

## ABOUT MORTALITY DATA FOR DENMARK

By Mila Andreeva

Revised by Dana Gleis and Gabriel Borgès

Last Updated by Denys Dukhovnov: June 3, 2021

### GENERAL

#### *An overview of Danish History with Focus on Territorial Changes*

The earliest evidence of human habitation in Denmark - mostly traces of hunters' settlements - dates from circa 12,500 BC. Organized farming communities started to appear circa 3,900 B.C. and regular towns came into existence circa 400-750 AD.

<http://danishhistory.denmark.dk/> Unification of Denmark began around 700 AD. and was mainly completed under Harald I Bluetooth (died circa 987), son of Gorm the Old (died circa 958/59). Gorm's small runic stone in Jelling, Jutland—erected in memory of his wife—mentions the name of the country for the first time and is considered Denmark's birth certificate.

During the Viking Age (circa 800–1100 AD), the Danes played an important role in the frequent raids on Western Europe that eventually led to the conquest of England in the 11<sup>th</sup> century AD. For the period from 1018 to 1035, Denmark, England, and Norway were all ruled by King Canute (Knut) The Great. The southern part of Sweden was also under Danish rule until 1658. After the murder of Canute IV the Holy in 1086, the strong royal power, which was one of the secrets behind the victorious Viking raids, was significantly weakened.

Waldemar IV (who reigned during the period 1340–75) largely restored Danish power except for the humiliation he suffered from the Hanseatic League in the Treaty of Stralsund (1370). After defeating him, the coalition of the Hanseatic towns, Mecklenburg, Sweden, and Holstein (formed in 1368) gained a virtual trade monopoly in Scandinavia. In April 1363, Waldemar's daughter Queen Margaret I married King Haakon VI of Norway. Their son Olaf III (1370–1387) became the youngest king of

Figure 1. The word “Denmark” on King Gorm's Small Runic Stone



Source: <http://www.fortidensjelling.dk/>  
(accessed October 27, 2004)

Denmark (albeit under the regency of his parents) in 1376 after Waldemar's death. As Haakon was mostly occupied in Norway, Denmark was actually ruled by Margaret. After the death of Haakon in 1380, Olaf became king of Norway as Olaf IV. The reach of the Danish Crown extended thereby to Norway together with Iceland and the Faroe Islands. After Olaf's death in 1387, shortly after he reached adulthood, Margaret continued to rule the country.

In 1389, near Falköping, Sweden, Margaret defeated and captured the Swedish King, Albert of Mecklenburg. Following this success, in 1397 she established the Kalmar Union where she effectively combined three crowns, Norwegian, Danish and Swedish, under personal rule. Her grandnephew, Eric of Pomerania, was formally crowned king at Kalmar in 1397. After her death, Sweden remained under Danish control only for brief periods, and with the accession of Gustavus I as king of Sweden (1523), Sweden permanently broke from the union.

In 1448, Christian I became the Danish king—the first king of the Oldenburg dynasty of Danish kings (Oldenburg is now in the state of Lower Saxony, Germany). Altogether sixteen kings from this dynasty ruled the country, for about 415 years. In 1460, Christian I united Schleswig and Holstein with the Danish Crown. These two territories were bound only by a personal union to the Danish crown, and the king was obliged to acknowledge their inseparability from each other. These duchies have had a special status within the Danish kingdom. In the 16<sup>th</sup> century, for example, they were divided mostly in three parts: a ducal part (which included parts of both duchies) ruled by Adolphus, duke of Holstein-Gottorp; a royal part (which also included parts of both duchies) ruled directly by the Danish kings; and a common part, ruled jointly by the Danish Crown and the dukes of Holstein-Gottorp.

Over the period 1560-1720, Denmark was involved in six wars (1563-1570, 1611-1613, 1643-1645, 1657-1660, 1675-1679 and 1709-1720) with Sweden and other neighbors over supremacy in the Baltic region. An especially disastrous war took place in 1658 when an extremely cold winter permitted Swedish troops to cross the frozen sound of Little and Great Belts to attack Copenhagen. The Treaty of Roskilde (now a Danish city, 30 km west of Copenhagen, capital of Denmark until 1443) was signed on February 26<sup>th</sup>, 1658, ceding almost half of the Danish territory to Sweden: the Danish province of Terra Scania and the Norwegian provinces of Trondheim and Bahusia. Denmark also renounced its suzerainty over ducal Schleswig.

The following summer, the Swedish king, Charles X Gustav, launched another unexpected attack on Copenhagen, but this time the city's defense was successful. In November 1659, a Dutch ally fleet arrived, allowing Denmark to recapture the island of Fionia. England and France, in alliance with Holland, were also drawn into this war, leading to more Swedish defeats and the recapture of the province of Trondheim by Norwegian forces. The ensuing treaty of Copenhagen reinstated that province to Norway and ceded the island of Bornholm to Denmark in 1660.

The period from 1660–1720 was characterized by increasing power of the king, turning Denmark into an absolute monarchy. In the late 17<sup>th</sup> century, the Danish West Indies were established (now, the United States Virgin Islands). In the Great Northern War (1700–1721), the coalition of Russia, Denmark and Saxony-Poland (with the

addition of Prussia and Hanover in 1715) defeated Sweden. The ensuing Treaty of Stockholm made Sweden pay 600,000 Riksdaler in damages to the Danish Crown. This treaty also resulted in the dispossession of Duke Charles Frederick of Holstein-Gottorp and the union of ducal Schleswig with royal Schleswig ruled by the Danish Crown. [http://www.encyclopedia.com/html/section/denmark\\_history.asp](http://www.encyclopedia.com/html/section/denmark_history.asp)

Later, in 1773, the ducal part of Holstein was also transferred to the Danish Crown by Grand Duke Paul (later Emperor Paul I of Russia, 1796–1801) in exchange for Oldenburg, thereby uniting Schleswig and Holstein under Danish rule. From this time onwards, it was held again in personal union with Denmark.

During the Napoleonic wars, Denmark, which allied with France, suffered several severe attacks by the English. By the Treaty of Kiel of 1814 between Denmark and Sweden (Sweden allied with the victor), Norway was ceded to the king of Sweden in return for the Swedish holdings in Pomerania. This treaty, however, never came into force. Norway revolted and declared its independence, but later established a personal union with Sweden while holdings in Pomerania were taken over by Prussia. Nevertheless, the Norwegian dependencies (Iceland, Greenland and the Faroe Islands) remained under Danish control. The Danish colony of Tranquebar in India, which was founded by the Danish East India Company in 1620, was sold to Great Britain in 1845.

In the 1840s, Danish liberal and nationalist movements gained significant influence, and on June 5<sup>th</sup>, 1849, Denmark became a constitutional monarchy. One of the items on the agenda of the Danish nationalists was complete incorporation of Schleswig into Denmark, thereby violating the existing personal union of duchies of Schleswig and Holstein with Denmark and their inseparability principle. The population of these territories, with the exception of the Northern part of Schleswig, was mostly German, and increasing national consciousness made it a potentially explosive issue. The declaration by Frederick VII of the complete union of Schleswig with Denmark in 1848 and the following constitutional change of 1849 caused a revolution in the two duchies. A temporary government was established in Kiel, and external support involving Prussian and Swedish troops was provided by the German confederation. This first war of Schleswig lasted three years and ceased only after intervention by the Great Powers, Great Britain in particular. The Treaty of London in 1852 restored the status quo of this territory. Prussia was forced to withdraw troops, and in return Denmark was required not to establish closer ties with Schleswig than with Holstein.

Danish nationalists did not abandon attempts to incorporate Schleswig into a new Danish state. Under their pressure, in 1855, Frederick VII proclaimed the Danish constitution to be valid for both duchies. The German confederation sharply opposed this change and forced Denmark to withdraw this measure in 1858. However, in 1863, a new common constitution was drawn up and signed by Frederick VII's successor, Christian IX. The German diet declared this act a violation of existing agreements, and the second war of Schleswig broke out in 1864 when Denmark was confronted with Prussia and Austria. The reorganized army of Hohenzollerns easily defeated Denmark, which did not manage to get any external support. Both duchies and the duchy of Lauenburg (also lost by Denmark) were ceded under joint control of Prussia and Austria. This did not last long because Bismarck, who was guiding Prussian policy, had already decided to annex these territories. After the short Austro-Prussian War of 1866

(seven weeks), all duchies, Schleswig, Holstein, and Lauenburg were annexed to Prussia. This was the last in a long history of territorial defeats for Denmark.

Denmark stayed neutral during World War I and managed to regain North Schleswig after the war. After a plebiscite in 1920, North Schleswig (or South Jutland, or, in Danish, Sønderjylland or hertugdømmet Slesvig) was incorporated into the Danish state, increasing the total population by about 163,000 people (about 5.5%). The Danish West Indies (now the U.S. Virgin Islands) were bought by the United States in 1917 for 25 million dollars because of their strategic position along the approach to the Panama Canal. In 1944, Iceland declared its independence and home rule was granted to the Faroe Islands in 1948 and to Greenland in 1979.

[Information presented in this section is mostly compiled from the online encyclopedic sources: [Fortidensjelling.dk](http://fortidensjelling.dk), [Denmark.dk](http://Denmark.dk), [Wikipedia.org](http://Wikipedia.org) and [Encyclopedia.com](http://Encyclopedia.com) accessed at time of writing of this document.]

### **Overview of Danish Population and Vital Statistics**

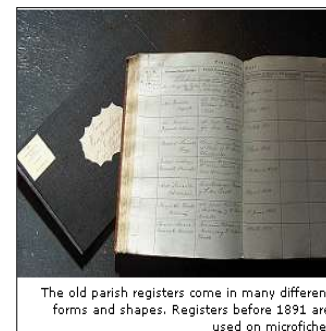
The Danish population data are rich and date back to the seventeenth century. This section lists (in chronological order) events relevant to Danish demography. The information presented here is based mostly on publications by Matthiessen (1970), Impagliazzo (1984), Goyer and Draaijer (1992), Johansen (1998), Johansen (2002), and from online information on the websites of the statistical offices of Norway and Denmark and the Danish State Archives.

1600s and 1701— Early enumerations of the Danish and Norwegian populations were conducted for taxation and military purposes. The population was only partially enumerated, reflecting the specific purposes underlying the data collection. The oldest tax register dates back to 1514, and annual reports and tax lists are preserved from the late 1500s. In 1701, the population was enumerated for military purposes, covering only the male population. Many children and infants were omitted from this enumeration even if they were supposed to have been included.

<http://www.rhd.uit.no/rhd/census.html><http://www.hostagers.com/census.htm>

1645 — Parish registers of births, deaths and marriages maintained by the clergy became compulsory. The territory of Denmark was covered only partially by such registers in the following few decades. Data availability varies greatly by parish. For many parishes, data are available dating back to the 1750s. Data from other parish registers, however, date back to the 1670s or even earlier; in some parishes, earlier records may have been destroyed by fire, mice or insects.

Figure 2. Early Parish Register Records



Source: [Danish State Archives](http://Danish State Archives) (accessed

October 27, 2004)

- 1735 — Summary statistics of parish registers became available in a statistical publication called the "General Extract".
- 1769, August 15<sup>th</sup> — First census. This is the first modern census in Denmark covering the territory of Denmark, Norway, Iceland and the duchies of Schleswig and Holstein. Census information was presented in summary tables. The population was divided by sex, and age was reported by six groups for ages under 48 and by an open age interval for 48+. Marital status was recorded as married and non-married. Occupational status was divided into nine groups. Although the enumerated population was "*de jure*", some temporarily absent persons (e.g. sailors) may have been omitted. Some military personnel were also excluded from the enumeration for security reasons.  
<http://www.rhd.uit.no/rhd/census/ft1769.htm>
- 1775 — A prescribed schedule of vital statistics was introduced. Clergy used this schedule to fill in deaths by sex and 10-year age groups, and births by sex and legitimacy. Starting in 1783, the number of marriages was also included.
- 1787, July 1<sup>st</sup> — Second census. This census was similar to that of 1769, with the exception that the names of the individuals were recorded as well.
- 1796 — The first statistical office (Tabelkontoret) was founded. This office conducted the 1801 census. The office was abolished in 1819 in favor of the statistical commission (Tabelkommisionen).
- 1800 — Births reported by the clergy were divided into the categories live-births and stillborn.
- 1801, February 1<sup>st</sup>. — Third census. The population was enumerated by 10-year age groups. Statistical reports of this census were published together with the reports of the 1834 census.
- 1812–14 — For safety reasons, the clergy were instructed to keep two copies of the parish registers. Pastors were also forbidden to store the books under the same roof overnight—as a precaution against possible destruction by fire. The process of collection of statistical information was also made easier by introducing books specially designed for keeping parish records. More recent registers have columns with printed headings thereby facilitating the process of insertion and retrieval of information. Virtually all parishes would have records from this time onwards.
- 1834, February 18<sup>th</sup> — Fourth census. This is the first census conducted by the Tabelkommisionen. The population was enumerated by 10-year age groups. The results of this census were published in the first statistical publication (Tabelværket, 1<sup>st</sup> series, 1<sup>st</sup> volume).
- 1835 — The classification of marriages by broad age groups was introduced. Deaths were recorded by the following age groups: below 1 year, 1–2 years, 3–4 years, 5–9 years, etc. This is the first year when data on deaths are available by five-year age groups.

- 1840, February 1<sup>st</sup> — Fifth census. The population was recorded by five-year age groups and by single year of age under five. This is the first census in which the population was tabulated by five-year age groups.
- 1845, February 1<sup>st</sup> — Sixth census.
- 1850 — The national statistical office was founded (Statens Statistiske Bureau, later Det Statistiske Department, and presently Danmarks Statistik, or Statistics Denmark in English)
- 1850, February 1<sup>st</sup> — Seventh census.
- 1855, February 1<sup>st</sup> — Eighth census.
- 1860, February 1<sup>st</sup> — Ninth census. The classification of births by age of mother was introduced.
- 1864, Autumn — The Duchies of Schleswig and Holstein were ceded to Austria and Prussia; no further censuses for these territories were conducted by Danish authorities. About 55,000 people emigrated from South Jutland (Sønderjylland, hertugdømmet Slesvig) in 1867–1900, the majority of whom migrated part to America and a smaller number to Denmark.
- 1870, February 1<sup>st</sup> — Tenth census, *de facto* population. For the first time, the population was reported by single year of age. The island of Ærø became part of Denmark with the peace treaty of October, 30<sup>th</sup> 1864 and it was included in the census statistics.
- 1877 — Birth certificates were required throughout Denmark.
- 1880, February 1<sup>st</sup> — Eleventh census, *de facto* population with totals for *de jure* population.
- 1890, February 1<sup>st</sup> — Twelfth census, *de facto* population with totals for *de jure* population.
- 1901, February 1<sup>st</sup>—Thirteenth census, *de facto* population with totals for *de jure* population.
- 1906, February 1<sup>st</sup>—Fourteenth census, *de facto* population with totals for *de jure* population.
- 1911, February 1<sup>st</sup>—Fifteenth census, *de facto* population with totals for *de jure* population. The Hollerith system was used for the first time in processing results.
- 1911 — Individual data on births, marriages and deaths were sent by the clergy to the national statistical office, thereby abolishing the former publication schedule of vital statistics.
- 1916, February 1<sup>st</sup> — Sixteenth census, *de facto* population with totals for *de jure* population.
- 1920, June 15<sup>th</sup>— South Jutland (Sønderjylland, hertugdømmet Slesvig) became part of Denmark, thereby increasing the total population by about 163,000 people (about 5.5%).



- 1921, February 1<sup>st</sup> — Seventeenth census, *de facto* population with totals for *de jure* population. South Jutland reverted to Denmark in 1920 and was included in the census and enumerated as a stand-alone geographic area.
- 1925, November 5<sup>th</sup> — Eighteenth census, *de facto* population.
- 1930, November 5<sup>th</sup> — Nineteenth census, *de facto* population with totals for *de jure* population.
- 1935, November 5<sup>th</sup> — Twentieth census, *de facto* population. In this census, questionnaires were distributed to all individuals.
- 1940, November 5<sup>th</sup> — Twenty-first census.
- 1945, June 15<sup>th</sup> — Twenty-second census. Usually resident (*de jure*) concept of population enumeration was employed. Allied forces, German military personnel and refugees were excluded.
- 1950, November 7<sup>th</sup> — Twenty-third census, *de jure* population.
- 1955, October 1<sup>st</sup> — Twenty-fourth census, *de jure* population.
- 1960, September 26<sup>th</sup> — Twenty-fifth census, *de jure* population.
- 1965, September 27<sup>th</sup> — Twenty-sixth census, *de jure* population. Foreigners staying for more than three months were included together with those registered in the population registers. Foreign diplomats and members of the armed forces stationed in Denmark were excluded.
- 1968 — The Central Population Register (CPR) was established. The process of registering statistical information became continuous. Success of the first CPR-based census in 1976 led to the abolition of questionnaire-based censuses.
- 1970, November 9<sup>th</sup> — Twenty-seventh census, *de jure* population. This is the last census that used questionnaires. The census returns were checked against records in the CPR.
- 1976, January 1<sup>st</sup> — First CPR-based census. This census was conducted based on data from the CPR, the register of the tax system, the Central Register of Enterprises and Establishments and on a student register. Linking of data was done using the individual CPR numbers and the employer code numbers. The resident population included all people residing in Denmark according to information from population registers. Citizenship and place of birth were also included.
- 1981, January 1<sup>st</sup> — Following the success of the 1976 census, this census was also mainly based on individual data from the CPR. Additional data were linked from the Central Register of Buildings and Dwellings, Central Register of Enterprises and Establishments, Central Register of Labour Market Statistics, various tax registers, and registers of public pay transfer systems. Place of birth was excluded, but additional data on income were provided. Special emphasis was placed on economic activity and female labor force participation.

Currently, population estimates are produced annually by tabulation of individual records from the CPR. Statistics Denmark issues several periodic publications including population data relevant for this project. *Befolkningens Bevægelser* (*Population Movements*) has been published since 1931 and includes population at the beginning and at the end of the year with detailed age-specific components of population change over the calendar year (i.e. births, deaths and migration). Population estimates by communes can be found in the publication *Befolkningen i kommunerne pr. 1. Januar* (*Population by Provinces*). Deaths classified by causes of deaths are included in the publication *Dødsårsagerne i Danmark* (*Causes of Death in Denmark*) published by the Danish Ministry of Health (Sundhedsstyrelsen, [www.sst.dk](http://www.sst.dk)).

In addition, several years ago Statistics Denmark established a web site ([www.dst.dk](http://www.dst.dk)) serving as an entry point to an online statistical database system where a rich series of population data can be found. Recent publications of *Befolkningens Bevægelser* are available online in an electronic format from the same web site.

### **Sources of Data**

Data included in the Danish mortality database stem from various population and vital statistical publications of Statistics Denmark. A complete list of historical publications is reproduced in Appendix II (Danmarks Statistik, 2001). Data for the most recent years are from annual *Befolkningens Bevægelser* publications. Electronic copies of these publications are archived. Some data, especially for historical periods, have been computerized from the paper publications. In this case, copies of relevant pages have been scanned and archived as well. Some data were received directly from Statistics Denmark, including information regarding their data sources.

In many cases, published data are less detailed than those available at Statistics Denmark, especially at the highest ages. For example, in some years, the published data included deaths in the open age category for those aged 100 and older. In such cases, unpublished data for deaths by single year of age and birth cohort for ages 100+ were obtained directly from the statistical office. Therefore, the data for a particular year may come from both published and unpublished sources. Detailed information on data sources for each record with relevant notes is available from the reference and note files (see "Raw Data" on the country page).

### **TERRITORIAL COVERAGE**

Until 1921, data on population and deaths refer to the territory of Denmark excluding South Jutland (Sønderjylland, hertugdømmet Slesvig), Iceland, the Faroe Islands, and Greenland. This territory was usually denoted *Hele Kongeriget Danmark* in historical vital statistics publications. Even if population data were collected for Schleswig and Holstein before 1864, the data for these areas appeared separately in the statistical publications.

In 1920, South Jutland became part of Denmark again, and population data for this area are incorporated in the database starting with the following year. As a result, the mortality database covers two periods. One refers to the territory of Denmark before 1921 which excludes South Jutland, and the other refers to the territory of contemporary Denmark. The populations of Iceland (independent since 1944),



Greenland (self-governing since 1979) and the Faroe Islands (self-governing since 1948) are excluded. Therefore, the territorial coverage of this mortality database is comparable to that of official Danish Statistics.

## **DEATH COUNT DATA**

### ***Coverage and Completeness***

Danish data on deaths appear to be of good quality, as suggested by an examination of resulting mortality estimates. For the years prior to 1916, data on deaths are available only by five-year age groups; for 1916-1920 by single year of age; and for 1921 onwards by single year of age and by single year of birth. Data for 1916 and later are therefore of superior quality than those for earlier periods. There is no convincing evidence for age misreporting or age heaping.

### ***Specific Details***

For many years, data on deaths for the first year of life are available in greater detail (e.g. by days, weeks and months) making possible more reliable estimation of mortality in the first year of life and improving the overall quality of Danish life tables. Opportunities for incorporating such data in the database are currently being investigated.

## **POPULATION COUNT DATA**

### ***Coverage and Completeness***

Before 1906, population data are available only from censuses taken every five or ten years and representing the *de facto* population. As suggested by the Whipple index, population data are generally of good quality. For years between censuses, population estimates have been produced by the intercensal survival method (see the Methods Protocol). The Human Mortality Database (HMD) intercensal estimates are also significantly affected by the interpolation of deaths by single year of age from available five-year age groups. Consequently, population estimates prior to 1906 are less reliable than those for later years. Generally, the resulting mortality estimates would appear implausibly smooth, and the implied age-specific migration pattern may reflect data manipulation procedures rather than real patterns.

For the years 1906-1945, data are annual estimates received directly from Statistics Denmark based supposedly on the *de facto* population, as all censuses up to 1945 were based on this population concept. There are not many details available regarding how these estimates were produced, but general improvements in death statistics would entail improvements in population estimates. For some years, available population figures are rounded to the nearest hundred.

Since 1945, population estimates reflect the usually resident population (i.e. the *de jure* population) and starting in 1976, population estimates are based on tabulations from the Central Population Register. The data from the CPR are thought to be of the highest quality currently available.

## **BIRTH COUNT DATA**

### ***Coverage and Completeness***

Data on births represent births to usual residents of Denmark. Generally, the data are thought to be complete and accurate, though under-registration of births for historical periods (i.e. the first half of the 19<sup>th</sup> century) cannot be completely ruled out.

## **ACKNOWLEDGEMENTS**

The authors would like to thank Dorthe Larsen at Danmarks Statistik for her excellent help and collaboration in obtaining the Danish population data. In addition, Ulla Larsen, Axel Skytthe, Jens Lauritsen and Otto Andersen contributed considerable efforts to establishing this database. The initial body of data included in this database was provided by Kirill Andreev (see Andreev 1999, 2002).

## **REVISION NOTES**

### ***Changes with the December 2017 revision:***

**Life tables:** All life tables have been recalculated using a modified methods protocol. The revised protocol (Version 6) includes two changes: 1) a more precise way to calculate  $a_0$ , the mean age at death for children dying during the first year of life and 2) the use of birth-by-month data (where and when available) to more accurately estimate population exposures. These changes have been implemented simultaneously for ALL HMD series/countries. For more details about these changes, see the revised Methods Protocol (at <http://www.mortality.org/Public/Docs/MethodsProtocol.pdf>), particularly section 7.1 on Period life tables and section 6 and Appendix E, on death rates. The life tables calculated under the prior methods (Version 5) remain available at [v5.mortality.org](http://v5.mortality.org) but they have not been, and will not be, updated.

### ***Changes with the June 2021 revision:***

**Deaths:** 2003 and 2004 deaths have been originally swapped in error. This update corrected the year-to-data designation for these two years.

## **REFERENCES**

- Andreev, Kirill F. (1999). *Demographic surfaces: Estimation, Assessment and Presentation, with Application to Danish Mortality, 1835–1995*. Ph.D. thesis. Odense, Denmark: University of Southern Denmark.
- Andreev, Kirill F. (2002). *Evolution of the Danish population from 1835 to 2000*. Denmark: Odense University Press, Monographs on Population Aging.
- Danmarks Statistik. (2001). *Befolkningens bevægelser 2000*. Danmarks Statistik.
- Impagliazzo, J. (1984). *Deterministic Aspects of Mathematical Demography*.

- Johansen, H. C. (1998). *Early Danish Parish Registers*. Research Report 3. Danish Center for Demographic Research.
- Johansen, H. C. (2002). *Danish Population History 1600-1939*. Odense: University Press of Southern Denmark.
- Matthiessen, P. C. (1970). *Some aspects of the demographic transition in Denmark*. Copenhagen: Copenhagen University.
- Goyer, Doreen and Gera Draaijer. (1992). *The Handbook of National Population Censuses*. New York: Greenwood Press.

## APPENDIX I: HISTORICAL POPULATION AND VITAL STATISTICS PUBLICATIONS

The tables are reproduced from Danmarks Statistik (2001).

### Tabelværk (TableWorks)

#### Vielser, fødsler og dødsfald (Marriages, Births and Deaths)

1801-33: I, 1	1870-74: IV A, 1	1906-10: IV A, 8
1834-39: I, 6	1875-79: IV A, 2	1911-15: IV A, 13
1840-44: I, 10	1880-84: IV A, 5	1916-20: IV A, 15
1845-49: II, 1	1885-89: IV A, 7	1921-25: IV A, 17
1850-54: II, 17, 1. del	1890-94: IV A, 9	1926-30: IV A, 19
1855-59: III, 2	1895-1900: V A, 2	1931-40: IV A, 22
1860-64: III, 12	19. årh.:* V A, 5	1941-55 (1962**): I
1865-69: III, 25	1901-05: V A, 6	1956-69 (1973**): XI

\* Befolkningsforholdene i Danmark i det 19. århundrede.

\*\* Date of publication

### Statistiske meddelelser

#### Befolkningens bevægelser (Population movements)

1931-33: 4, 95,4	1946: 4, 126,6	1958 (1960**):2	1970 (1972**):7
1934: 4, 97,6	1947: 4, 133,3	1959 (1961**):1	1971 (1973**):10
1935: 4, 100,4	1948: 4, 138,3	1960 (1962**):8	1972 (1974**):9
1936: 4, 102,5	1949: 4, 143,4	1961 (1963**):5	1973 (1975**):9
1937: 4, 106,5	1950: 4, 147,2	1962 (1964**):5	1974 (1976**):5
1938: 4, 109,3	1951: 4, 150,3	1963 (1965**):5	1975 (1977**):4
1939: 4, 110,5	1952: 4, 154,2	1964 (1966**):4	1976 (1978**):1
1940: 4, 111,5	1953: 4, 157,4	1965 (1967**):7	1977 (1978**):12
1941: 4, 155,5	1954: 4, 161,4	1966 (1968**):6	1978 (1980**):3
1942: 4, 119,4	1955: 4, 166,3	1967 (1969**):1	1979 (1981**):1
1943: 4, 120,5	1956: 4, 167,2	1968 (1970**):4	1980 (1982**):1
1944-45: 4, 125,4	1957: 4, 173,2	1969 (1971**):3	

\*\* Date of publication

**Årspanikationer (Annual publication)**

**Befolkningens bevægelser (Population movements)**

1981 (1983**)	1986 (1988**)	1991 (1993**)	1996 (1998**)
1982 (1984**)	1987 (1989**)	1992 (1994**)	1997 (1999**)
1983 (1985**)	1988 (1990**)	1993 (1995**)	1998 (2000**)
1984 (1986**)	1989 (1991**)	1994 (1996**)	1999 (2000**)
1985 (1987**)	1990 (1992**)	1995 (1997**)	

\*\* Date of publication

## APPENDIX II

### DESCRIPTION OF THE ORIGINAL DATA USED FOR HMD CALCULATIONS

#### DEATHS

Period	Age Groups	Comments	RefCode(s) <sup>†</sup>
1835–1854	0–1, 1–3, 3–5, 5–10 ... 110+		15, 16, 17, 18
1855–1869	0–1, ... 4–5, 5–10 ... 100+		19, 20, 21
1870–1915	0–1 ... 4–5, 5–10 ... 95–100, 100+		22, 23, 24, 25, 26, 27, 28, 29, 30
1916–1920	0,1, 2 .. 100+		31
1921–1942	0,1, 2 .. 100+ by year and cohort.		32, 33, 34
1943–2020	All ages by year and cohort.		12, 35, 36, 38, 40, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 50, 56, 60, 64, 68

† The reference code is used in the raw data files (Input Database) to link data with sources.

Max = maximum age attained; unk = deaths of unknown age

#### POPULATION

Period	Age Groups	Comments	RefCode(s)
1840	0–1, 1–3, 3–5, 5–10, ... 110+	Census	1801
1845	0–1, 1–3, 3–5, 5–10, ... 110+	Census	1801
1850	0–1, 1–3, 3–5, 5–7, 7–10, 10–15, ... 100+	Census	1801



1855	0–1, 1–3, 3–5, 5–6, 6–7, 7–10, 10–14, 14–15 ... 24–25, 25–30 ... 100+	Census	1801
1860	0–1, 1–3, 3–5, 5–6, 6–7, 7–10, 10–14, 14–15 ... 24–25, 25–30 ... 100+	Census	1801
1870	0–1, 1–2 ... 100+	Census	1801
1880	0–1, 1–2 ... 100+	Census	13
1890	0–1, 1–2 ... 100+	Census	13
1901	0–1, 1–2 ... 100+	Census	13
1906–1940	0–1 ... 85+	Population estimates produced by Danmarks Statistik	1906
1941–1970	0–1 ... 100+	Population estimates produced by Danmarks Statistik	1906
1971–1975	0–90+	Befolkningens bevægelser. Danmarks Statistik. KBH.	1906
	90–99+	Befolkningen i kommunerne pr 1. Januar.	1906
1976–1991	Single year of age	Befolkningens bevægelser. Danmarks Statistik.	1906
1992–1993	Single year of age	Befolkningens bevægelser. Danmarks Statistik.	1992 1993
1994	0–100	Danmarks Statistik. Befolknings bevægelser 1993.	1994

	100, 101 ... maximum age attained	Provided by A. Skytthe, Odense University. Originally from Danish CPR register.	1994
1995	0–100	Danmarks Statistik. Befolkningsbevægelser 1994.	1995
	100, 101 ... maximum age attained	Population estimates produced by Danmarks Statistik	1995
1996	0–100	Danmarks Statistik. Befolkningsbevægelser 1995.	1996
	100, 101 ... maximum age attained	Population estimates produced by Danmarks Statistik	1996
1997–2021	Single year of age	Danmarks Statistik. Befolkningsbevægelser, annual publication 1997, 1998, ...	14, 37, 39, 40, 41, 46, 2000, 51, 55, 59, 63, 67

**BIRTHS****Type of data:** Annual live birth counts by sex.**Period covered:** 1835-2020**RefCodes:** 10, 11, 37, 42, 43, 47, 1994, 1995, 1996, 52, 57, 61, 65, 69.**BIRTHS BY MONTH****Type of data:** Annual live birth counts by month**Period covered:** 1901 to 2020**RefCodes:** 53, 58, 62, 66, 70.