STATISTICS DENMARK

Documentation of statistics for Income Statistics 2024

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1 Introduction

The purpose of the income statistics - is to provide statistics on the population's incomes and tax payments as well as the distribution of incomes. The statistics are useful in the field of social sciences and form the basis for effective policymaking in areas that affect the economic situation of the households. Statistics Denmark has published statistics on income since 1905 and has coherent time series going back to the 1980's.

2 Statistical presentation

The income statistics are based on a full-population register. It contains information on annual incomes at both the personal- and family level as well as data on the distribution of income. The income is available both pre- and post taxes and can be split into subcategories such as primary income, transfers, property income and taxes. In the income statistics the population is divided into groups by age, socio-economic status, gender, municipalities (NUTS-3), type of family and into income intervals.

2.1 Data description

The income statistics are based on annual incomes. Income statistics are presented at both the personal- and the family level. The income register contains more than 100 types of income of which the 40 most important are presented in The Statbank.

In addition to measuring the level of income there is also focus on income distribution. This includes indicators such as decile distributions, Risk of Poverty and the Gini-coefficient which are measured using the equivalised disposable income.

2.2 Classification system

The personal income statistics are primarily grouped by: Type of income, municipality, socio-economic status, gender, age and education. Pre-tax total income and disposable income is furthermore divided into income intervals.

The family income statistics are furthermore divisible by type of family, socio-economic status for the main breadwinner, highest attained education within the family, and home ownership.

2.3 Sector coverage

Not relevant for these statistics.

2.4 Statistical concepts and definitions

Disposable income: Disposable income is the amount of money that a person or household has available for spending and saving after income taxes and interest expenses have been accounted for.

Pre-tax income, total: Pre-tax income is the sum of primary income, public transfer incomes, private pensions, property income and other personal income.

Primary income: Primary income includes wages and salaries, entrepreneurial income and received fees subject to labour market contributions.

Public transfer incomes: Public transfer incomes includes disability and old age pensions, early retirement pay, unemployment and cash benefits, public educational grants, housing benefits, child benefits and green check.

Private pensions: In the income statistics private pensions includes public servants pension, pension from the ATP (Labour Market Supplementary Pension Scheme) and Labour market and private pensions (Annuities only).

Property income: Property income (gross) refers to profit or income received by virtue of owning property. It includes received interests and other property income (From stocks etc.). When comparing consumer spending power between home owners and tenants imputed rent and interest expenses should be included in property income (= Property income (gross) + Imputed rent - Interest expenses).

Imputed rent: Imputed rent is a computed value that shows how much a home owner in theory should pay to rent a corresponding dwelling. Imputed rent is included in disposable income to ensure comparability in consumer spending power between home owners and tenants.

Tax, total: Tax (total) includes income taxes and labour market contributions.

Equivalised Income: Equivalised disposable income is mainly used for calculation on the income distribution. The purpose of equivalising the income is to ensure comparability between the income for a person living alone, with that of a large family. The equivalised income should be interpreted as the amount a one-person family should have in order to obtain the same possibilities of consumption as a large family. The assumption is made that income is perfectly redistributed within the family, so that all family members receive the same equivalised income. The OECD modifed-scale is used for equivalisation. The first adult is assigned a weight of 1, the subsequent adults over 14 years old has the weight of 0.5 and children 0.3. Thus the Equivalised disposable income for all family members in a family of 2 adults and 2 children with a total disposable income of 400.000 DKK is 400.000/(1+0.5+0.3+0.3)= 190.476 DKK.

Socio-economic status: The main source of income and/or labor market status for the year.

Low income: Low income is an indicator that measures the number of people living in families with a total income that is lower than 50 or 60 percent of the median income. It is a group with an income that is significantly lower than the standard in the Danish society. The measure is almost similar to Eurostat's term Risk of Poverty and OECD's Poverty.

Decile groups and deciles: The population is sorted according to its income and then divided into 10 equally large groups. The first decile group is the 10 percent with the lowest income. The 10th decile group is the 10 per cent with the highest income. The deciles are the values separating each of the decile groups.

P90/10: P90/10 measures the economic difference between low and high income families. This indicator is not affected by individuals with extreme income like many other inequality measures. This makes P90/10 a good indicator of inequality over time and in small populations, e.g. in the Municipalities. P90/10 is the upper decile divided by the lower decile.

S80/20: S80/20 is an indicator of inequality based on the mean income in the decile groups. S80/20 is the total income of the 20 per cent with the highest income divided by the total income of the 20 per cent with the lowest income. This measure is affected by individuals with extreme income.

Gini coefficient: The Gini coefficient is one of the world's most commonly used measures of inequality. With a single number it states the degree of inequality in an income distribution. The Gini coefficient is a number between 0 and 100. The closer Gini is to 0, the more equal the income

distribution.

The Hoover index: The Hoover index is an indicator of inequality. It is equal to the share of the total income in the society that would have to be redistributed from people with incomes above the mean to people with incomes below the mean, in order to reach income uniformity. The higher the Hoover index, the more unequal the income distribution.

Age: Age on the 31st of December of the income year.

Region/Municipality: Residence 31st of December of the income year.

2.5 Statistical unit

- Persons living in Denmark.
- Families living in Denmark.

2.6 Statistical population

The following populations are used in publications:

Persons: All that are at least 15 years old by the 31st of December and have had a registered address in Denmark for the entire year. Thus the statistics do not include people migrating in and out of the country nor the people who died during the year.

Families: The family is defined on the 31st of December. Only families with at least one person over the age of 15, who has been registered to live in Denmark the entire year, is included.

Distribution of income: Persons in families on the 31st of December. Only persons living in families with at least one person over the age of 15, who has been registered to live in Denmark the entire year, are included.

2.7 Reference area

Denmark.

2.8 Time coverage

The current Statistics cover the period from 1987.

2.9 Base period

Not relevant for this statistics.

2.10 Unit of measure

- Number of persons.
- 1.000 DKK

2.11 Reference period

The income year refers to the incomes for that entire year.

2.12 Frequency of dissemination

Annually.

2.13 Legal acts and other agreements

Section 6 of the Act on Statistics Denmark (most recently amended by Act no. 599 of the 22nd of June, 2000).

The statistics are an important source for the data requested by Eurostat for the "Statistics on Income and Living Conditions" (Regulation (EC) No. 1177/2003).

2.14 Cost and burden

There is no response burden for private citizens or businesses, as all data is collected via Central Tax' registers and "Udbetaling Danmark".

2.15 Comment

Further information can be found at the subject pages for these statistics, or by contacting Statistics Denmark directly.

3 Statistical processing

Data is collected and published yearly. The primary source is administrative data from the Danish tax authorities. Using secondary sources from the municipalities and unemployment funds the incomes are subdivided into more detailed types of income. Finally other registers in Statistics Denmark, such as the population register, provide background information.

In case of inconsistencies between data sources on the total income amounts, the data are fitted to match the level of the tax authorities, which are assumed to be correct.

3.1 Source data

The main sources are registers operated by The Central Tax Administration. This includes the Central Taxpayers' Register (CSR), the Central Pension Register (CPS), and the Pension Tax Register (PAF).

In addition, the following registers are used and maintained by Statistics Denmark:

- Central Business Register,
- Register for Labour Market Policy Measures (AMFORA),
- Register of Unemployment Benefit Payments (DUR),
- Register of Population Statistics,
- Employment Classification Module (AKM),
- Statistic Denmark's Register of Child Allowance Statistics,
- Register of Pension Statistics,
- Register of Housing Allowance Statistics.

The Central Taxpayers' Register (CSR): Data is produced by The Central Customs and Tax

Administration. They are based on final tax assessments from the Central Taxpayers' Register. It contains data on income, income tax allowance, and wealth, reported by municipalities to The Central Customs and Tax Administration on the basis of the income tax return forms. Furthermore, the register contains a range of data reported by employers, banks, and municipalities to the tax authorities according to The Danish Tax Control Act. The register also contains information used in valuing social benefits. Finally, the register contains different background information for administrative use, e.g. concerning pensions, joint taxation, and various estimated amounts in relation to income tax assessment.

Statistic Denmarks e-income Register (The Salary Information Register (COR): Data Produced by the Central Customs and Tax Administration): The register is based on the information that has to be sent to the tax authority by employers and others who pay wages and salaries, remunerations, pensions etc. For each employee, the pay declaration slip contains information regarding all employment including size and kind of income, size of ATP contributions (labor market supplementary pension contributions) and the amount withheld to A-tax (provisional tax). The register, in this way, makes it possible to split up the A-income into various income types, e.g. wages and salaries, unemployment benefits and social pensions. The register also contains information about some kinds of B-income (other income than A-income dividends from shares and tax free social pensions), e.g. unemployment benefits for the self-employed.

The Central Pension Register (CPS): Data Produced by the Central Customs and Tax Administration in August: The register contains information about contributions to pension funds which has to be sent to the tax authority by insurance companies, pension funds, financial institution and other administrators of pension capital.

The Pension Tax Register (PAF): Data Produced by the Central Customs and Tax Administration in August: The register is based on information about pension withdrawals subject to duties which have to be sent to the tax authority by insurance companies, pension funds, financial institutions and other administrators of pension capital.

Statistics Denmark's Central Business Register: The register contains information about legal enterprise units and possibly their departments. The register also contains information about the responsible owners of the registered enterprises. A number of identification items are contained in the register, for instance: Possible responsible owners, civil registration number, information about geographic location, type of ownership, sector, and size.

Statistics Denmark's Register for Labor Market Policy Measures (AMFORA): For each individual person the AMFORA includes information about the duration of the periods in which the person participated in the labor market policy measure.

Register of Unemployment Benefit Payments: The register contains information about persons who are insured against unemployment and receive unemployment benefits (excluding holiday allowance benefits). The register includes information about weekly paid unemployment benefits (excluding holiday allowance benefits).

Register of Population Statistics: The Register of Population Statistics contains basic demographic information about the Danish population. The basis for the register is the Central Population Register.

Statistic Denmark's Register of Pensions -The register contains data on reciepients on disablility- and old-age pensions. It classifies individuals by the type of pension they recieve, it covers relevant attributes for the amount that is paid out and it includes all relevant payouts of pension benefits.

Statistic Denmark's Register of Child Allowance Statistics, Statistic Denmark's Register of Housing Allowance Statistics.

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3.2 Frequency of data collection

Once a year.

3.3 Data collection

Administrative registers. Data related to income is collected monthly or annually from the tax authorities or "Udbetaling Danmark" who handle the pay out transfers in Denmark.

3.4 Data validation

Data from the final tax returns are validated by the tax authorities and the taxpayers. The data is assumed to be of high quality. Outliers are checked if they are not approved by the authorities. Only in case of obvious errors are outliers removed. In the majority of years no outliers are removed from the data. Annual changes in income are monitored, taking into account the development and growth of the economy.

3.5 Data compilation

The final tax returns are assumed to be correct. The income variables from the final tax-returns are mainly collected from the preliminary e-income register. The e-income register makes it possible to sub-categorise the transfers into different types of transfers. However since the final tax returns are fully validated by both authorities and the taxpayer, the final tax assessment is considered the best source of information. Thus incomes from the e-income register and other sources are adjusted to fit the validated final tax returns in cases of inconsistency. Family units, age and place of living is based on census data from the 31st of December in a given income year.

3.6 Adjustment

For a few select tables in the Statbank the incomes are adjusted with the consumer price index. This will be noted on the tables.

4 Relevance

The primary users of the income statistics are ministries, municipalities, research institutes and the media. An annual meeting with some of the users of the main welfare statistics is held in Statistics Denmark. On a daily basis users call with questions related to the statistics or comment on our publications on social media. Through these interactions with the users we continually assess the need for improvements of the statistics.

4.1 User Needs

- *Users*: Municipalities, ministries, organizations, research Institutions and the news media.
- *Application*: To show the development in and composition of income for different sections of the population and to measure income distribution.

4.2 User Satisfaction

No information on user satisfaction has been collected.

4.3 Data completeness rate

Not relevant for this statistics.

5 Accuracy and reliability

The quality is in general considered to be very good for the income types included in the statistics as data have been validated by the tax authorities. Undeclared incomes, winnings in lotteries etc. may result in a mismatch between actual and registered income.

As the income statistics are based on full-population registers, there are no sampling errors.

In 2024 data is extracted in August. Thus revisions after this date will not be taken into account in the income statistics.

5.1 Overall accuracy

The quality is in general considered to be very good for the income types included in the statistics.

As the income statistics are based on full-population registers, there are no sampling errors or risk of bias.

The income information in the registers of the tax authorities are assumed to be correct. Undeclared income and mistakes in the reporting of incomes to the tax authorities will result in a mismatch between actual and registered income. One-time payments, such as insurance payments and winnings from gambling, are not part of the statistics either.

5.2 Sampling error

The administrative registers fully cover the population. Thus there is no statistical uncertainty

5.3 Non-sampling error

Undeclared incomes and mistakes in the reporting of incomes to the tax authorities will result in a mismatch between actual and registered income. One-time payments, such as insurance payments and winnings from gambling, are not part of the statistics either.

The statistics include imputed rent for homeowners. It is assigned as a percentage of the public tax evaluation of owned real estate. This income is purely theoretical and is subject to uncertainty.

Data on benefit for heating for pensioners has been imputed for 2020, due to missing data on the payouts.

5.4 Quality management

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes.

5.5 Quality assurance

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

5.6 Quality assessment

Undeclared income and mistakes in the reporting of income to the tax authorities will result in a mismatch between actual and registered incomes. One-time payments, such as insurance payments and winnings from gambling, are not part of the statistics either. As the income statistics is based on full-population registers, there are no statistical uncertainty and the overall quality of the tax statement is considered to be quite good as the tax statements have to be approved both by the tax authorities and the individual taxpayers.

The income statistics are not revised. This means that any revisions made after the date of the data extraction will not make it into the statistics. Personal tax statements can be revised for up to 5 years following the end of the tax year. Timelines have been improved from December to September by using an earlier data extraction from the administrative tax registers.

5.7 Data revision - policy

Statistics Denmark revises published figures in accordance with the Revision Policy for Statistics Denmark. The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

5.8 Data revision practice

There is no revision. However a preliminary statistic is published about 6 months earlier (a-income statistics). This statistic only covers wages and transfers. On these parameters the difference to the final register is less than 0.12 percent In total the a-income makes up 85-90 percent of total pre-tax income as it does not include entrepreneurial and property income.

6 Timeliness and punctuality

Most tables on income statistics are published in September, nine months after the end of the income reference year along with the annual newsletter. Socio-economic status, imputed rent, disposable income and income distribution indicators are published in November.

The statistics have usually been published as planned.

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6.1 Timeliness and time lag - final results

Most tables on income statistics are published in September, nine months after the end of the income reference year along with the annual newsletter. Socio-economic status, imputed rent, disposable income and income distribution indicators are published in November. For the exact dates see the scheduled releases.

Especially for 2019 and 2020, as a result of the situation surrounding COVID-19, the Government launched a number of aid packages in the spring of 2020 and in the spring of 2021 with the aim of supporting the Danish business community. One of the measures referred to a general postponement of the general deadlines for personally owned companies with regard to reports of company profits etc. to SKAT for the income year 2019 and 2020. In this connection, the deadlines were moved from June 2020 to 1 September 2020 and from June 2021 to September 2021. However, Statistics Denmark received the first delivery of the Tax Agency's data for the final calculation after the 8 months in August, i.e. before the reporting deadline of 1 September for personally owned companies. At that time, the data base was thus extremely deficient, as a large number of self-employed persons were simply not included. As a result of this, the Income Statistics for the census years 2019 and 2020 were extraordinarily postponed until November 2020 and 2021, as it had to be done on the basis of a later delivery of data for the final equation, which was only received in the month of November.

6.2 Punctuality

This statistic is normally published on the announced date with no delay.

7 Comparability

The statistics are comparable over time, but special circumstances affect individual years. COVID-19 and aid packages are important in 2020-2021. In 2022, one-off payments due to inflation are included, and in 2024, 1 month's free rent for certain rental housing units is included as housing benefit. Holiday funds give differences compared to the national accounts 2018-2021. The statistics were revised in 2013 with retroactive effect to 1987. Internationally, Eurostat and OECD are the recommended sources, but income concepts vary.

7.1 Comparability - geographical

Reliably comparing income for different countries is very difficult. Insurance-, pension- and welfare systems differ from country to country. In addition, the price level and the level of the welfare services make it hard to interpret differences in the disposable income when estimating economic living conditions. Denmark, the other Nordic countries, Holland and Slovenia are among the only countries that base income statistics on complete registers. In other countries, the statistics are survey-based and thus affected by statistical uncertainty.

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7.2 Comparability over time

In 2020 and 2021 as well COVID-19 related benefits has a large imapct on the timeseries. The additional payout of "holiday funds" equal to 2 weeks worth of wages is included in the wage income. Due to the high inflation rate of 7.7 percent in 2022, the income statistics 2022 is affected due to special payouts of governmental inflation aid. In November 2024, a number of people living in certain rental housing units received 1 month's free rent as compensation for the high inflation in the years 2022 and 2023. In return, any housing benefit payments were discontinued for the month in question. In the statistics for 2024, the free rent is therefore included in income derived from housing benefit.

COVID-19 makes the interpretation of the indicators on relative poverty difficult. Normally they are used as indicators for social exclusion due to economic reasons. However COVID-19 lockdowns meant that economy might not have been the primary reason for social exclusion in low-income households in 2020 and 2021. Furthermore there is an temporary effect caused by the extraordinary payouts of holiday funds in 2020 and 2021 as well as the extraordinary payouts of inflation aid in 2022. See the attached Annex) details the effect of COVID-19 on poverty estimates (Danish only). 1994 tax reform: Some tax-free transfers were increased and made subject for taxation. These transfers includes disability pensions, old.age pensions and cash benefits. This increases the pre-tax income for the recipients but has little effect on the disposable income. The same reform introduced the Labor Market Contributions (”Arbejdsmarkedsbidrag”).

History: From 1905 to 2016 Statistics Denmark has published an annual publication on income. The income statistics are for the first time published in The Statbank in the year 2002. Income statistics for the period 1983 - 2001 are published in the ”Tax-oriented Income”-publication. The information on income was before 1983 published in the so-called, ”Tax Return Survey (Selvangivelsesundersøgelsen)”. It was based on a sample of income tax returns.

The ”Tax-Related Income”-statistics are based on The Income Statistics Register, which has been constructed since 1970. Comparing data on income over time was not possible until 1976 when the design of The Income Statistics Register was changed.

Income statistics for families and households were published annually in an extended newsletter, ”Statistiske Efterretninger”, from 1984-2005 and in the annual income publication.

7.3 Coherence - cross domain

As most income related statistics share data sources, the data is often comparable.

Statistics on certain transfers are available in The Statbank. They are mostly based on data from municipal social registers. There will not be an exact match between these statistics and the income statistics, but for the large majority of individuals the data should match. Income and Wage statistics are often mixed up by users of the statistitics. The primary unit in Wage Statistics is the standardised hourly wage at a selected time for a given job position. Wage statistics are not directly comparable to the wages in the annual income statistic as employees may have more than one job, work part-time, change job or be partially unemployed during a year.

EU-SILC is a survey carried out in more than 30 European countries and is the primary source for income statistics in many European countries. In SILC the income definitions are harmonised and - with the above mentioned reservations - somewhat comparable. The primary difference between the income concepts in this statistic and the Danish SILC income statistic is that imputed rent of housing and interest on mortgages is not included in the SILC-incomes. Furthermore SILC uses a different household definition than the families used in this statistic.

Finally it's worth noting that SILC is a survey and thus is subject to statistical uncertainty.

Danish Paper on difference between the national registers and SILC.

7.4 Coherence - internal

In some cases, the sum of the transfer incomes from the A-income register, which is mainly based on administrative information from eIndkomst, is greater than the total transfers in the reported amounts from the Tax Administration's Final Tax Assessment Register. In these cases, the transfer incomes in the final income statistics are corrected so that they correspond in total to the amount in the Final Tax Assessment Register.

8 Accessibility and clarity

These statistics are published in a Danish press release, at the same time as the tables are updated in the StatBank. In the StatBank, these statistics can be found under the subject Income and earnings. For further information, go to the subject page.

8.1 Release calendar

The publication date appears in the release calendar. The date is confirmed in the weeks before.

8.3 User access

Statistics are always published at 8:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published.

8.2 Release calendar access

The Release Calender can be accessed on our English website: Release Calender.

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8.4 News release

These statistics are published in a Danish press release (Danish only).

8.5 Publications

You can find analyses and articles at the bottom of the topic pages Person- og familieindkomster og Indkomstulighed.

8.6 On-line database

Income statistics are available in The [Statbank]Person- og familieindkomster og Indkomstulighed.

8.7 Micro-data access

Access to micro-data is possible through cooperation with Danish research institutions. Read more here.

8.8 Other

Custom made tables can be ordered through our customer centre. Read more about terms and conditions, confidentiality and find contact information on our website.

Income statistics based on a sample from our national income register is also available on Eurostat's website. However, the statistics are not fully comparable due to varying definitions on households and income.

8.9 Confidentiality - policy

The income statistics adhere to the policies of confidentiality for Statistics Denmark is applied.

8.10 Confidentiality - data treatment

The small island of Christiansø has been grouped with Bornholm in publications. Discretionary measures ensures that it's not possible to identify the income of specific individuals in the publications.

8.11 Documentation on methodology

The income variables are documented in Times. (only in Danish) - Personal income in Times - Family income in Times

8.12 Quality documentation

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

9 Contact

The administrative placement of these statistics is in the division of Labour Market, Social Statistics.
The contact person is Uwe Pedersen, tel.: + 45 2372 6569, and e-mail: UWP@dst.dk.