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Calculating the need for housing in Norway

*Birgitte Hovdan Molden, Macroprudential Department, Norges Bank Financial Stability**

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Birgitte Hovdan Molden, Macroprudential Department, Norges Bank Financial Stability

House prices are determined by supply- and demand-side factors in the housing market. As there are regional differences in some of these factors, the rise in house prices also shows wide variations.

Housing demand depends on a number of conditions. In the long term, developments in household income will be particularly important for the price households are willing to pay for a dwelling. In the short term, demand can vary with, for example, the interest rate level, credit standards, expectations of a further rise in house prices and the labour market situation. Moreover, the need for housing will depend on the increase in the number of households and on other factors such as migration patterns.

The housing supply is relatively inelastic in the short term as residential construction takes time and construction per year is low relative to the total housing stock. House prices will therefore fluctuate in the short term with changes in demand. For residential construction to be profitable, there must be a reasonable degree of correspondence between building costs, including the price of land, and the price that can be achieved in the market. Over time, house prices will be determined by factors on both the demand and the supply side of the housing market.

A mismatch between housing supply and demand could lead to more pronounced changes in house prices. The combination of a low construction rate and high population growth in recent years may be one of the factors contributing to the sharp rise in house prices this year.

This article examines changes in the need for housing and the stock of available dwellings. A previous analysis conducted in 2008 indicates that growth in residential construction was lower than growth in demand in the years leading up to 2007[1]. As shown in Table 1, the number of households has increased more rapidly since 2007 than the number of completed dwellings. Preliminary figures for 2011 indicate that the number of housing completions will also be too low this year relative to the rise in the number of households.

Changes in the housing surplus through a period can be calculated as follows:

1. Need for housing (demand) =
Change in number of households
+ Change in number of unoccupied dwellings[2]
+ Housing stock losses in the period[3]

– 2. Supply of new dwellings =
New dwellings completed
+ Sectioning of other buildings into dwellings

= 3. Change in housing surplus

	2002	2003	2004	2005	2006	2007	2008	2009	2010

[1] See Skjæveland, Marita (2008): "Has residential construction been too high in recent years?", *Economic Commentaries* 5/2008
[2] As a result of out-migration, demolitions, second homes, etc.
[3] Demolitions, conversions, combining housing units

Number of completed dwellings	21 744	21 405	23 609	29 544	28 554	30 970	28 640	21 783	17 832
Increase in households	16 937	15 141	17 369	25 890	27 951	39 690	38 107	28 255	30 894
Gap	4 807	6 264	6 240	3 654	603	-8 720	-9 467	-6 472	-13 062

Table 1: Number of completed dwellings, increase in households and gap

Unoccupied dwellings can in the short term be used to regulate any housing deficit. The stock of unoccupied dwellings is, however, limited and residential construction must therefore over time be high enough to meet the demand for new dwellings arising from growth in the number of households. In addition, there will be housing stock losses in each period.

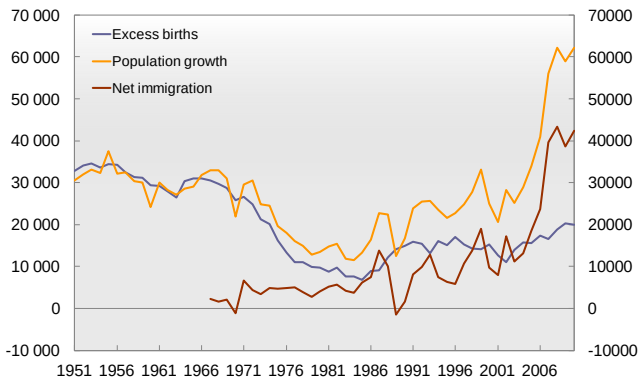
It appears that residential construction has on the whole been lower than growth in demand in recent years. The number of households rose by almost 31 000 in 2010, while less than 18 000 new dwellings were built. In isolation, centralisation has increased the need for housing. Particularly in the most central areas, the number of new dwellings was lower than the increase in the number of households.

Sharp rise in the number of households

Both high population growth and fewer members per household have contributed to the increase in the number of households in Norway (see Chart 1 and Table 2).

While population growth in Norway was driven by an excess of births in the 1950s, the current most important driver is net immigration, which now accounts for more than two thirds of the increase in the population. Net immigration to Norway in 2010 was on a par with the record year 2008 (see Chart 1).

Chart 1 Population growth, net immigration and excess births. Annual figures. 1951 - 2010



Source: Statistics Norway

There were just below 2.2 million households in Norway at end-2010. According to Statistics Norway (SSB), the increase of approximately 31 000 households in 2010 was primarily due to population growth[4]. The size of the average household, measured as number of persons per household, has fallen over the past 40 years (see Table 2). Both high population growth and smaller households are contributing to the rise in housing demand.

[4] See http://www.ssb.no/english/subjects/02/01/20/familie_en/

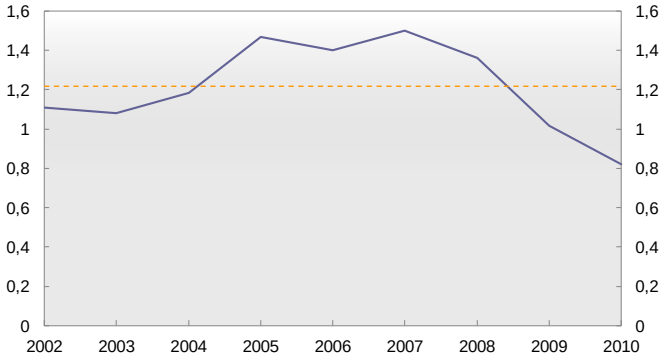
Table 2: Population, number of households and average household size at end-year

	1970	1980	1990	2001	2010
Population	3 888 305	4 092 340	4 249 830	4 503 436	4 920 305
Households	1 296 734	1 523 508	1 751 363	1 961 548	2 170 893
Household size	3.00	2.69	2.43	2.30	2.27

Low rate of residential construction in recent years

There has been a sharp decrease in residential construction from 2007 to end-2010. Chart 2 shows the number of housing starts relative to the number of households in Norway. In the period 2002-2010, the number of completed dwellings per year was between 0.8 and 1.5 per cent of the number of households. This percentage has declined since 2007, indicating that residential construction has been low in recent years.

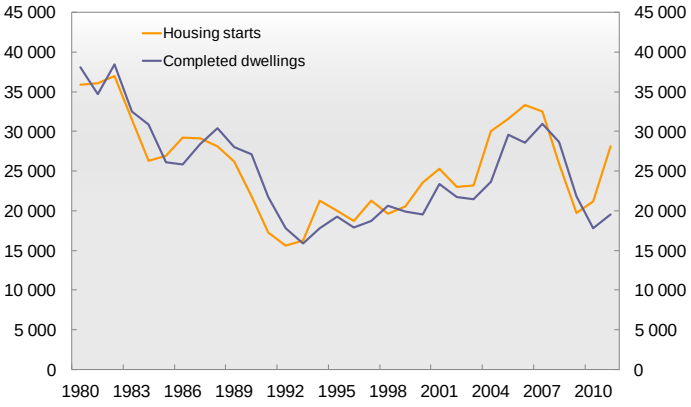
Chart 2 Number of completed dwellings as a percentage of number of households.
Annual figures. 2002 - 2010



Broken line shows average for the period
Source: Statistics Norway

Housing starts are showing a renewed rise (see Chart 3). Preliminary figures from Statistics Norway suggest that residential construction was markedly higher in the period between January and August 2011 compared with the same period in 2010. Housing starts rose by 37 per cent and completed dwellings by 8 per cent in this period. If the rise continues to end-2011, additional housing starts in 2011 will number over 7 700 and completed dwellings over 1 400 compared with 2010. A total of close to 20 000 dwellings will be completed by end-2011, while households will have increased by more than 30 000.

Chart 3 Number of completed dwellings and housing starts.
Annual figures. 1980 – 2011[1)]



1) Projected number of dwellings in 2011 based on growth from January to August 2011
Source: Statistics Norway

Unoccupied dwellings and housing stock losses

Changes in the number of unoccupied dwellings and housing stock losses will also affect the supply side of the housing market.

The number of unoccupied dwellings is influenced to a great extent by changes in the number of unoccupied second homes and out-migration from more peripheral areas. Based on these factors, our estimates are between 1 200 and 1 700 dwellings for the past 9 years. Although there is currently no complete list of unoccupied dwellings in Norway, a number of data sources can be used to estimate this quantity. Our sources have included Statistics Norway's housing statistics and statistics for the number of households. The statistics are not directly comparable and contain measurement errors. The data show that at end-2010, there were more than 2.3 million dwellings and almost 2.2 million households, indicating that there were a good 150 000 unoccupied dwellings in Norway at end-2010. Corresponding figures for 2006 indicate that this is 25 000 fewer than at end-2006. The statistics suggest that the housing deficit in recent years has largely been filled by a reduction in the number of unoccupied dwellings. Owing to high house prices in recent years, selling an unoccupied dwelling may have been more profitable. At the same time, letting may have been both easier and more attractive.

Housing stock losses may be due to demolitions, conversions into commercial property or combining two or more units into one. There are no statistics available, but housing stock losses can be estimated based on existing data for completed dwellings and housing stock. One method of calculating net loss in the housing stock is by subtracting the number of completed dwellings from the increase in number of dwellings from one year to the next. These statistics indicate that sectioning of existing dwellings has increased the supply of housing in recent years. The calculations suggest that net loss is limited and often negative, i.e. the number of dwellings sectioned into more than one housing unit appear to be higher than the number of dwellings combining several units into one unit, demolished or converted into commercial property.[5] In 2010 net loss calculated in this way was a negative 1 200 dwellings.

This illustrates a certain degree of flexibility on the supply side. When house prices are high enough relative to commercial property prices, converting premises from commercial to residential property will be profitable. However, the change in the number of unoccupied dwellings and net housing stock loss is relatively small compared with changes in the total need for housing. Thus, residential construction must be high enough over time to meet the demand for new dwellings arising from growth in the number of households.

The need for housing is highest in central areas

Geographical preference has an impact on the need for housing. One-way migration patterns will result in unoccupied dwellings in the area of origin. Overall, this will increase demand for new dwellings in the area of destination. According to Statistics Norway figures, internal migration in 2010 had risen again to the 2007 level. In spite of high migration, centralisation is decreasing. Although there is high in-migration to central areas, out-migration is also relatively high. Net in-migration is nonetheless positive every year.

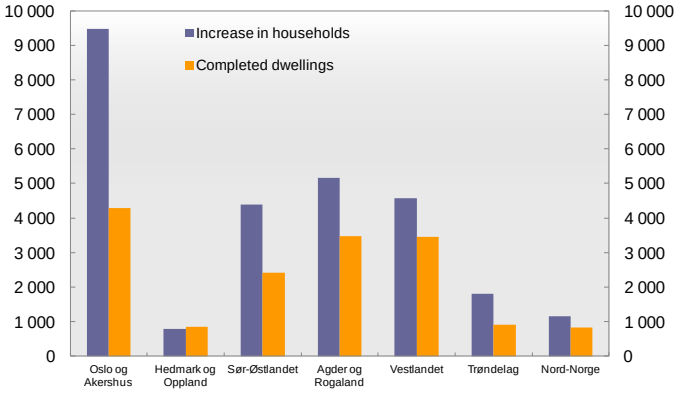
Population growth is highest in the Oslo/Akershus and Agder/Rogaland regions. In 2010 the population of Oslo/Akershus increased by more than 21 000, or close to 35 per cent of the total

[5] Statistics are not available for the number of dwellings combining several units into one unit, demolished or converted into commercial property.

increase in Norway's population in 2010. Population growth was lowest in the Nord-Norge and Hedmark/Oppland regions in the same period. The areas where population growth has been high have also seen the strongest rise in house prices in recent years. Similarly, in the areas of lowest population growth, the rise in house prices has been below the national average.

The most important determinant of housing need is the rise in the number of households. Chart 4 shows the increase in households and completed dwellings by region. As the chart shows, the mismatch between completed dwellings and the increase in number of households is greatest in the Oslo/Akershus region, with a gap of over 5 000. The number of completed dwellings exceeded the increase in the number of households only in the Hedmark/Oppland region. This indicates that new dwellings are needed in many parts of the country, but that the deficit is most pronounced in the Oslo region.

Chart 4 Increase in households[1)] and completed dwellings. Number by region. Annual figures. 2010



1) Projected increase in number of households based on average size of household
Sources: Statistics Norway and Norges Bank