

# Cross-country comparability

This appendix to Measuring new Nordic solutions – Innovation Barometer for the public sector details cross-country differences in terms of how the Innovation Barometers were conducted in each country. The differences are summarized below and followed by a description of the data collection process in each country.

## Public sector structure

The Innovation Barometers in Denmark, Iceland, Norway and Sweden include all existing administrative levels in that country. A regional level does not exist in Iceland, so the Icelandic Innovation Barometer covers municipal and state level. In Denmark, Norway and Sweden a regional level exist and is included as well.

The Finnish Innovation Barometer only covers municipalities and joint municipal authorities. The joint municipal authorities exist at a regional administrative level, but are structures for municipal cooperation rather than a regional level in a traditional sense of the term. In the publication Finnish municipalities and joint municipal authorities are jointly describes as the municipal level.

There is also some variation in characteristics of the public sector in each country. For instance municipalities are often very small in Iceland (more than half have less than 1,000 inhabitants), and are also generally smaller in Finland and Norway than in Denmark and Sweden. This might affect the results in a number of ways, but it is a basic premise for cross-country comparison that we cannot change.

## Policy areas included

In some countries, only some policy areas were included in the Innovation Barometers, especially at the municipal level. For instance the Norwegian municipal/regional Innovation Barometer only includes the policy areas health/care and education/childhood and exclude other policy areas (e.g. construction/technical services). The details for each country are listed below. These differences probably have some impact on the results as some policy areas might be more innovative than others.

## Definition of innovation

The questionnaires used for the Innovation Barometers all derive from the Innovation Barometer questionnaire first developed by COI and Statistics Denmark, but some changes have been made in each country to fit the national context. However, the overall definition of public sector innovation is close to identical in the five countries. The Norwegian questionnaire differs in that value for businesses was included as a value achieved with innovation on top of the values used in the other countries (quality, efficiency, citizen involvement and employee satisfaction). This could potentially inflate the innovation rate in Norway compared to the other countries, but we believe the effect is only minor – if any – as value for businesses is rarely the only kind of value achieved with an innovation.

## Time period

Questionnaires in all countries ask about innovations implemented during a two-year period. In Denmark, the period is two specific years (2015-2016) while all other countries focus on the “last two years” from when the response was given. The Finnish, Icelandic and Swedish Innovation Barometers and the state level part of the Norwegian Innovation Barometer cover roughly the same time period, fall of 2016 to fall of 2018. Data in Denmark and on municipal/regional level in Norway is older. Since two rounds of the Danish Innovation Barometer have been carried out two years apart with strikingly similar results, we do not believe the different time periods have a major impact on the results, but we cannot know for certain.

## Data collection and response rate

The Innovation Barometers in the Nordic countries are all quantitative web-based surveys, but there is some variation in the data collection processes in each country. In some countries, the invitation email for the survey addressed the manager of each workplace by name and was sent to the manager's personal email address. Other countries did not have access to the personal email addresses and relied on the general administration within the organisation forwarding the invitations to the relevant managers. This practice involves a risk of the survey never reaching the intended respondent.

The response rate – the percentage of the sample that answered the questionnaire – varies from around 12% in Finland to 50% in Denmark and generally reflects the data collection method. Reaching respondents directly results in higher response rates.

A lower response rate generally creates more uncertainty in whether the responses are representative of the population, as we know only little about the workplaces not answering the questionnaire. In Denmark, Norway and Sweden the responses are weighted by a number of variables (e.g. location, number of employees and service area) to better represent the population. The Finnish and Icelandic data are not weighted.

Information on the Innovation Barometers in the five Nordic countries are summarised in Table 1 below.

**TABLE 1**

## Collection of Innovation Barometer data in the five Nordic countries

	 <b>DENMARK</b>	 <b>FINLAND</b>	 <b>ICELAND</b>	 <b>NORWAY</b>	 <b>SWEDEN</b>
<b>Administrative levels included</b>	State, regional, municipal	Municipal	State, municipal	State, regional, municipal	State, regional, municipal
<b>Time period for the innovation</b>	2015-2016	ca. Oct. 2016 to Oct. 2018	ca. Nov. 2016 to Nov. 2018	Municipal/ regional level ca. Oct. 2015 to Oct. 2017, State level ca. Oct. 2016 to Oct. 2018	Sep./Oct. 2016 to Sep./Oct. 2018
<b>Definition of innovation</b>	Standard	Standard	Standard	+ value for businesses	Standard
<b>Sample</b>	4,766	ca. 1,200	764	7,368	5,305
<b>Responses</b>	2,362	145	272	2,548	1,608
<b>Response rate</b>	50%	ca. 12%	36%	35%	32%
<b>Data weighted</b>	Yes	No	No	Yes	Yes

# Denmark

The Danish Innovation Barometer (“Innovationsbarometeret”) has been conducted by Center for Public Innovation (COI) in collaboration with Statistics Denmark. Private research agency Voxmeter assisted in collecting data.

The Danish survey covers all administrative levels in Denmark (municipal, regional and state) and includes all service areas in the public sector. Publicly owned enterprises were not included. The data used is from the second round of the Danish Innovation Barometer that focuses on innovations implemented in the years 2015-2016. Data was collected between March and June 2017.

COI and Statistics Denmark identified 15,102 public sector workplaces relevant for the survey. The survey was sent to a sample of 4,766 workplaces stratified by number of employees, geographical location and service area (e.g. kindergartens, road maintenance, hospitals). Some service areas were oversampled to ensure a sufficient number of answers to generate reliable results for that service area, for instance hospitals. 2,363 workplaces answered the Danish survey, resulting in a total response rate of 50%. The high response rate was achieved by sending the survey to the manager of each workplace personally and following up by phone in strata with too few responses.

The presented data is weighted to represent the population in terms of geographical location, service area and size of the workplace.

The Danish Innovation Barometer only covers Denmark proper and does not include the autonomous countries of Greenland and the Faroe Islands, part of The Danish Realm.

# Finland

The Finnish Innovation Barometer (“Innovaatiobarometri”) has been conducted by Kuntaliitto (The Association of Finnish Local and Regional Authorities).

The Finnish Innovation Barometer only covers the administrative level of municipalities and joint municipal authorities. Data was collected between 2nd of October 2018 and 2nd of November 2018.

The survey covers innovations implemented during the last two years from when the data was collected (ca. October 2016 to October 2018).

The survey includes five municipal policy areas: general government, education and culture, social and health, work and enterprises, and technical services. Publicly owned enterprises were not included. Data was collected by sending the questionnaire to the general administration in each municipality, asking them to forward the questionnaire to the relevant manager in each of the five policy areas. In some municipalities, a single manager covers more than one policy area, so the total population of relevant respondents is not known. The population is roughly estimated to be around 1.200 persons.

The questionnaire was sent to 295 municipalities and 21 joint municipal authorities, and generated a total of 145 responses from 107 municipalities and 9 joint municipal authorities. The response rate cannot be calculated accurately, but is estimated to be around 12%. The presented data is not weighted.

The respondents in the Finnish Innovation Barometer are somewhat different from respondents in other countries, as managers of policy areas are higher level managers than managers of specific workplaces also represented in other countries. 68% of the respondents in Finland represent the top management in their municipality.

In addition to questions on innovation, the questionnaire includes a second part about experimentation. The Finnish Innovation Barometer covers mainland Finland and does not include the autonomous region of the Åland Islands.

## Iceland

The Icelandic Innovation Barometer (“Nýsköpunarvögin”) is a collaboration between Fjármála- og efnahagsráðuneytið (Ministry of Finance and Economic Affairs) and Samband íslenskra sveitarfélaga (Icelandic Association of Local Authorities). Private research company Outcome Surveys assisted in collecting the data. The Icelandic Innovation Barometer covers both administrative levels in Iceland: the state and municipalities. There is no regional administrative level in Iceland. Data on state level was collected between 19th of October and 23th of November 2018, and data on municipal level between 28th of October and 16th of January.

The survey covers innovations implemented during the last two years from when the data was collected - ca. November 2016 to November 2018, depending on when the survey was answered.

At the state level, all governmental organizations were included in the survey (including non-administrative workplaces: hospitals, law enforcement, universities, high schools, etc.), while publicly owned enterprises and public committees were excluded. In organisations with more than 160 employees, the questionnaire was sent to every next level executive instead of the head of the organisation.

At the municipal level, the survey was sent to all kindergartens and elementary schools and to the managers of three policy areas: central administration, leisure and welfare- and social services. Other policy areas were not included.

The survey was sent to 200 workplaces at the state level and 564 workplaces at the municipal level. In total, 272 respondents answered the survey: 152 at the state level and 120 at the municipal level. The response rate is 36% in total, but is higher at the state level (60%) than at the municipal level (27%). The presented data is not weighted.

## Norway

In Norway, the Innovation Barometer (“Innovasjonsbarometeret”) has been conducted on municipal/regional level and on state level separately.

At the municipal and regional level, KS (Norwegian Association of Local and Regional Authorities) carried out the Norwegian Innovation Barometer among municipalities and county municipalities (“Fylkeskommuner”, regional level). The private research agency Ipsos assisted in collecting and analyzing data.

Data was collected between 12th of September and 30th of October 2017 and measures innovation activity in the last two years prior to the time of the survey (ca. October 2015 – October 2017). The survey only includes the policy areas health/care and education/childhood. Publicly owned enterprises were not included.

The survey was sent to 5,682 workplaces and 1,786 answered the survey, resulting in a response rate of 31%. The results of the survey is weighted by subsector and geographical location.

At the state level, DIFI (Agency for Public Management and eGovernment) has collected Innovation Barometer data, assisted by the private research agency Ipsos. Data was collected between 1st and 24th of October and addresses innovations implemented during the last two years from when the data was collected (ca. October 2016 to October 2018). Publicly owned enterprises and the health sector was not included. The survey was sent to 2,267 workplaces and 762, 45%, answered the survey. There has not been a need to weight the state level data.

The data presented for Norway is a combination of the two Norwegian Innovation Barometers. The data was weighted to represent the size of the municipal/regional level and the state level before being combined.

## Sweden

The Swedish Innovation Barometer (“Innovationsbarometern”) has been conducted by SKL (Swedish Association of Local Authorities and Regions) in collaboration with Swedish governmental innovation agency Vinnova, the City of Gothenburg and the Council for the Stockholm Mälardalen Region. Data was collected by private research agency Ipsos around September-October 2018.

The time period of the implementation of the innovation activity is defined as the last two years from when the questionnaire was answered (ca. September/October 2016 to September/October 2018).

The population of the Swedish survey includes all public sector workplaces on all administrative levels (municipal, regional, state) and enterprises publicly owned by 50% or more. The population consists of around 38,000 public or publicly owned workplaces.

The survey was sent to a sample of 5,305 workplaces stratified by size, sector and service area. The questionnaire was addressed to the manager responsible for the sampled workplace, but sent to the organisation’s central email address and forwarded to the manager.

1,608 workplaces answered the survey, resulting in a response rate of 32%. The presented data is weighted.