

# DANMARKS NATIONALBANK

20 MARCH 2019 — NO. 6

## The impact of the housing taxation agreement on house prices

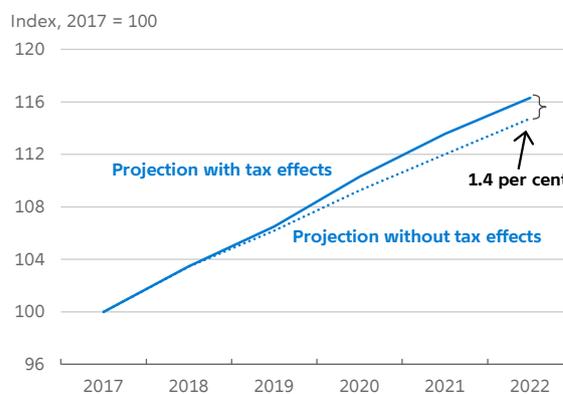
The housing taxation agreement from 2017 contributes to higher prices for single-family houses and lower prices for owner-occupied flats towards 2022.

The new housing taxes will apply from the beginning of 2021. With the housing taxation agreement, the link between property value taxes and house prices is restored following a period in which the effective taxation has gradually been undermined by the tax freeze. The property value tax rate will be set at a level whereby total proceeds from tax payments remain unchanged from 2020 to 2021, and in 2020 the municipal land tax rate will be set at a rate whereby the proceeds of the individual municipality do not rise from 2020 to 2021. There is some uncertainty as to how the agreement will affect house price developments, partly because of the new official valuations, which have been postponed until mid-2020. Presumably there will be an impact on house prices before the taxation agreement takes effect on 1 January 2021.

A conservative forecast shows that price growth for single-family houses will increase by 1.4 per cent over the period 2018-22 as a result of the housing taxation agreement. The price adjustment process will presumably have been completed by 2022, cf. Chart 1. For owner-occupied flats, on the other hand, the agreement is forecast to reduce price growth by 5.8 per cent over this period.

**Danmarks Nationalbank's projection of prices of single-family houses with and without the taxation agreement**

Chart 1



Note: Danmarks Nationalbank's projection of prices of single-family houses from March 2019.

Source: Own calculations based on data from the Danish tax authorities, SKAT, and Statistics Denmark.

The forecast price effects of the housing taxation agreement are limited compared with the price rises otherwise seen during the most recent upswing, and they are not sufficient to change the impression that the housing market is heading for a soft landing, cf. Chart 2.

The prices of owner-occupied flats have increased substantially in several of the larger urban areas during the upswing and have exceeded the levels warranted by developments in interest rates and disposable incomes, cf. Chart 3. So a dampening impact of the housing taxation agreement on price developments for owner-occupied flats, especially in Copenhagen, should be welcomed. Conversely, the prices of single-family houses are still lower than interest rate and income developments would indicate, cf. Chart 4.

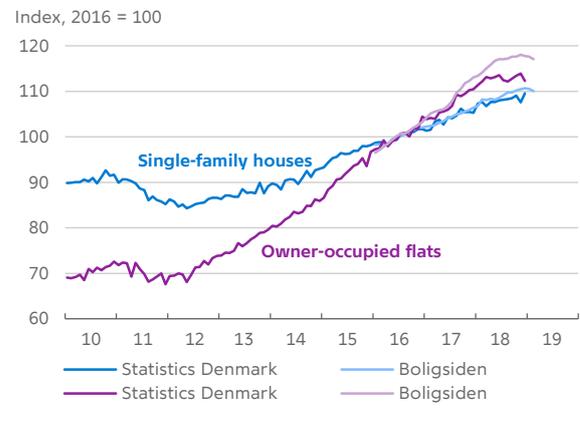
## The housing taxation agreement will stimulate prices of single-family houses towards 2022

The housing taxation agreement from May 2017<sup>1</sup> changes the calculation of both property value tax and property tax (land tax). Homeowners who will see their aggregate housing taxes rise in connection with the implementation of the taxation agreement will receive compensation by way of a tax rebate so that the aggregate housing taxes of the individual homeowner do not rise in 2021. This rebate will lapse when the home is sold after 2021.

When the tax freeze was introduced in 2001, property value taxes were frozen in nominal terms. As a result, the effective tax rate has fallen for homes that have risen in price, cf. Chart 5. This has led to substantial regional differences in effective tax rates. The areas that have seen the highest price increases now have the lowest effective tax rates, which has given them a tax rebate compared with a situation where property value taxes had mirrored house prices.

### House prices have risen considerably during the upswing

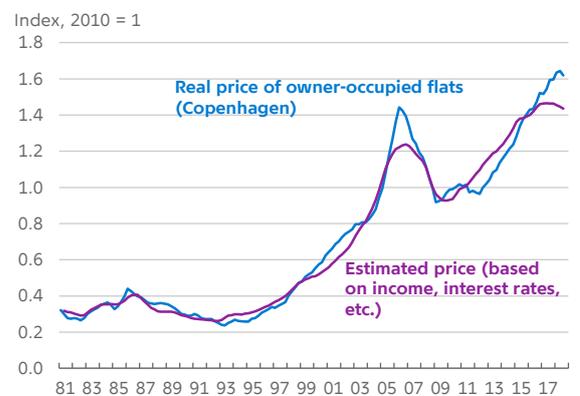
Chart 2



Note: Seasonally adjusted data.  
Source: Statistics Denmark and Boligsiden.

### Prices of owner-occupied flats in Copenhagen are relatively high

Chart 3



Note: See Danmarks Nationalbank, S.J. Hviid, T.S. Hvolbøl and E.H. Pedersen, Regional aspects of the housing market, *Monetary Review*, 4th Quarter 2016.  
Source: Statistics Denmark and Danmarks Nationalbank.

<sup>1</sup> See S. J. Hviid and P. L. Kramp, Housing taxation agreement stabilises house prices, *Danmarks Nationalbank Analysis*, No. 14, September 2017.

With the agreement, the rate will be the same for all homes across Denmark. This means that property value taxes will be reduced for some homes, while they will be increased for others.

Land tax reflects the official land valuations, but the regulation ratio caps the year-on-year increase in the taxable land value. Consequently, the land tax rate paid in a number of municipalities is lower than the tax rate set by the municipality.

The housing taxation agreement removes the regulation ratio, and in 2020 the municipal land tax rate will be set at a rate whereby the proceeds of the individual municipality do not rise from 2020 to 2021. This means that deferred increases in land tax are cancelled.

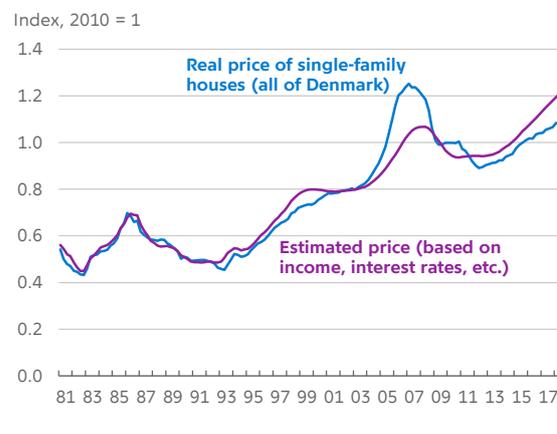
Hence, the housing taxation agreement will stimulate price developments for some homes and have a price-dampening effect on others. Typically, house prices outside the major urban areas are supported, while price developments in e.g. Copenhagen will be dampened towards 2021. Overall, it is assessed that the housing taxation agreement will boost the prices of single-family houses, especially in 2020, when the new official valuations are published. This is because housing taxes are eased for this housing category taken as one.

## Background to the calculation

To quantify the impact of the housing taxation agreement on the prices of single-family houses in Denmark overall, data previously published by SKAT has been applied.<sup>2</sup> This data includes examples of changes in the taxation of a less expensive, typical and more expensive house in each municipality. Weighting this data with the value of the houses traded at the municipal level over the last year shows that the effective tax rate for single-family houses taken as one will be reduced by 0.14 percentage point.

At the national level, prices of single-family houses are below the estimates

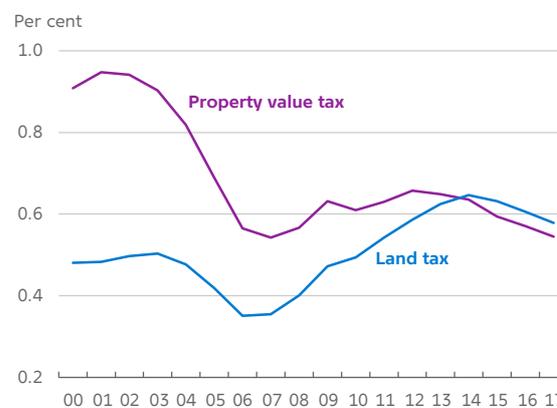
Chart 4



Note: See note to Chart 3.  
 Source: Statistics Denmark and Danmarks Nationalbank.

Effective tax rates on single-family houses

Chart 5



Source: Own calculations based on real estate register data from Statistics Denmark.

<sup>2</sup> The data has subsequently been published in Kig dig godt for: *Her rammer de nye boligskatter* (Watch out: this is where the new housing taxes will be felt - in Danish only), Arbejdernes Landsbank.

How the impact is assessed to be distributed across the period differs, depending on whether taxes rise or fall for the individual house. This is a result of the tax rebate. Consequently, single-family houses are divided into two groups: in value terms, around 70 per cent of the houses traded will have lower housing taxes, and around 30 per cent will have higher housing taxes – and hence a tax rebate.

After that, the price effects of the 0.14 percentage point fall in the effective tax rate in the house price relation has been calculated using Danmarks Nationalbank's macroeconomic model, MONA. This results in an aggregate additional price increase of 1.8 per cent in equilibrium for Denmark as a whole. However, regional house price developments are affected by the ripple effect, which shows the knock-on price effect across municipalities. The ripple effect is strongest from the major urban areas to the rest of the country.<sup>3</sup> Since taxes will typically rise in the major urban areas, the ripple effect should be taken into account. Hence, the weight has been adjusted upwards by one third for houses for which the tax increases to 0.4, resulting in a final forecast of a 1.4 per cent increase in the price of single-family houses as a consequence of the housing taxation agreement. This forecast is an expression of the aggregate impact from the announcement until full adjustment has taken place, which is assumed to be in 2022.

How the overall impact will be distributed over the coming years depends on several factors, including the relative numbers of houses with rising and falling taxes, formation of expectations among buyers and the sluggishness of price formation in the housing market. The adjustment of house prices will be a gradual process, cf. the box.

## Prices of owner-occupied flats are negatively affected by the housing taxation agreement

Applying the same calculation approach to owner-occupied flats as to single-family houses, it is assess-

### Price adjustment following the housing taxation agreement

Box 1

How the price of the individual home will respond depends on whether the aggregate housing taxes will rise or fall as a result of the housing taxation agreement. This is because the tax rebate will postpone part of the adjustment until 2021, when it lapses for homebuyers. Hence, a distinction is made between these two housing categories. Based on data from SKAT and the number of trades in the sector's Housing Statistics, approximately 85 per cent of the single-family houses traded and 70 per cent of the traded value will see housing taxes fall. Below, we apply the traded value as the weight, as this is closest to the calculation method used by Statistics Denmark in its price index for single-family houses.

To determine when price adjustment takes place over the period, the aggregate price impact is calculated for each housing category in each municipality. This is based on a calculation of the current value of the future change in taxation. The discounting factor is calibrated in such a way that the total price impact matches the impact that can be calculated using the house price relation in MONA. The individual house types (less expensive, typical and more expensive) in each municipality are weighted with the value of the houses traded. This results in an implied annual discounting factor for home buyers of 4.8 per cent.

For the two groups of houses, there will be a considerable difference in the adjustment process. This is attributable to the discreet lapse of the tax rebate for homeowners buying their homes after 1 January 2021. Where housing taxes are set to fall from 2021, prices will gradually rise towards 2021. Where housing taxes are set to rise in 2021, and buyers are to some extent aware of future developments, the buyers will know that the present value of the higher taxes exceeds the present value of the tax rebate. This means that a dampening effect on prices will be seen before 2021 if a tax rebate will apply after 2021. The value of the tax rebate is the present value of a fixed nominal amount that runs until the house is sold. Unlike the rebate, housing taxes rise with house prices, and they are also payable by future owners, i.e. they are perpetual. Hence, the present value of the rebate will always be lower than the present value of the tax increase triggering the rebate.

Much of the uncertainty surrounding the phasing-in of the impact of the housing taxation agreement relates to the fact that the change in the aggregate taxation of the individual home is not known yet. It is assessed that a gradual adjustment of house prices will take place from mid-2018 as buyers and sellers become more aware of the forthcoming changes, cf. Table 1.

*To be continued*

<sup>3</sup> S.J. Hviid, A regional model of the Danish housing market, *Danmarks Nationalbank Working Paper*, No. 121, September 2017.

ed that price increases for owner-occupied flats will be dampened by 5.8 per cent on average towards 2022. Lower housing taxes in parts of the flats markets in Aalborg, Odense, Randers and Helsingør cushion the effect. Since a large proportion of the owner-occupied flats in Denmark will receive a tax rebate as a result of the relatively low valuations in the legacy property valuation system, much of the adjustment is likely to take place in 2021.

**Price adjustment following the housing taxation agreement**

Box 1

*Continued*

In the 2nd half of 2020, the new official valuations will be known, and hence the taxes payable from 2021. So it is expected that the adjustment of house prices will accelerate in that period. Once buyers are faced with the new housing taxes in 2021, a large share of the adjustment will take place for homes that begin to receive a tax rebate. It is forecast that just over half of the adjustment will take place in this period, mainly at the start of the year with a tapering profile over the year. A slight adjustment of the prices of homes for which the aggregate housing taxes will be reduced is also forecast to take place in 2021, when the new taxes payable will be listed in the sales particulars, but most of the increase in 2021 will reflect overhang from the strong adjustments in the 2nd half of 2020.

**Impact of housing taxation agreement on annual rate of increase, adjustment stages in percentage points**

Table 1

	Single-family homes			Owner-occupied flats
	Total	Higher taxes	Lower taxes	
Aggregate price impact, percentage points	1.4	-1.0	3.0	-5.8
Weight		0.4	0.6	0.0
2018	0.0	0.0	0.1	0.0
2019	0.3	-0.1	0.5	-0.4
2020	0.7	-0.2	1.3	-1.4
2021	0.4	-0.6	1.1	-3.5
2022	0.0	-0.1	0.1	-0.8

Source: Own calculations based on data from SKAT and Housing Statistics.

## ABOUT ANALYSIS



As a consequence of Danmarks Nationalbank's role in society we conduct analyses of economic and financial conditions.

Analyses are published continuously and include e.g. assessments of the current cyclical position and the financial stability.

The analysis consists of a Danish and an English version. In case of doubt regarding the correctness of the translation the Danish version is considered to be binding.

DANMARKS NATIONALBANK  
HAVNEGADE 5  
DK-1093 COPENHAGEN K  
WWW.NATIONALBANKEN.DK

This edition closed for  
contributions on 12 March 2019

**Simon Juul Hviid**  
Senior Economist  
ECONOMICS AND  
MONETARY POLICY

**Sune Malthe-Thagaard**  
Senior Economist  
ECONOMICS AND  
MONETARY POLICY



**DANMARKS  
NATIONALBANK**