About the business tendency survey

1. Administrative information

1.1. Name
Business Tendency Survey

1.2. Subject
08.05.10 Prices, price indices and business cycle indicators, Business Cycle Reports, Business Tendency Survey, National

1.3. Frequency
Quarterly

1.4. Regional level
National level only

1.5. Responsible division, person
Economic Indicators (240), Jan Henrik Wang

1.6. Collection authority
Voluntary

1.7. EU-regulation (if relevant)
The survey has no formal connection to international statistical co-operation.

2. Background and purpose

2.1. Purpose and history
The survey maps out the industrial management leaders judgement of the business situation and the outlook for a fixed set of indicators. The survey was established in 1973 and put into operation on a regular basis from the 1 quarter 1974 on. In 1995 a major revision of the survey took place. The revision was especially concerned with a modernisation of the bottleneck questions and related response alternatives i.e. factors delimiting the production activity. For all other questions the wording in the questions and the response alternatives have been kept unchanged.

2.2. Users and applications
The users of the business tendency survey are found within the financial sector, the macro economic analytic environment, media, ministries etc. The results are mainly used for monitoring the economy performance during a business cycle, for analyses and for predicting the short-term development.
3. Statistics production

3.1. Scope

All branch units within the industries Mining and quarrying (10, 13-14) and Manufacturing (15-36), see the Standard of Industrial Classification 1994 (SIC94). The population is defined by the Business and Enterprise Register (BoF). The sampling population does not normally comprise units with 10 or less employees. The unit for observation is the branch unit. The branch unit comprises all establishments within an enterprise belonging to the same 3-digit industry group.

3.2. Data sources

The statistics utilise survey data and employment information from the BoF.

3.3. Sampling

The gross sample includes about 710 units. The sampling plan includes all units with 500 or more employees (panel). Based on a stratification of the units with 10 to 99 employees and using proportional allocation, the other sampled units are drawn by using random sampling. The sample is updated annually - in the second quarter.

3.4. Collection of data

The survey is based on questionnaires. The time limit for returning the questionnaire is normally 5 days before the end of the quarter concerned. The largest one of the establishments within the branch unit is used as the observation unit. Some enterprises prefer to report from the head office. The person responsible for filling in the questionnaire should be the leader of the unit or a member of the management staff.

3.5. Reporting and record-keeping burden

Average time used in reporting data for one establishment is 100 minutes per year. This amounts to a total of 1 030 hours for the entire sample or 133 working days a year.

3.6. Quality control and revision

Data are automatically checked for duplicates. When data are loaded to the production database an automatic control for logical errors are executed. A macro revision on aggregate level is done based on comparisons in time. Results and tendencies are also compared with other relevant quantitative statistics.

3.7. Analysis

For each question by stratum a response distribution is estimated using employment data as weights. The response for each branch unit is given a weight equal to the number of employees. For aggregation to the industrial group level and totals, the stratum results are carrying a weight equal to the stratum population employment. Results are disseminated as original series and smoothed series for totals, 2-digit industrial group and in some few cases on a 3-digit level or groups of such. The publishing also comprises series based on end-use categories (EUROSTAT).
All series are seasonally adjusted using X12ARIMA. These series are only released for variables fulfilling a pre-defined set of quality requirements. These refer to the broad set of test generated in the X12ARIMA analysis.

4. Concepts, variables and classifications

4.1. Definition of the main concepts

The Business Tendency Survey for the manufacturing industries is a qualitative survey that outlines the manufacturing leaders' assessment of the business cycle and the prospects for a certain group of variables. For most variables the survey maps the actual changes - from previous to the current quarter and the management assessment of the outlooks for the next quarter. For some variables the respondent is asked to provide a 12-month assessment.

4.2. Definition of the main variables

The survey comprises several variables - often characteristics defined in the national account system. These are variables like production volume, employment, new orders received, utilisation of capacity, bottlenecks in production etc. In addition the leaders are asked to provide a general assessment of the outlooks for the coming quarter. For variables defined in the national accounts system these definitions have been used. For other variables the survey has adopted definitions used in quantitative surveys.

4.3. Standard classifications

SIC94 is used in the calculations. Furthermore figures are estimated using an EUROSTAT classification - the main industrial grouping - having breakdowns like: intermediate goods, capital goods, consumer goods and energy goods.

5. Sources of errors and uncertainty

5.1. Collection and processing errors

The respondent is faced with several questions and for each a set of fixed response alternatives. The respondent is normally not allowed to select more than one alternative. In some few cases the staff makes corrections for errors based on logical relations between the questions or by using the respondent history - from the previous quarters. The questionnaire is scanned optically with automatic verification, and converted to electronic medium. The current technique for optical reading provides good results with only a few errors. These errors are usually discovered and corrected in the subsequent revision of the data.

5.2. Sampling errors

The main idea - reflected in the sampling plan - is to achieve good coverage of the larger units of the sector populations where these are dominating. This is done to achieve an acceptable degree of relevance at a minimum cost. The sample comprises about 15 per cent of the population units having all together some 80 per cent of the population sales value. No estimations on sampling variance and skewness have however been made for the survey. **Skewness:** The large coverage of the larger units in the sample might be a source for skewness
due to the fact that the smaller units - in some branches - might have a varying impact on the aggregates during the different phases of a business cycle. For sectors where this is considered as relevant adjustments have been made to increase the representation of smaller units. This type of skewness is, however, not being considered as an important source of errors as far as the published results are concerned.

**Non-response:** The survey has an 83 per cent response rate on average as a basis for the published results. Unit non-responses among critical units i.e. units that in advance are expected to have a large impact on aggregates are followed up separately by telephone. The numbers of imputation's made due to unit non-responses are limited. When making imputations they are handled manually based on information from other statistics or previous reports from the units concerned. Unit non-response evaluated to be neutral is not a subject for imputation but is treated indirectly in the estimation. Item non-response is coded automatically and normally not imputed. Non-response is separately published.

5.3. Non-sampling errors

**Register errors:** Normally a small part of the units registered in the population will be misplaced as concerns the industrial classification code and/or other characteristics related to the identification of the unit. This is normally due to scarce or misleading information concerning the unit at a certain time. The information available for the units in sample and population will normally improve over time. Due to this type of deficiencies in the register the survey results might be - varying in time - influenced from over- or under-coverage. No estimations have been made, however, concerning the size and impact of such errors. Such errors are not considered to have a larger impact in this survey than what might be expected in other quantitative short-term statistics.

6. Comparability and correlation

6.1. Comparability over time and place

For the main aggregates (Manufacturing, Mining, Quarrying and Manufacturing) time series according to SIC94 are available back to the first quarter 1974. For all other published aggregates the time series goes back to the second quarter 1987. Making comparisons with quantitative statistics have been studied and might be useful for some of the variables e.g. production, new orders received.

6.2. Correlation with other statistics

The survey is one of many indicators providing a basis for monitoring the performance of the economy during a business cycle. The survey does not, however, have a direct correlation with other statistics.

7. Availability

7.1. Internet address

The address is: [http://www.ssb.no/kbar_en/](http://www.ssb.no/kbar_en/)

7.2. Language
Published in Norwegian and English.

7.3. Publications

The statistics are made available to the public on Statistics Norway's web-site on Internet. The statistics are also published in the Monthly Bulletin of Statistics. Excerpts are also disseminated in the series Economic Survey.

7.4. Storing and uses for basic material

Micro data, information about the sampled units and the population, and catalogues are stored in an Oracle database.

7.5. Other documentation


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