

Building activity – historical summaries

1. Introduction

During the years 2013-2014, Realdania, The Knowledge Centre for Housing Economics, has financed a project with the aim of establishing long time series in a number of areas within the construction industry, primarily based on Statistics Denmark's own primary data sources. However, other data sources have been used for conducting checks, please see list of sources.

With regard to building activity, a distinction is traditionally made between total building activity, which is compiled in terms of square metres and cover total construction and construction of dwellings, which is compiled in terms of the number of dwellings approved for year-round housing. This distinction is maintained in the historical summaries.

The level of detail in the historical statistics is not as high as is the case for the more recently compiled statistics on building activities, as it has been impossible to revise backwards in time the detailed data series. For a variety of reasons, the historical data are subject to certain breaks in the series, primarily due to the rate of coverage, i.e. how much of Denmark is covered by the statistics. Finally, each phase of building and variable have been available at different points-in-time, for example, buildings completed have always been first compiled, and there is no overall distribution by type of builders with regard to total building activity until the Register of Buildings and Dwellings was established in 1981/82. The starting date for each series has been selected on the basis of when the reliability of the data is considered to be satisfactory.

Due to, e.g. the above-mentioned reasons the statistics on buildings completed and started have been exclusively revised backwards in time. This is the reason why data on building permits and buildings under construction are not available until the establishment of the Register of Buildings and Dwellings in 1981/82.

The summaries/series are living, i.e. they will be updated, using the most recent figures in connection with each publication. However, any revisions will only be implemented back to the year 1998.

2. BYGV04: Total building activities distributed by phase of building and type of use

1. Rate of coverage and method of raising figures

In 1938-39 the construction statistics were expanded by information on *floor space completed* of all new buildings in towns and urban centres. During the period 1938-39 the statistics on total floor space completed have the same rate of coverage as that of residential buildings completed, see below.

These data were in 1943 supplemented by information on new buildings in other municipalities (rural municipalities), implying that it was possible to estimate total floor space completed for all Denmark. From

1943 to 1949, the raising of figures was based on re-assessment forms, which were sent by the property assessment authorities to the General Commissioners of Taxes for the purpose of calculating land tax. These re-assessment forms also contained information on new buildings. However, only one single new assessment was implemented, if the change in value exceeded DKK 2,000. At that time, the rate of coverage was considered by Statistics Denmark, on the basis of an analysis, to range around 80 pct., particularly due to the circumstance that data reported on government properties were to a great extent inadequate.

This raising of figures – was for unknown reasons – not conducted in 1945. For the sake of comparability figures, which have not been raised, are shown for the floor space completed during the period 1943-48 (the raised figures are available in BYGV04):

Year	Floor space m ²
1943	1.394.277
1944	1.199.236
1945	785.909
1946	955.326
1947	1.187.635
1948	1.789.705

From 1949 to 1963 the statistics on building activity are compiled on the basis of more complete primary data, as the statistics are further developed to cover also rural municipalities via a representative sample of these municipalities. From 1949 *floor space started* is also included in the historical summaries.

From 1964 the statistics on building activity are based on data reports covering all Denmark.

2. Unit of compilation

Total building activities are compiled in terms of floor space and m². *Floor space* is compiled from 1939 to 1981 either as total floor space covering all floors (less the basement and attic) or is compiled on the basis of built-up area multiplied by the number of floors. The difference, i.e. split-level floors, is considered to be of minor importance. The floor space in the Register of Buildings and Dwellings is comparable with this definition.

Following the establishment of the Register of Buildings and Dwellings, *total floor space* is used, which also includes the area of the attic. During the period 1998-2012 the floor space in the attic completed, accounted annually for an average of about 4 pct. of the total floor space completed.

3. Use of buildings

Residential buildings (buildings where more than half of the floor space is used for habitation):

- From 1939 to 1942: Residential buildings and residential buildings with shops. However, until 1948 buildings are included in this category, which will later be categorized as commercial buildings, i.e.

outright business buildings. It has not been possible to find information on the extent of “outright business buildings”

- From 1943 to 1981: Residential buildings, residential buildings with shops (but from 1948 not outright business buildings) and farmhouses in rural municipalities
- After 1981 (Register of Buildings and Dwellings): The codes for use of buildings 110 – 190, see the instructions for the Register of Buildings and Dwellings (BBR-instruks)

Commercial buildings (where more than half of the floor space is used for commercial purposes):

- Outright business buildings (after 1948) and factories and workshops
- Public buildings of a commercial character are included in this category
- Buildings used for operation in agriculture are not included until 1943 (situated in rural municipalities, which is not included until 1943). From 1943 to 1948 any buildings used for operation in towns and urban centres are excluded
- After 1981 (Register of Buildings and Dwellings): The codes for use of buildings 210 – 390

Other buildings:

- The remaining buildings, including municipal and government buildings, which are not used for habitation, e.g. schools, hospitals and buildings for leisure-time activities (for example, sports centres)
- After 1981 (Register of Buildings and Dwellings): The codes for use of buildings 410 – 930

4. Type of building case

From 1939 to 1981 a distinction is not made between new buildings and extensions, when total building activities are compiled. Total influx of areas in connection of new buildings and extensions is considered to be “new buildings”. Against this background, it is not possible to distinguish between these types of building cases during this period. This is made possible with the establishment of the Register of Buildings and Dwellings.

3. BYGV05a and b: Total residential buildings distributed by phase of building, use of buildings and type of builders

It has not been possible to cross-refer the information on the use of buildings and type of builders, as it is a precondition that information at the level of buildings is available. This information was not available before the establishment of the Register of Buildings and Dwellings. This is the reason for dividing BYGV05 into two tables. It is possible from 1981 to cross-refer the two variables, which can be seen in BYGV03.

1. Year

Residential buildings completed can be estimated from 1916/17 (see below), while residential buildings started can be estimated from 1938 (however, from 1938 to 1949 only totals are estimated).

From 1916/17 to 1927/28, the statistics cover the period from 1 October to 30 September (October, day of removal). It is possible from 1928 to compile annual statistics, which comply with the calendar year.

For technical reasons, the "calendar year" has been selected as reference in the above-mentioned period, i.e. the building activities during the period 1 October to 31 December are incorporated in the subsequent year. The Year 1928 is to some extent special, as 1928 is compiled in such way that the period from 1 October 1927 to 31 December 1928 is covered. The period 1 October to 31 December 1928 accounts for about 9 pct. of the year 1928.

2. Rate of coverage, estimated

Until 1964, when the statistics became national, the geographic coverage of the statistics has gradually been expanded:

- Sønderjylland is not incorporated in the statistics from 1916 to 1920
- From 1916/17 to 1928: The capital (= Copenhagen, Frederiksberg and Gentofte – however, not until 1921) and all provincial towns (more than 400 inhabitants). "Provincial towns" are equal to "Country towns and trading centres" in the population statistics
- From 1929 to 1949: The capital with suburbs, country towns with suburbs and the largest small towns with a railway station and rural municipalities
- From 1949 to 1964: Expanded by 50 rural municipalities (and divided by 50 new suburban municipalities)
- From 1964 onwards: All Denmark - as of 1 January data for the construction statistics are collected from all municipalities in Denmark

In order to improve the possibility of assessing residential building during each individual year and particularly period by period, a so-called rate of coverage has been estimated. The estimation is conducted on the basis of the population figures and the geographic distribution of the population figures, compiled by means of the population and housing censuses. These censuses were conducted every five years, which implies that it is possible to re-estimate the rates of coverage:

Year	Estimated rates of coverage %
1917-25	41
1926-29	43
1930-34	53
1935-39	56
1940-44	58
1945-49	59
1950-54	61
1955-59	65
1960-63	67
1964-	100

The increases in the estimated rates of coverage are partly due to the inclusion of more and more municipalities in the statistics and partly the shifts between country and town in the population's pattern of habitation.

3. Unit of compilation

Residential building is compiled in terms of the number of dwellings. A dwelling is characterised by its own entrance (to road, landing or similar – an address) and is approved for round-year housing. From the beginning they are called flats, later residential dwellings and finally dwellings. There is a sliding transition in the primary source data, where concepts can appear simultaneously in the same table.

4. Type of dwelling

From 1943 residential buildings can be divided into the following types of dwellings:

- Detached one-family houses: Farmhouses and detached houses/single-family houses. However, farmhouses are not included until 1950 and until 1957 they are grouped under other buildings. After 1958 farmhouses are grouped under detached one-family houses
- Other one-family houses: These dwellings are characterised by a vertical separation between the dwellings
- Apartment houses: These dwellings are characterised by a horizontal separation between the dwellings. Student hostels, day-care institutions and similar are included in this category until the Register of Buildings and Dwellings (1981)
- Other dwellings: The residual. Student hostels, day-care institutions and other year-round housing are also included in this category after 1981. Otherwise, it is typically dwellings in buildings, which are characterised as commercial buildings, for example porter's lodges.

5. Type of building case

Until 1981 (Register of Buildings and Dwellings) residential building covers only dwellings resulting from new buildings and extensions. For the years 1946 to 1949, the number of dwellings completed has resulted from conversions temporarily compiled separately, but it has not been possible to construct a whole series with the influx of dwellings via conversions. For the period 1946 to 1949, the following number of dwellings has been completed by means of conversions:

Year	Number of dwellings completed by means of conversions
1946	57
1947	145
1948	502
1949	487

The number of dwellings completed resulting from conversions accounts for about 2 pct. of dwellings resulting from new buildings and extensions during this period.

6. Building phase

Residential building completed covers the following:

- From 1916 to 1925: Apartments/dwellings where a building certificate has been issued or a temporary permission to move in has been granted
- From 1925 to 1980: A permission for dwellings to move in has been granted
- From 1981 (Register of Buildings and Dwellings) and onwards: The first date appearing for temporary permission to make use of the dwelling, permission to make use of the dwelling or completion

Residential building started covers the following:

- From 1938 to 1947: The scale and the points-in-time of residential buildings started are estimated on the basis of information on residential buildings completed and residential buildings under construction
- From 1948 and onwards: Reporting of the starting date by the builder

7. Type of builders

It has only been possible to divide residential building completed (and later buildings started) by type of builders with regard to the 3 most central types of builders:

1. Private builders: The category comprises private individuals and limited liability companies, private limited companies and similarly: Until 1980 private housing cooperatives are also included here
2. Non-profitmaking building societies (also called housing cooperatives/societies): These societies are characterised by having received public funding for the construction, and that a number of conditions are subject to legislation, e.g. housing rent is cost-determined
3. Public builders: The category covers municipalities, counties/regions and central government

4. BYGV06: Average area in newly completely dwellings by use

This series covers new buildings only. Attempts have been made to exclude any extensions. After 1998 (when it is possible to obtain information on each individual building), it is possible to distinguish new buildings by extensions and conversions.

1. Method

From 1916 to 1998 the average size of dwellings is estimated on the basis of the data on the stock of dwellings in the Register of Buildings and Dwellings as of 1 January 2013. The total floor space and number of dwellings for each individual year have been found via the year of construction of the building (equal to the year of completion). For each year, the total floor space is divided by the number of dwellings.

To get as closely as possible to what can be considered as new buildings, the buildings for which a year has been stated in which an important extension and conversion was made are deducted from the stock, i.e. the estimation is conducted on the basis of annually divided stock, where it is assumed that the building has in terms of size remained unchanged in relation to when it was constructed.

2. Delimitation

With regard to the principal use of the building, the same types of use have been used (farmhouses, detached one-family houses, other one-family houses, apartment houses and year-round dwellings, total) as those in the Statistical Yearbook, which contains a table showing the average area in newly dwellings completed, distributed by use – however, only for selected years after 1980. Year-round dwellings cover the code values 110-190 in accordance with the construction classification.

5. Sources

- 1) Danish Historical Statistics 1814-1980, Hans Chr. Johansen, publishers Gyldendal
- 2) Housing policy White paper. A solidarity housing policy, Paper for discussion prepared by the Danish Federation of Trade Unions, etc. Marselia Tryk A/S, ? (After 1975).
- 3) Statistical Ten-Year Review 1960, 1965, 1970, 1976 and 1980, the Statistical Department and Statistics Denmark.
- 4) Building activity 1957-59 and 1960, Ministry of Housing, August 1960 and November 1961.
- 5) Statistical News 1917 – 80, Statistics Denmark
- 6) Statistical Yearbook 1917 – 81, Statistics Denmark