

## Method briefing – tendency survey – creative industries in Central Denmark Region

### Objective

The objective of devising an Aarhus 2017 tendency survey was to provide a here-and-now view how development creative sector in Central Denmark Region. As opposed to other business economics statements, there is next to no delay on tendency surveys.

This briefing describes the method used to devise the tendency survey made for Aarhus 2017 by Statistics Denmark.

### 1: Background

Tendency surveys are surveys carried out each month, covering actuals and expectations within individual sectors and industries. Tendency surveys point to current changes recorded by businesses as well as indications of changes in the near future.

Statistics Denmark devises tendency surveys for the following sectors:

- Industry
- Construction
- Retail incl. car dealerships
- Service industry

Tendency surveys are done in every EU country and can therefore be compared across the union.

Data, documentation and information regarding the tendency surveys are available on Statistics Denmark's website: <https://www.dst.dk/en/Statistik/emner/erhvervslivet-paa-tvaers/konjunkturbarometre>

### 2: Industry definition for Aarhus 2017 tendency surveys

The Aarhus 2017 tendency survey examines development in the creative sector. Aarhus 2017 has used the same industry definition as the survey made for Central Denmark Region in 2015 in connection with the report "Analysis of potential and growth barriers for creative industries in Central Denmark Region"<sup>1</sup>.

### 3: Using the Aarhus 2017 tendency survey

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<sup>1</sup> Oxford Research A/S for Central Denmark Region

### Reliability

The Aarhus 2017 tendency survey is a cross section of three sectors (industry, service industry and retail) and draws on data from these three randomized selections. Due to a smaller population (and thus a smaller randomized selection), the data used for the Aarhus 2017 tendency survey is limited compared to surveys done on individual sectors, which means results are less reliable.

There are three factors that impact reliability:

1. Margin of error
2. Discontinuation
3. Lack of knowledge of responder about the business and its environ

Ad 1)

Normally, the margin of error in connection with polls is around 1-2 %, because each poll requires calculation of a confidence interval for upper and lower values for each variable. Which depend on the number of responses in any given poll. The number of responses for each individual type of response will change slightly for each poll, and thus change the upper and lower limits of the confidence interval. The margin of error for the Aarhus 2017 tendency surveys is larger than other tendency surveys performed by Statistics Denmark, because the sample size is smaller than industry, retail or service industry, because the sector surveyed is much smaller.

Ad 2)

There are various types of discontinuations in connection with tendency surveys: discontinuation due to the respondent's desire to no longer participate in the survey, discontinuation due to business the closing of the business in question. Finally object discontinuation, in which a respondent fails to respond to one of the monthly surveys or submits responses after the cut off date. As responses are voluntary, businesses may fail to respond to a monthly survey. Particularly discontinuation for a single month by major businesses may impact monthly surveys significantly, as responses are weighted in accordance with the business' respective rate of employment, measured by number of full time equivalents.

Ad 3)

Additionally, tendency surveys are less reliable by nature. Surveys ask for one manager in each business to respond swiftly to questions on development during the past three months and expectations to the next three months. These responses may be unreliable depending on the level of information available to the respondent at the time of response.

In order to allow for the above mentioned reliability factors Statistics Denmark recommends that the aim of the survey is to assess development over a period of time rather than monthly fluctuations.

### Result of a tendency survey = net number

The result of a tendency survey is presented using the unit "net number". The net number does not refer to any specified unit and may be valued anywhere within a range of -100 to +100. The net number is derived by deducting "decreasing" responses from "increasing" responses.

### *Example:*

10 % has responded that development measured by employment numbers for the past three months has been decreasing. 55 % has responded that employment numbers have not changed and 35 % have experienced an increased number of employees for the past three months.



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The net number for employment for the month in question will then be 35 % - 10 % = 20. Note that the percentage unit no longer applies.

#### **4: Data access**

Statistics Denmark has stored the programming used to develop the Aarhus 2017 tendency survey. Thus allowing for others to make a similar custom survey with the same data. In addition, it is possible for researchers to access data on the micro level, thus making sure a wide variety of analysis are possible. For more information, please contact Statistics Denmark. Contact information for Statistics Denmark Research Services is available on the Statistics Denmark website.

All raw data has been transferred to Aarhus University (rethinkIMPACTS 2017) for research purposes.



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