STATISTICS DENMARK

Documentation of statistics for ICT-Expenditure in Enterprises 2015

Statistics Denmark
Sejrøgade 11
DK 2100 København Ø

STATISTICS DENMARK

1 Introduction

The purpose of the survey 'ICT expenditure' is to examine the extent of ICT expenditures in the private sector. The survey contributes to the description of the information society. The survey was conducted for the first time in autumn 2004.

2 Statistical presentation

- *Private sector*: The survey examines ICT expenditure in enterprises . Variables include hardware, pre-packaged and customised software, other ICT equipment (telecommunication equipment, audio and video equipment and other ICT equipment), ICT services and external ICT training. For enterprises in the private sector, the total ICT expenditure is estimated by industry and size groups. Moreover, expenditure in the different sub-groups of expenditure type is estimated, see above.
- *The public sector* (state and municipalities): ICT expenditure is not collected since 2007.

2.1 Data description

Hardware (Computers and peripheral equipment)

- ICT equipment including: Communication equipment and Consumer electronic equipment
- Software including: Business and productivity software and licensing services
- Information technology consultancy and services including: Business process management services, IT technical consulting services, Telecommunications services and Other ICT services
- Leasing or rental services for ICT equipment

FTE used on development of software in the period. Cost of FTE used on development of software in the period.

2.2 Classification system

Danish Industrial Classification of All Economic Activities 2007 (NACE rev 2 with further breakdown).

2.3 Sector coverage

Private business: These activities are: NACE Rev. 2 codes 10.00.00 to 83.00.00 further 95.11.00 and 95.12.00 except 75.00.00(veterinarian).

STATISTICS DENMARK

2.4 Statistical concepts and definitions

Communication Equipment : E.g.

- Line telephone sets with cordless handsets
- Switchboard
- Telephones for cellular networks or for other wireless networks

Direct Expenditures: Purchases during the year.

Hardware: E.g.

- Data processing machines, such as computers, laptop and notebook computers
- Personal digital assistants and similar computers
- Printers used with data processing machines
- Network including routers and cables

Information Technology Consultancy and Services: E.g.

- Business process management services
- IT consulting services
- Computer systems management services

Investment: Investment in the accounting period.

Leasing or Rental Services for ICT Equipment: E.g.

- Leasing or rental services concerning computers etc.

Miscellaneous ICT Components and Goods: E.g.

- Digital cameras
- Printed circuits
- Other recording media, TV, video, monitors and projectors

Other ICT Services : E.g.

- Maintenance and repair services of computers and peripheral equipment
- Installation services of mainframe computers

Software Customized: E.g.

- Licensing services for the right to use computer software

Software, Packed: E.g.

- Operating systems, packaged
- On-line software

Telecommunications Services: E.g.

- Carrier services
- Other telecommunications services
- Other Internet telecommunications services

STATISTICS DENMARK

2.5 Statistical unit

Enterprise 10 or more persons employed, the legal unit.

2.6 Statistical population

NACE clases C to N and more than 10 FTE

2.7 Reference area

Denmark.

2.8 Time coverage

2004-

2.9 Base period

Not relevant for these statistics.

2.10 Unit of measure

- Mio. DKK
- Number of full time equivalent

2.11 Reference period

Private sector: ICT expenditure follows in general the calendar year or the accounting year of which the closing of the accounts takes place between 1 May and 30 April. Latest survey round covers the previous year.

2.12 Frequency of dissemination

Annual.

2.13 Legal acts and other agreements

The act on Statistics Denmark (Act No. 599 of 22 June 2000).

The European Parliament and the Council regulation (EC) No. 808/2004 of 21 April 2004.

2.14 Cost and burden

431.000 DKK. for 2015.

2.15 Comment

Other information is not available.

3 Statistical processing

Population of enterprises are selected according to ownership, activity (NACE code) and number of employee (more than 10 full time equivalent)

The drawing of sample is coordinated with the SBS accounting statistics.

Errors in sum are corrected and outliers are identified, contacted and eventually corrected.

Weights are estimated for 60 strata and the recordings of each enterprise is multiplied according to the strata.

3.1 Source data

The survey is based on a sample of enterprises from the population. The enterprises record their ICT expenditure. The structure of business is from the statistical business register.

3.2 Frequency of data collection

Yearly.

3.3 Data collection

The survey is based on digital data submission via http://www.virk.dk

3.4 Data validation

Errors in sum are corrected and outliers are identified, contacted and eventually corrected.

3.5 Data compilation

The recordings from enterprises are validated. The recorded percentage of investments are recalculated into absolute numbers. Expenditures and costs are estimated for each size group and NACE activities by using the statistical weights. Expenditures by number of employees are estimated for each strata by division for number of FTE.

3.6 Adjustment

No other corrections.

STATISTICS DENMARK

4 Relevance

Statistics is used in business organizations, service contracts with ICT enterprises, ministries and the results are included in research projects.

4.1 User Needs

- *Users*: Ministries, industry trade associations, private companies, the press and students.
- *Areas of use*: The government's annual ICT status report, other ministerial publications, international comparisons, private market analysis, reports at institutions of higher education.

4.2 User Satisfaction

Users are in general satisfied by the published results, some users needs results on a detailed level of NACE.

4.3 Data completeness rate

Statistics are published detailed for 5 activity sectors and 3 groups of size.

5 Accuracy and reliability

Approx 3,000 responses have been used in the grossing up procedure. The results are grossed up so that they correspond to full coverage of the surveyed industries and size groups. Each enterprise in the sample is assigned a weight such that it represents a certain number of enterprises in the population. The grossing up procedure is based on the number of enterprises, and the number of fulltime employees within employment groups. Regarding the enterprises the response rate is 95 per cent for the survey. Loss is due to bankruptcy, take over, etc. The high response rate indicates that results are reliable as the statistical variance indicates. Measures of inaccuracy for selected variables are available.

5.1 Overall accuracy

As the survey is based on a sample in the private sector, all estimates are subject to inaccuracy in form of random variation. In particular, estimates broken down by industry and size must be regarded only as normative. It must be emphasized that enterprises are asked to give a *best estimate* of ICT expenditure, which is due to the fact that ICT expenditure not always emerge from the financial statements of an enterprise. Sample inaccuracy for certain variables is calculated and indicated when results are published.

STATISTICS DENMARK

5.2 Sampling error

Confidence intervals (95%) for total expenditure and sub groups are:

- Total expenditure 54,3 ±1,03 mia. kr.
- Hardware 6,1 ± 0,17 mia. kr.
- Other ICT equipment 3 ±0,46 mia. kr.
- Standard software 9,5 ±0,23 mia. kr.
- Special software 6,6 ±0,32 mia. kr.
- ICT service 27 ±0,75 mia. kr.
- Leasing 2 ±0,01 mia. kr.

The variation will increase at detailed level of NACE and size groups of business.

5.3 Non-sampling error

In a few cases enterprises are organized with more than one business registration, in agreement with the enterprise, we ask the unit having the ICt-expenditures to respond to the questionnaire on behalf of all. In the survey the reporting unit will be regarded as one larger enterprise. Population of enterprises are selected according to ownership, activity (NACE code) and number of employee (more than 10 full time equivalent). The statistics covers almost 70 pct. of all FTE in the relevant NACE groups. The assumption is that under estimation in some units will be compensated by over estimation in other units. Non-response of 5,8 pct. Assumption there are no bias.

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

Sampling error has effect at detailed breakdown at general level statistics on ICT gives the right indication of expenditures.

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

Only final figures are published.

6 Timeliness and punctuality

Statistics are published on time one year and 4 month after reference year.

6.1 Timeliness and time lag - final results

ICT expenditure is published annually.

Private sector: Date of publication, i.e. the time that goes by between the end of the reference period and the publishing date is approx. 360 days.

6.2 Punctuality

The statistics are usually published without delay in relation to the scheduled date.

7 Comparability

Comparable figures from 2008 and forward. Eurostat have collected data for 2009 and 2012 not yet published by Eurostat.

7.1 Comparability - geographical

Eurostat have collected data for 2009 and 2012 not yet published by Eurostat. A number of countries do publish statistics on ICT expenditures.

7.2 Comparability over time

Comparing year to year estimates the sample accuracy must be taken into account. The sample is based on an average of the optimal allocations for different ICT expenditure types, cf. point 3.2. Samples are stratified by employment group and activity code. More specified questionnaire from 2008 gives a break in time series.

7.3 Coherence - cross domain

Comparable statistics are not available.

7.4 Coherence - internal

99 pct. In a little number of recordings will include errors which are not corrected e.g. leasing counted as investment.

8 Accessibility and clarity

- *News from Statistics Denmark*
- Yearbook: Information Society Denmark.
- Main results are accessible at the website of Statistics Denmark and at Statbank Denmark.

8.1 Release calendar

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

8.2 Release calendar access

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

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.

8.4 News release

News from Statistics Denmark

8.5 Publications

Not relevant for these statistics.

8.6 On-line database

Statistic bank

8.7 Micro-data access

Basic material is stored electronically. Available for researchers.

8.8 Other

Emneside

8.9 Confidentiality - policy

Published at aggregated level where rules of confidentiality are not violated.

STATISTICS DENMARK

8.10 Confidentiality - data treatment

Statistics on ICT expenditures is published on a aggregated level, where rules of confidentiality is not violated.

8.11 Documentation on methodology

More detailed information about methodology is available in Danish at the homepage.

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 this statistic is in the division of Business Dynamics. The person responsible is Mahtab Keshavarz, tlf. 39 17 31 15, e-mail: mke@dst.dk

9.1 Contact organisation

Statistics Denmark

9.2 Contact organisation unit

Business Dynamics, Business Statistics

9.3 Contact name

Mahtab Keshavarz

9.4 Contact person function

Responsible for the statistics

9.5 Contact mail address

Sejrøgade 11, 2100 Copenhagen

9.6 Contact email address

mke@dst.dk

9.7 Contact phone number

+45 39 17 31 15

9.8 Contact fax number

+45 39 17 39 99