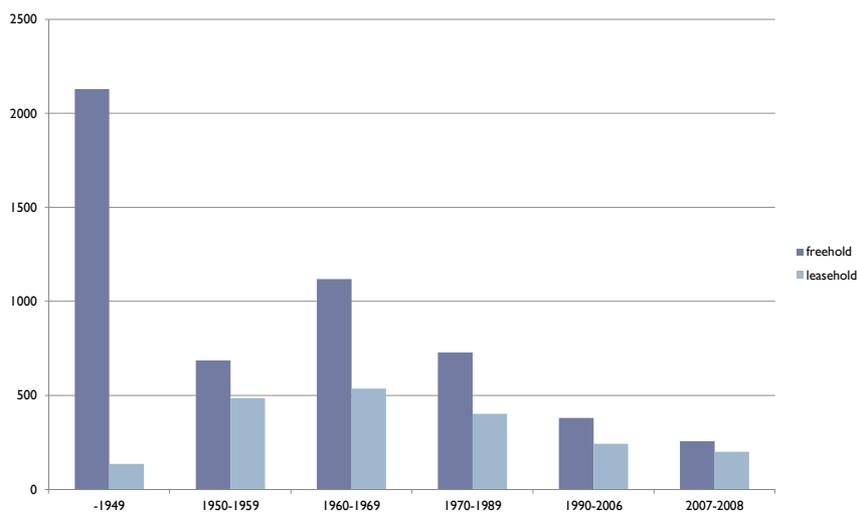
	number of dwellings sold		dwelling price €/m2		Leasehold discount in dwelling prices (constant quality)		implicit land share of dwelling price (% of actual) in leasehold sales	implicit land price (% of actual) in leasehold sales
	ownership		ownership		Leasehold discount in dwelling prices (%)	€/m2	Mean	Median
	freehold	public leasehold	freehold	public leasehold				
All	5305	2009	3755	2691	-7	-194	26	66
year built								
-1949	2129	137	4319	3317	-1	-33	26	102
1950-1959	687	486	3380	2877	-5	-137	29	79
1960-1969	1120	537	3132	2323	-4	-102	29	84
1970-1989	730	404	2858	2328	-10	-251	27	49
1990-2006	382	243	4110	2810	-12	-375	18	40
2007-2008	257	202	4823	3385	-16	-569	21	-22

	lot price (€/m2)		lot ratio	expenses (€/m2/month)		leasehold effect on expenses	
	(dwelling m2)	(land m2)		ownership	(%)	€/m2/month	€/m2/month
	Mean	Mean	Mean	freehold	public leasehold	Mean	Mean
All	884	1372	157	2.92	3.30	18	0.45
year built							
-1949	1071	2466	261	2.95	4.04	26	0.74
1950-1959	839	891	111	2.89	3.07	-1	-0.02
1960-1969	839	841	99	3.14	3.23	10	0.31
1970-1989	734	775	106	2.91	3.25	19	0.49
1990-2006	722	911	129	2.44	3.52	37	0.90
2007-2008	795	1058	145	2.57	3.37	40	0.91

▶ 25

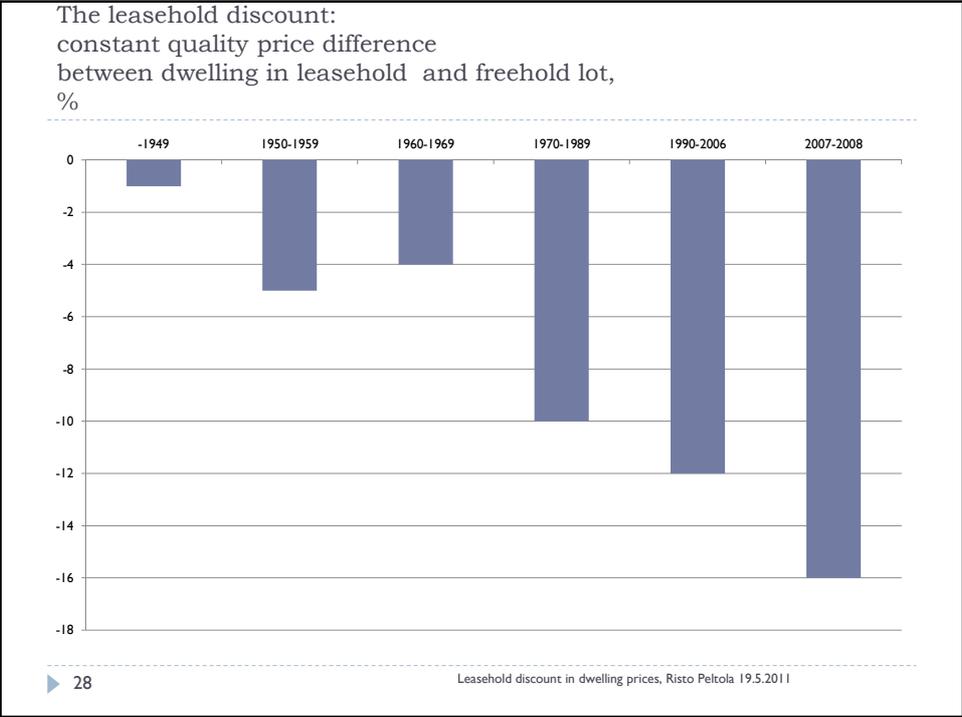
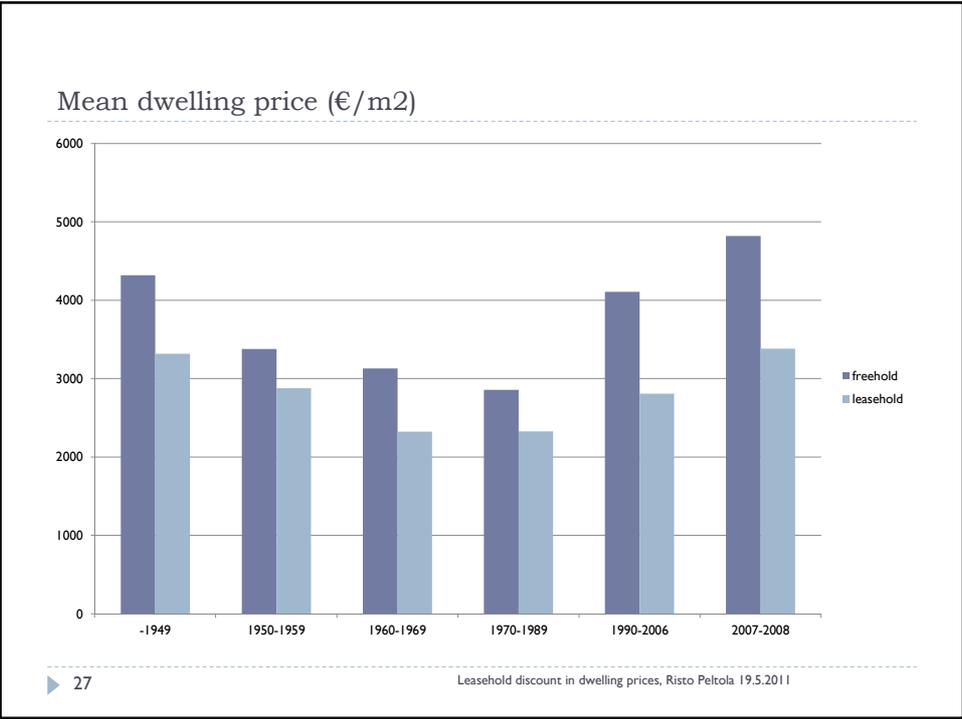
Leasehold discount in dwelling prices, Risto Peltola 19.5.2011

number of dwellings sold

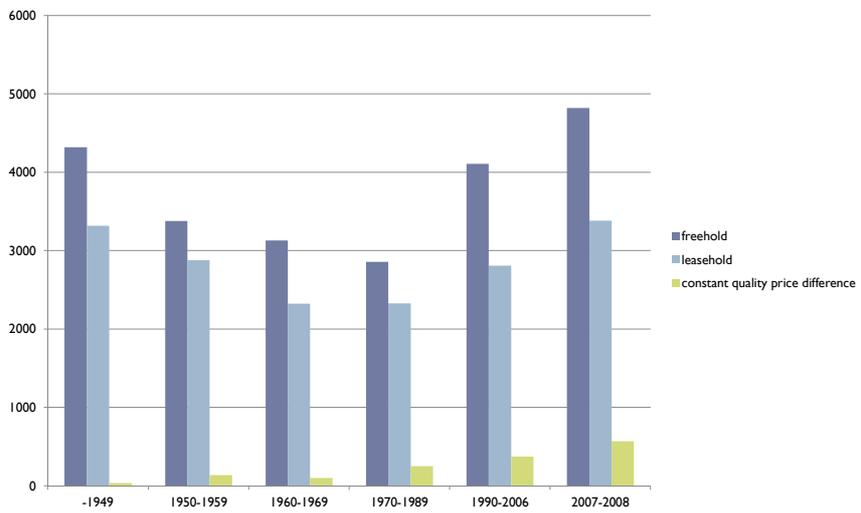


▶ 26

Leasehold discount in dwelling prices, Risto Peltola 19.5.2011



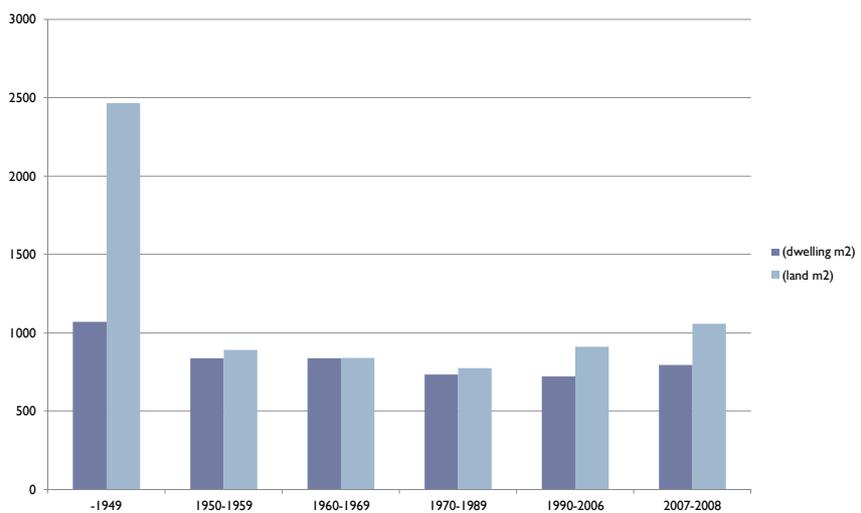
Mean dwelling price and leasehold discount (constant quality) (€/m<sup>2</sup>)



▶ 29

Leasehold discount in dwelling prices, Risto Peltola 19.5.2011

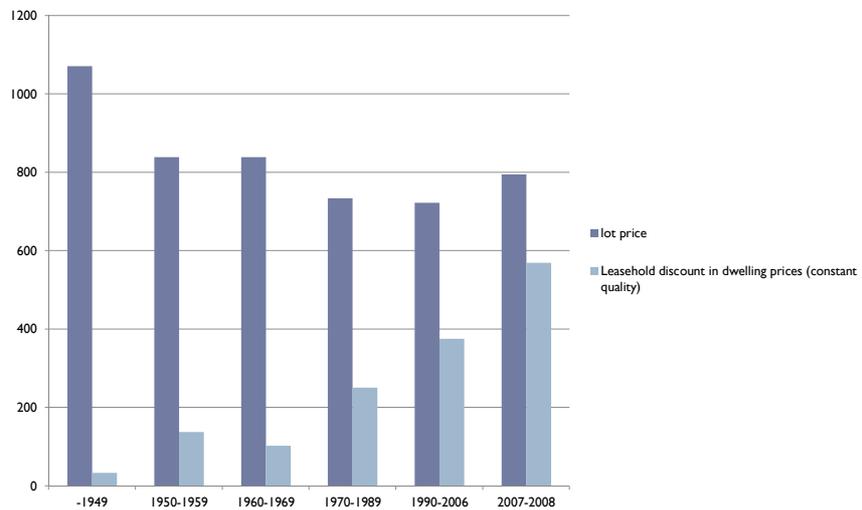
lot price (€/m<sup>2</sup>)



▶ 30

Leasehold discount in dwelling prices, Risto Peltola 19.5.2011

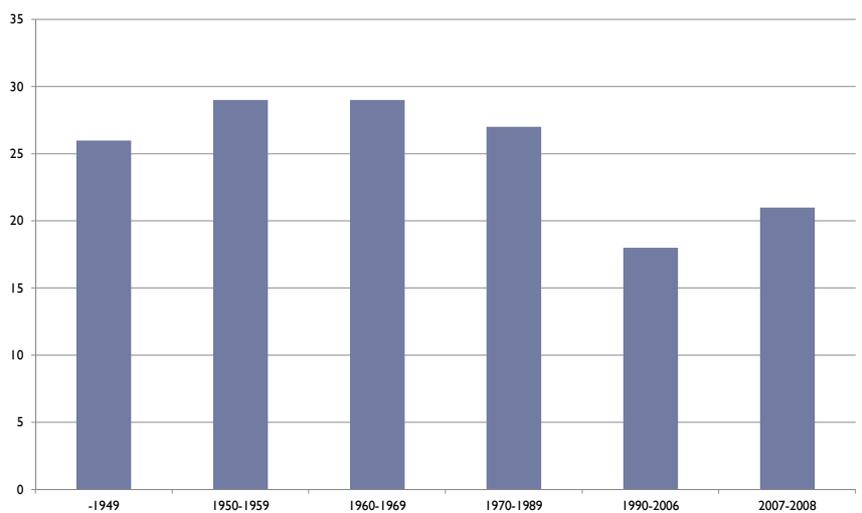
lot price (€/m<sup>2</sup>) and  
constant quality price difference  
between dwelling in freehold and leasehold lot (€/m<sup>2</sup>)



▶ 31

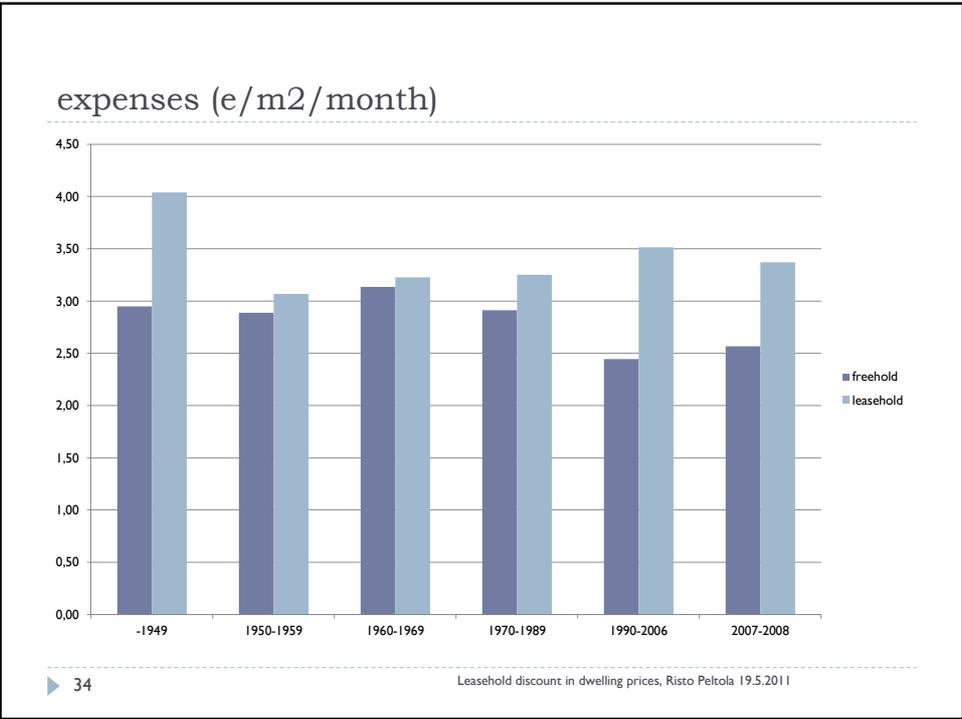
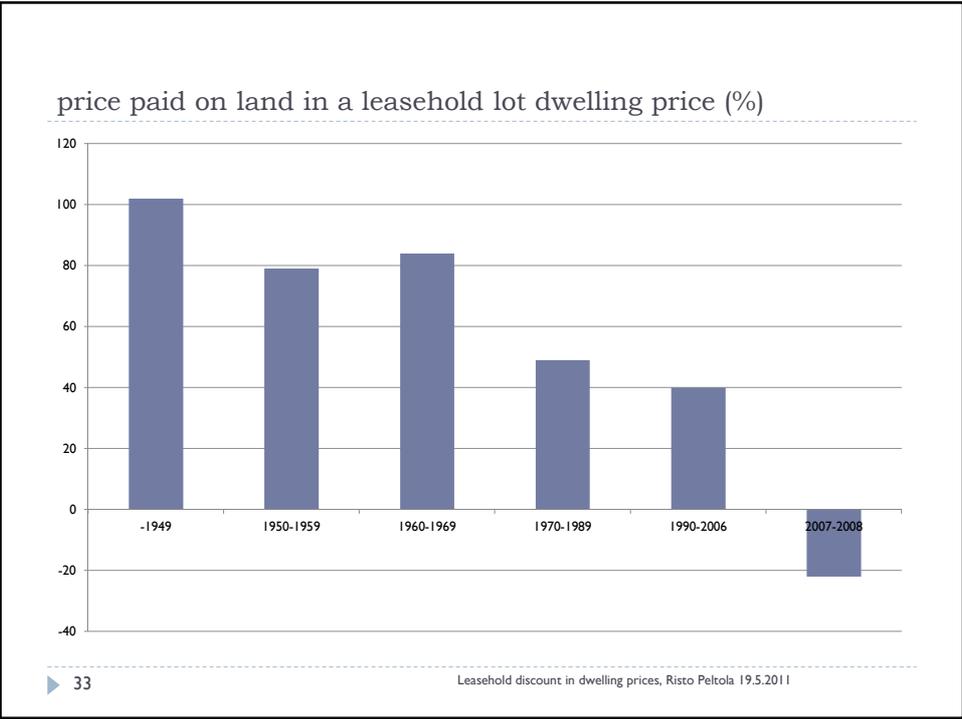
Leasehold discount in dwelling prices, Risto Peltola 19.5.2011

lot share of freehold-lot dwelling price (%)



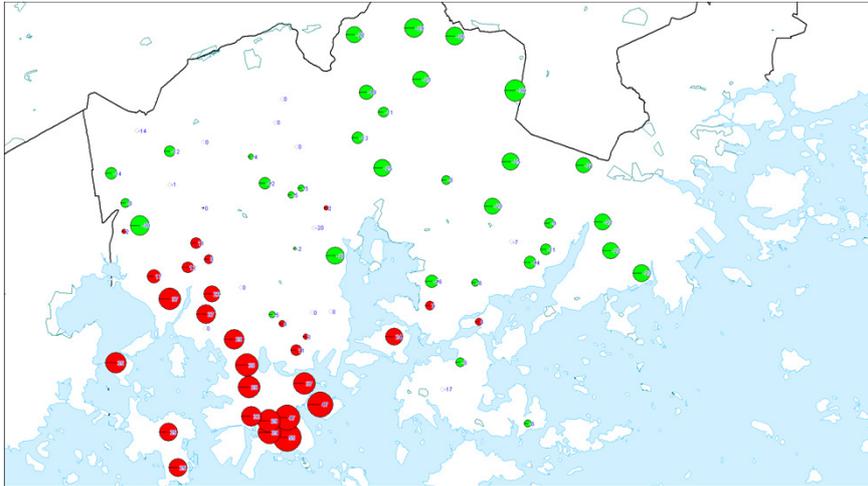
▶ 32

Leasehold discount in dwelling prices, Risto Peltola 19.5.2011



Price of a freehold dwelling compared to city average  
(freehold)

red = above average (+), green = below average (-),  
the larger the circle the larger the deviation from average

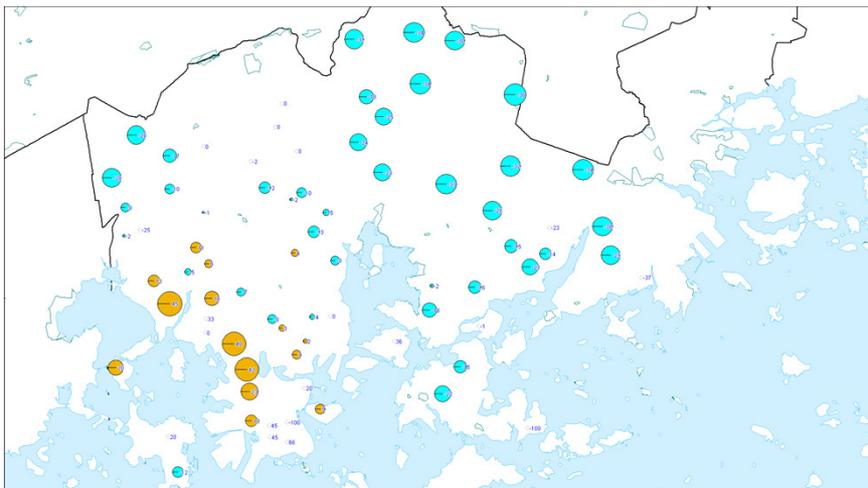


▶ 35

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Price of a leasehold dwelling compared to city average  
(freehold)

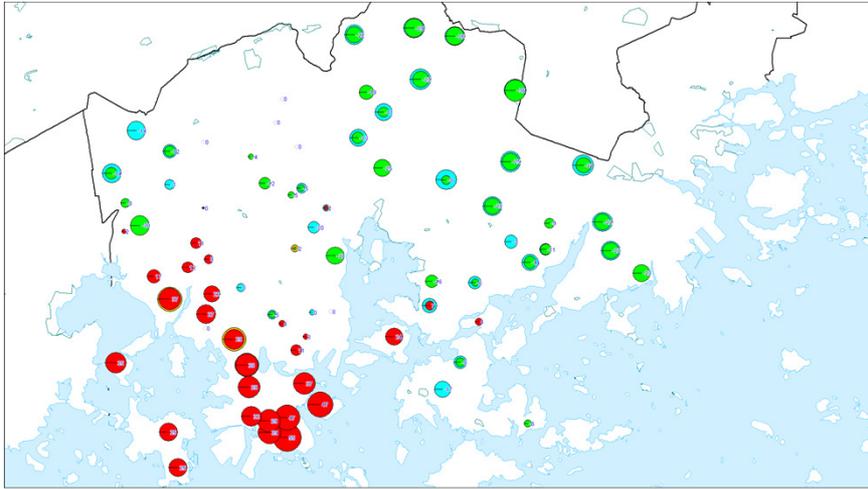
brown = above average (+), blue = below average (-)  
the larger the circle the larger the deviation from average



▶ 36

Leasehold discount in dwelling prices, Risto  
Peltola 19.5.2011

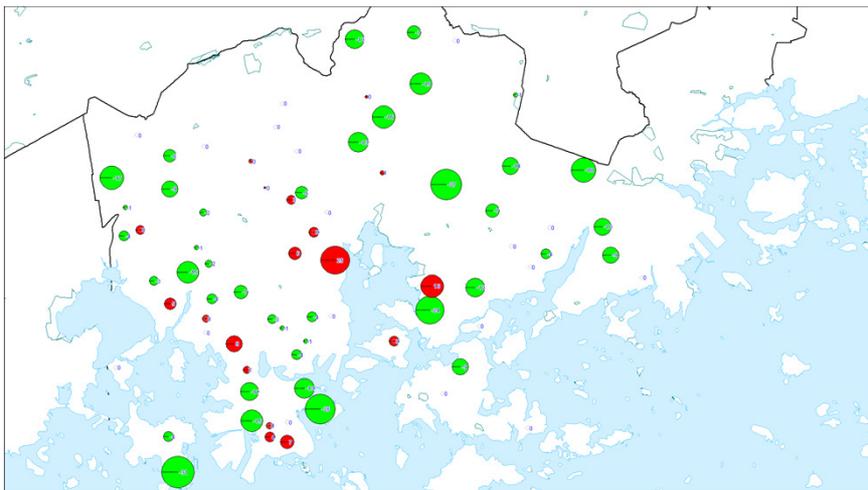
Prices of freehold (red +, green -)  
and leasehold dwellings (brown +, blue-)  
compared to city average (freehold)



▶ 37

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Leasehold discount



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## Summary of results: Leasehold discount in dwelling prices

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Dwellings in leasehold lots are cheaper than dwellings in freehold lots.  
On the average, the leasehold discount is 7 %.

This is a rather low figure given that the land share of freehold dwelling prices in Helsinki suburbs is about 25 %.

The leasehold discount does not significantly depend on location.

The leasehold discount DOES significantly depend on the age of the leasehold contract: the older the contract, the less the discount.

In contracts of the 50-ies and 60-ies the leasehold discount was 4-5 %.

In sales with more recent leasehold contract, the discount was 12-16 %. Even the latter figures are considerably lower than land price.

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## Policy implications

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Dwelling buyers of leasehold lots have paid an implicit land price, which in typical older contracts is 80 % of actual land price. This implies, that the lessees feel already as if they were the true owners of the lot.

They would probably not be willing to offer more than 20 % of the market value of the lot, if the lessor were willing to sell the lot.

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## Policy implications (some considerations not directly involved with the analysis are also taken into account)

As to lease increases, the lessees have been used to moderate, often nominal, annual payments, and claim not to have foreseen large increases in annual payments. Payments that reflect the market value of lot, valued as freehold and without buildings, would make the lessees unsatisfied, and such increases would probably be tested in court.

The city government understands this and lease increases have been at below-market rent level. However, even this level is more than many apartment buyers have foreseen. In these cases, the apartment buyers will be punished for their ignorance. Even some of these below-market rent level new rents will probably be tested in court.

Selling leasehold land should not be excluded from the policy tool-box. The city would get the sales price in the first instance, and annual property taxes thereafter. (An additional benefit would be a more even playing field for property taxation. An increase in property taxes have been called for by many.) The problem is, if the city decides to sell, it's hard to avoid bargain prices, even very low prices.

There is scope for more income from public land holdings to distressed local government. But it won't be easy, given the high prices paid on dwellings on leasehold land.

For transparency reasons, my advice is to use the market value of the lot as a benchmark for all leasing. The annual ground rent, which has been 4 % for residential lots in Helsinki, could then be used as policy parameter. This 4 % is rather high given some international comparisons (Sweden), and risk-free rate of interest and the fact that leasehold payment is not tax-deductible unlike mortgage payment of bankloans on freehold lots. Perhaps 3 % would be more equal. In lease-renewals, a 2 to 2½ % rent would soften the impact of applying lot market values as benchmarks.

Thank you!