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Deliverable 2.1

THE FUTURE POLICY RESEARCH AGENDA OF AN EU INCLUSIVE GROWTH RESEARCH INFRASTRUCTURE

Futuring briefing note 1

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Abstract

The central question of this report is: “What are challenges that the European research community on inclusive growth needs to address to develop a European research infrastructure which will foster evidence-based policy making?” Aiming to get a broad view on this issue, a purposive, non-probability sample of European experts within different academic fields related to issues of inclusive growth was surveyed. The mainly qualitative analysis of the survey responses led to the identification of four main challenges (data, methods, the gap between policy and research and the research context) and four main recommendations linked to this: (1) Data should be the main priority: more and better data are necessary for high-quality comparative research in Europe. (2) The improvement of methods and researchers’ (methodological) skills must go hand in hand with more and better data. (3) Bridging the gap between policy and research is a challenge to be tackled both by policy makers and researchers. (4) A research context that encourages cooperation and innovation and provides the necessary resources should be stimulated.

Progressing towards a European research infrastructure on inclusive growth starts with a strong focus on the data, but goes hand in hand with the development and improvement of methods, training and knowledge exchange on these data and methods and community building which includes not only the European researchers from different disciplines, but other relevant stakeholders as well and in addition to that investing (efforts and money) in building bridges and a collaborative climate between policy makers and researchers.

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European policy-oriented research can and must deliver useful contributions to tackle the Europe 2020 challenges of Inclusive Growth. Key tools in this social sciences research are all types of data earning statistics, administrative social data, labour market data, and surveys on quality of live or working conditions, policy indicators. The project aims to integrate and optimise these existing European data infrastructures and accompanying expertise.

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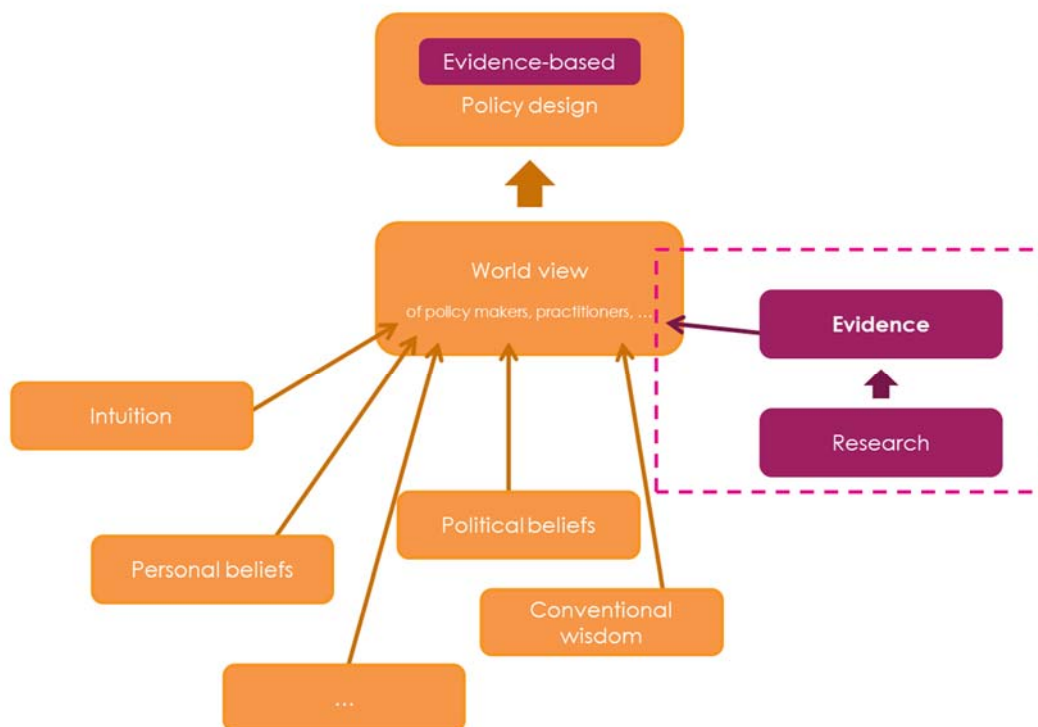
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1. Objectives

Policy making is not an exact science. The world view of the policy maker plays an important role in the policy making process and policy decisions. This world view is influenced by several internal and external factors, such as personal intuition, personal beliefs and previous experiences, political beliefs, conventional wisdom, lobbyists and pressure groups, habits and traditions, pragmatics, values and many others (Figure 1.1) (Davies, 2004 in Sutcliffe & Court, 2005; Unesco, 2010).

In the context of policy making, *evidence-based policy making* is a concept that is often put forward as the ideal and recommended strategy to do ‘good and sustainable policy making’ (Sutcliffe & Court, 2005; Unesco, 2010). It can be defined as follows: “*Evidence-based decision making aims at assisting decision makers and practitioners to identify different policy options to solve a problem, and then to choose between them (Unesco, 2010).*” Davies (2004 in Sutcliffe & Court, 2005) provides another definition: “*Evidence-based policy making is an approach that helps people make well informed decisions about policies, programmes and projects by putting the best available evidence from research at the heart of policy development and implementation.*”

Figure 1.1 The world view of the policy maker plays an important role in the policy design
One can speak of evidence-based policy design when the world view of the policy maker is not only influenced by intuition, political beliefs and others, but also by evidence. Providing this evidence for evidence-based policy making is the role of the research community.



Source based on Davies (2004 in Sutcliffe & Court, 2005) and Unesco (2010)

In this context the role of the research community is to provide this ‘best’ evidence from research, which will influence the world view of policy makers and via this the policy making. The “*relation between research and policy making is rarely a linear one (Unesco, 2010)*”. The evidence coming from research projects will always be only one of the many aspects that will influence the decision making process.

Sutcliffe & Court (2005) specify further what this ‘best’ evidence should be. It should be (1) accurate, of high quality and objective. This implies that the evidence should be representative, free from bias and statistical correct. Next, this evidence should also have a (2) high level of credibility. Thus the results should be following from rigorous and tested processes and methods. Further, the (3) relevance of the evidence is crucial. Whether the evidence is timely and topical, generalizable over specific cases and has policy implications will determine if the evidence is useful for policy making. Finally some practicalities (4) also need to be fulfilled, making the evidence accessible, usable and understandable for policy makers.

Providing this evidence to policy makers can be the role of (social sciences) researchers. To be able to provide policy makers working on inclusive growth at the European level with the necessary and high quality evidence, a European research infrastructure on inclusive growth is needed. Evidence provided to the policy makers needs to be transparent, rigorous and qualitative. To meet these requirements, today’s European research infrastructure is facing major challenges.

The aim of this futuring note is to think about the challenges for building a European research infrastructure within the field of inclusive growth to foster evidence based policy making. What are the challenges, which problems does the research community faces today? This study reports on a survey within the related research community about these challenges. The survey tries to identify existing or future problems, to compile the scientific drivers, and to list priorities that currently affect and may affect the future research agenda of European comparative research on inclusive growth for evidence-based policy making in the next 5 to 10 years. To structure the survey and also this report, questions were composed around the three main stages of such social sciences research:

1. data can be gathered via one or more measurement designs;
2. in the next stage data has to be analysed with the appropriate (statistical) tools;
3. finally conclusions have to be reported and evidence disseminated and valorised.

2. Methodology

2.1 Survey design and operationalisation

2.1.1 Population and sample

The aim of this survey was to collect insights and opinions of experts within research domains related to the topic of inclusive growth in Europe. Therefore it was not relevant to set up a representative and broad survey for which a random sample was defined. Instead we opted for a purposive sampling method, focussing on our specific target population. Purposive sampling is a non-probability sampling method in which participants are selected based on their relevance for the research question and the information they can provide to answer the research question (Teddlie & Yu, 2007; Tongco, 2007). Instead of trying to collect a sample which is representative for the whole European population, we focussed on including a diverse set of experts in the survey sample. For this experts coming from fields related to inclusive growth - both from the research community and other stakeholder groups - and from across the EU and Europe more broadly were included in the sample. We included experts coming from various domains related to inclusive growth: poverty, quality of life, working conditions, quality of working life, precariousness, etc., as well as from different disciplines, such as social sciences, economics, statistics, etc.

As with all purposive sampling methods the aim was not to create a representative sample for the whole population, but to ensure that the sample has a diverse (in level of expertise, expertise domain, profession, country, etc.) profile which allows us to collect the variety of opinions present within our target population. Consequently our sample will not allow us to make generalisations for the whole European population. The aim however was to ensure that the sample allows us to give a broad image of the variety of opinions existing across Europe relating to the issues of a European research infrastructure on inclusive growth. Therefore we will investigate the profile of our survey respondents more in detail later on in this chapter, before we dig into the survey results. Conclusions from our survey analysis will for sure be biased by the profile of our respondents, and this should always be taken into account when going through our findings and conclusions (Teddlie & Yu, 2007; Tongco, 2007).

Constructing a good sample of our target population (which was very broad and more or less unknown) three different methods were used to selecting people for our sample. Different selection criteria were used to ensure a diverse sample. Inclusion criteria that were used were expertise, field of study, country (with the aim to create an international sample), interest in inclusive growth topics, recommendation of InGRID partners, etc. These selection criteria were to some extent also specified in the invitation email participants received.

The first selection method consisted of including all people who subscribed for the InGRID mailing list (and therefore expressed an interest in the topic of inclusive growth) (group A). This first group received a personal link and a general invitation letter to participate in the survey by e-mail.

As a second method the InGRID partners looked for relevant experts within their personal networks. These people also received a personal link to the survey with an invitation letter and a personal request from the partner to participate in the survey (group B).

Third an open link to the survey was made available together with some general information on the survey goals, which was put among others on the InGRID website. Partners could refer to this open link in their contacts with relevant experts (f.e. on a conference). In addition people who were not personally contacted - for any unknown reason - but had a strong interest in inclusive growth, the InGRID project and the survey issues could participate in the survey using this open link (group C).

2.1.2 Survey methodology

A web survey was created using Limesurvey.¹ The survey consisted of four parts (Appendix 1). In the first part, the expertise, experience, function and discipline of the participant was mapped in order to get a good image of the experts whom participated in the survey. The second part focused on the future research agenda, asking for drivers that will provoke changes in the next 10 years and research topics that will become (more) prominent. The third part was devoted to current needs for a European research infrastructure relating to data, methods and valorisation. The fourth and last part asked participants to provide some demographic information such as gender, age and country, again to get a better profile of the experts who participated and the country coverage of our survey. The second and third part of the questionnaire mainly consisted of very broadly formulated open questions to give the experts the opportunity to mention all relevant problems they had in mind. This open format was preferred since the aim was to collect as many ideas and opinions as possible.

Before the survey was send out, all InGRID partners were requested to have a look at the survey and to try to fill in the survey as a kind of a pilot round of the survey. Based on the feedback of the partners, the survey was somewhat adjusted to improve the wordings of the questions.

Invitation emails (Appendix 2) were sent out, including a personal link to the survey. A weekly reminder was send to whom did not yet participate in the survey, with a total of 3 reminders. The final reminder was sent one day before the end of the survey, serving as a final call to participate.

2.1.3 Survey timing

In December 2014 the pilot test of the survey was done with the partners. From mid-January 2015 on the first round of the survey was sent out to the different groups of participants at different moments in time, due to practical issues. Table 2.1 gives an overview of the specific timing of the survey for the different groups. The open survey was made available together with the invitation emails for group A and closed at the end of the survey period, which was on 31 March 2015.

¹ <http://www.limesurvey.org/>

Table 2.1 Time table of the survey for the groups that were addressed

Pilot	
11/12/2014	Pilot test & collection of names
07/01/2015	Reminder pilot test

Group A: InGRID mailing list	
15/01/2015	Invitation emails
22/01/2015	Reminder 1
29/01/2015	Reminder 2
05/02/2015	Final call reminder
06/02/2015	Deadline survey
20/03/2015	Close survey

Group B: personal network part1		Group B: personal network part 2	
22/01/2015	Invitation & personal emails	12/02/2015	Invitation & personal emails
29/01/2015	Reminder 1	19/02/2015	Reminder 1
05/02/2015	Reminder 2	26/02/2015	Final call reminder
09/02/2015	Final call reminder	03/03/2015	Deadline survey
10/02/2015	Deadline survey	03/03/2015	Close survey
16/02/2015	Close survey		

Group C: open survey	
15/01/2015	Launch survey: website, mailing list HIVA, website HIVA, etc.
13/02/2015	Presentation on Delphi survey at NTTS conference
31/03/2015	Close survey

2.1.4 Sample size and response

The invitation email was sent to 3,754 experts. In total 368 people were removed from the sample: 336 invitation emails returned because either the email address was incorrect or non-existing, or the person no longer used his former email address and 32 email addresses were included double in the sample (f.e. because they were included in the mailing list and listed as an expert by one of the partners as well). This reduced the net sample to 3,386 respondents.

In the reminder emails the possibility was given to unsubscribe, with which respondents could indicate they did not want to participate in the survey and no longer wanted to receive reminders or communication on the survey. This option was used by 109 respondents. Another 28 contacted us by email to explain why they did not want to participate (f.e. no longer working in this field, changed jobs, retired, etc.). All together 137 respondents explicitly indicated they did not want to participate in the survey.

From the experts who received an invitation email 302 experts completed the whole survey. Another 300 respondents started the survey but did not complete all four parts of the survey. The open link provided for another 12 completed surveys and one partially completed survey.

From the 301 partially completed surveys, 244 were not included in the analysis because a substantial part of the survey was not filled in. To be useable, the respondent should at least have filled in the second and/or third part of the survey. This was only the case for 57 partially completed surveys. In the end, this led to a final set of 371 useable surveys of which 314 full surveys and 57 partially completed surveys. The gross response rate for the useable surveys was 9.88%, the net response rate 10.96%. The specific sampling method used and the non-probability and non-representativeness of

the sampling method, make it difficult to judge whether this response rate is good or not. Since a large amount of the contacted sample was based on an existing mailing list, some of the non-response can be related to a mismatch between the criteria for participation and the person included in the sample, incorrect email addresses, no availability of the persons (out of office), general project email addresses (f.e. info@ email addresses), etc.

2.1.5 Data analysis

The nature of the data collected by our survey require a combination of quantitative and more qualitative data analysis. Consequently two software programmes were used in the analysis, namely SAS Enterprise Guide 5.1 and Nvivo 10. With the use of SAS Enterprise Guide 5.1 some descriptive analysis was done on the demographic and background information of the respondents (Part 1 and Part 4 of the questionnaire). Nvivo 10 was used to code and analyse the responses on the more open questions (Part 2 and Part 3 of the questionnaire). The node trees used for coding the responses of the participants can be found in Appendix 3.

2.2 Descriptive information of survey respondents

Given the purposive sampling method it is very important to get a good picture of the profiles of the respondents to our survey. However before going into the profile of the respondents, we first want to clarify the annotation that will be used throughout the report. Totals indicated by ‘n=’ refer to the number of respondents, while numbers indicated by ‘r=’ refer to the number of records, which are coded (parts of) responses to the survey questions. At several questions respondents (‘n’) could formulate more than one response (‘r’).

2.2.1 Gender, age and country in which respondents work

A first issue to investigate is the distribution of men and women within our survey sample. With 49.5% women (n=150) and 50.5% men (n=153) participating in the survey there was a very equal representation of both genders in our sample (Figure 2.1).

Figure 2.1 Women (pink) and men (purple) are equally represented in the survey
Percentage of survey respondents by gender (n=303**).*



* Frequencies can be found in the overview tables in Appendix 4.

**From 68 participants the gender is unknown.

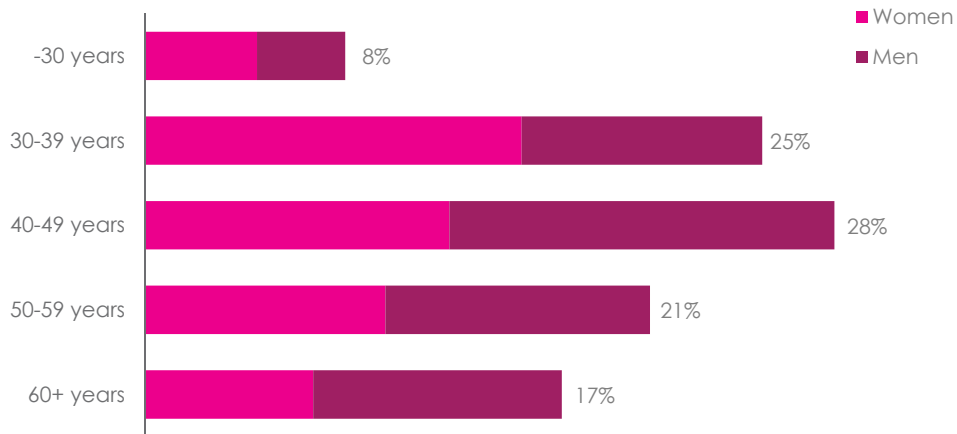
n = number of respondents.

Source Own calculations

The age distribution of the respondents is more centred towards older age groups, which could be expected given the selection criteria which aimed to include experts - which are generally not young employees - within the survey (Figure 2.2). About two third of the respondents are 40 years or older (n=201), with 17% of the respondents being 60 years or older (n=52). One quarter is aged between 30 and 39 years (n=77) and only 8% is younger than 30 years (n=25). Under the age of 40 years there

are more women than men. In the age groups above 40 years the distribution is turned round (Table a4.2 in Appendix 4).

Figure 2.2 About two third of the participants are 40 years or older, only 8% is younger than 30 years
 Under the age of 40 years there are more women (pink) than men (purple), in the age groups above 40 years the distribution is turned round.
 Percentages of survey respondents by age and gender (n=303**).*



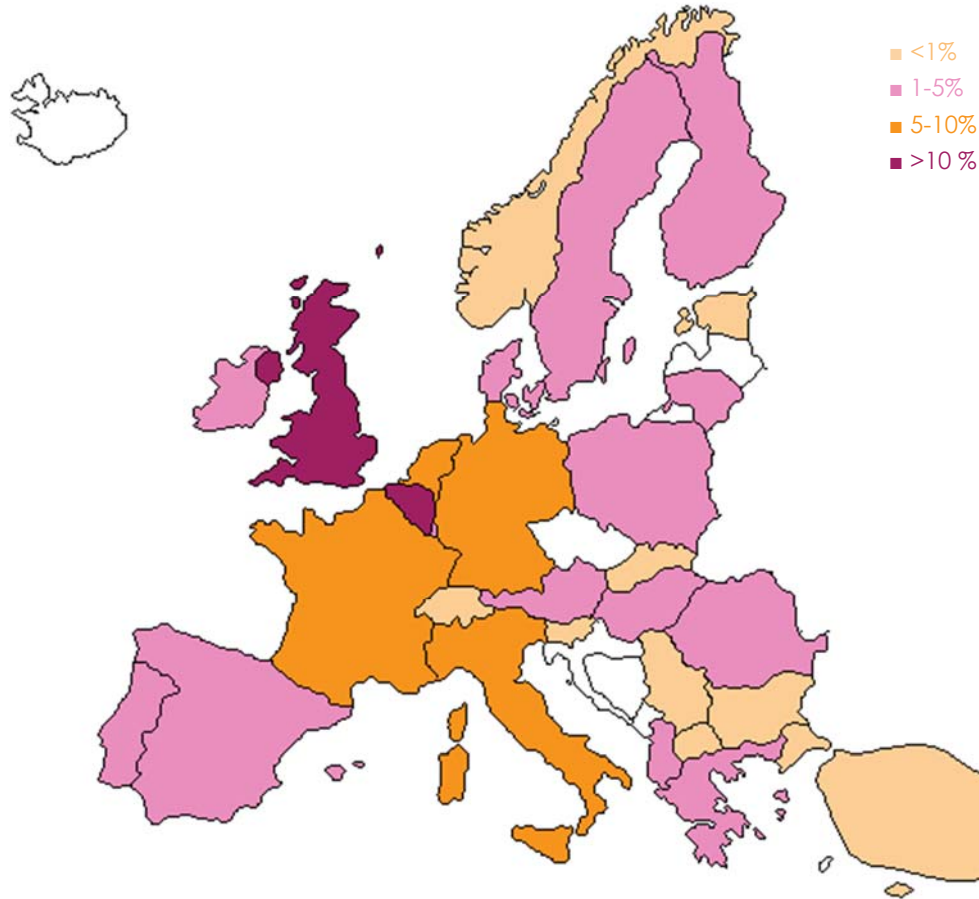
* Frequencies can be found in the overview tables in Appendix 4.
 ** From 60 participants the age is unknown.
 n = number of respondents.
 Source Own calculations

The expert survey was send out to experts across Europe. As a result we succeeded to cover a large part of Europe and most countries of the European Union (Figure 2.3). The largest groups of respondents come from Belgium (12.5%) and the United Kingdom (10.9%). Also Italy (9.7%), Germany (9.7%), the Netherlands (8%) and France (5.5%) are well represented with more than 5% of the respondents coming from those countries. Four EU Member States are not represented in the survey: Croatia, Latvia, Malta and the Czech Republic. Further there were seven respondents coming from outside Europe: two from Australia, one from Canada, Malaysia, Belarus and Georgia, and one from which the country is unknown but outside Europe (Table a4.3 in Appendix 4).

Figure 2.3 The survey succeeded to cover a large part of Europe and most countries of the European Union

The largest groups of respondents come from Belgium and the United Kingdom, as well as France, Germany, the Netherlands and Italy. Further also 7 respondents came from outside Europe.

Percentage of respondents by country (n=311**).*



* Frequencies can be found in the overview tables in Appendix 4.

** From 60 participants the country in which he or she works is unknown.

n = number of respondents.

Source Own calculations

Looking at groups of countries (Figure 2.4), the continental countries² cover the largest share of the survey respondents, with 41% of the respondents. The liberal countries³ and Southern European countries⁴ are respectively represented by 15% and 18% of the respondents. The Nordic countries⁵ have a smaller share of 9% of the respondents, and the group of New Member States⁶ is covered by 10% of the survey participants. Further 4% comes from non-EU but European countries⁷ and 2% from outside Europe.⁸

2 Continental countries = Austria, Luxembourg, France, Netherlands, Germany & Belgium.

3 Liberal countries = United Kingdom & Ireland.

4 Southern countries = Portugal, Greece, Spain, Cyprus & Italy.

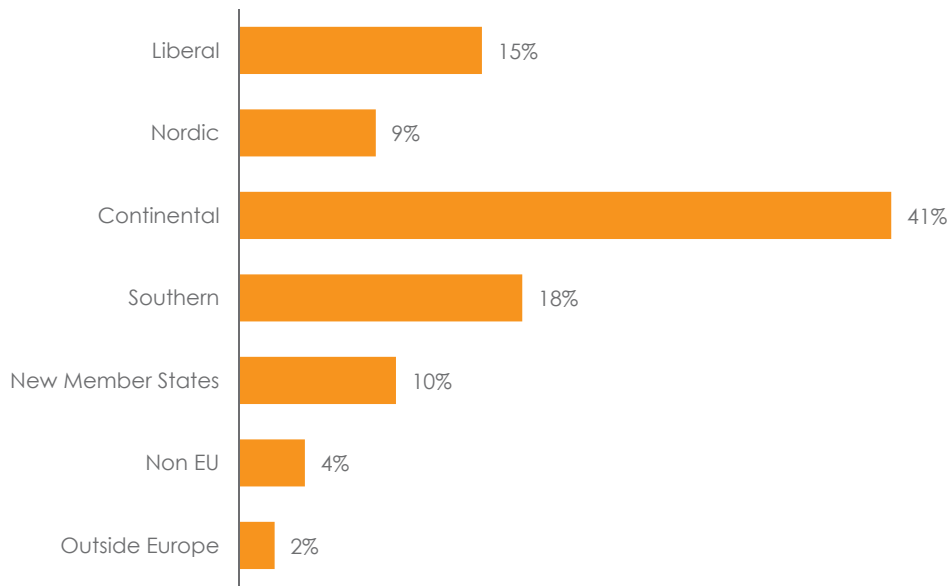
5 Nordic countries = Norway, Denmark, Finland & Sweden.

6 New Member States = Bulgaria, Slovakia, Slovenia, Estonia, Lithuania, Poland, Hungary & Romania.

7 Non EU countries = Liechtenstein, Switzerland, FYR Macedonia, Serbia, Turkey & Albania.

8 Outside Europe = Australia, Canada, Malaysia, Belarus & Georgia.

Figure 2.4 About 41% of the respondents come from the Continental countries
 Percentage of survey respondents by country groups°, (n=311**).*



* Frequencies can be found in the overview tables in Appendix 4.
 ** From 60 participants the country is unknown.
 ° Liberal countries = United Kingdom & Ireland.
 Nordic countries = Norway, Denmark, Finland & Sweden.
 Continental countries = Austria, Luxembourg, France, Netherlands, Germany & Belgium.
 Southern countries = Portugal, Greece, Spain, Cyprus & Italy.
 New Member States = Bulgaria, Slovakia, Slovenia, Estonia, Lithuania, Poland, Hungary & Romania.
 Non EU countries = Liechtenstein, Switzerland, FYR Macedonia, Serbia, Turkey & Albania.
 Outside Europe = Australia, Canada, Malaysia, Belarus & Georgia.
 n = number of respondents.
 Source Own calculations

2.2.2 Professional background of respondents

The expert survey aimed to collect the opinions of both academic and non-academic stakeholders on a research infrastructure on inclusive growth. In figure 2.5 we can see that the majority of the participants has an academic function. However we also managed to include other stakeholders in the survey for about 25% of the respondents. Since the survey was sent out to the personal network of the InGRID partners - which are mainly from academics - and since the mailing list of the InGRID project is also dominated by people from academics, this distribution is not surprising. It is however important to keep this professional background of the respondents in mind in the interpretation of the survey outcomes. Further we will regularly look whether academic and non-academic respondents present another view on specific topics, problems and challenges. Therefore it is also positive that the non-academic stakeholders are represented by a solid amount of 25% of the whole group (= 94 respondents).

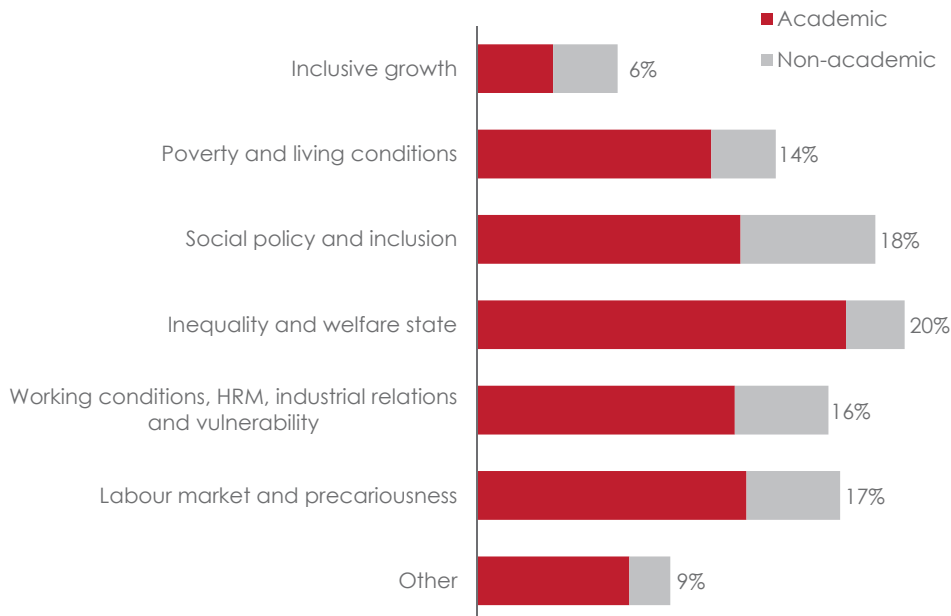
Figure 2.5 The majority of the participants have an academic or other research function (red)
 However we also managed to include other stakeholders (grey) in the survey (for 25% of the respondents).
 Percentage of survey respondents by function (academic or non-academic) (n=371).*



* Frequencies can be found in the overview tables in Appendix 4.
 n = total number of respondents.
 Source Own calculations

There is a relative good distribution of the respondents across the expertise domains related to inclusive growth (Figure 2.6). The different, specific, domains each are represented by a group of 14% to 20% of the participants. The two more generic domains - *inclusive growth* and *other expertise domain* - have a lower share of participants, with 6% with an expertise in inclusive growth (n=24), and 9% of the participants with an expertise other than the mentioned domains (n=33). There was no information on their expertise domain in that case. The majority of the respondents in each expertise domain are from academics, with exception of the *inclusive growth* group, where the distribution is more equal (54% academic, 46% non-academic).

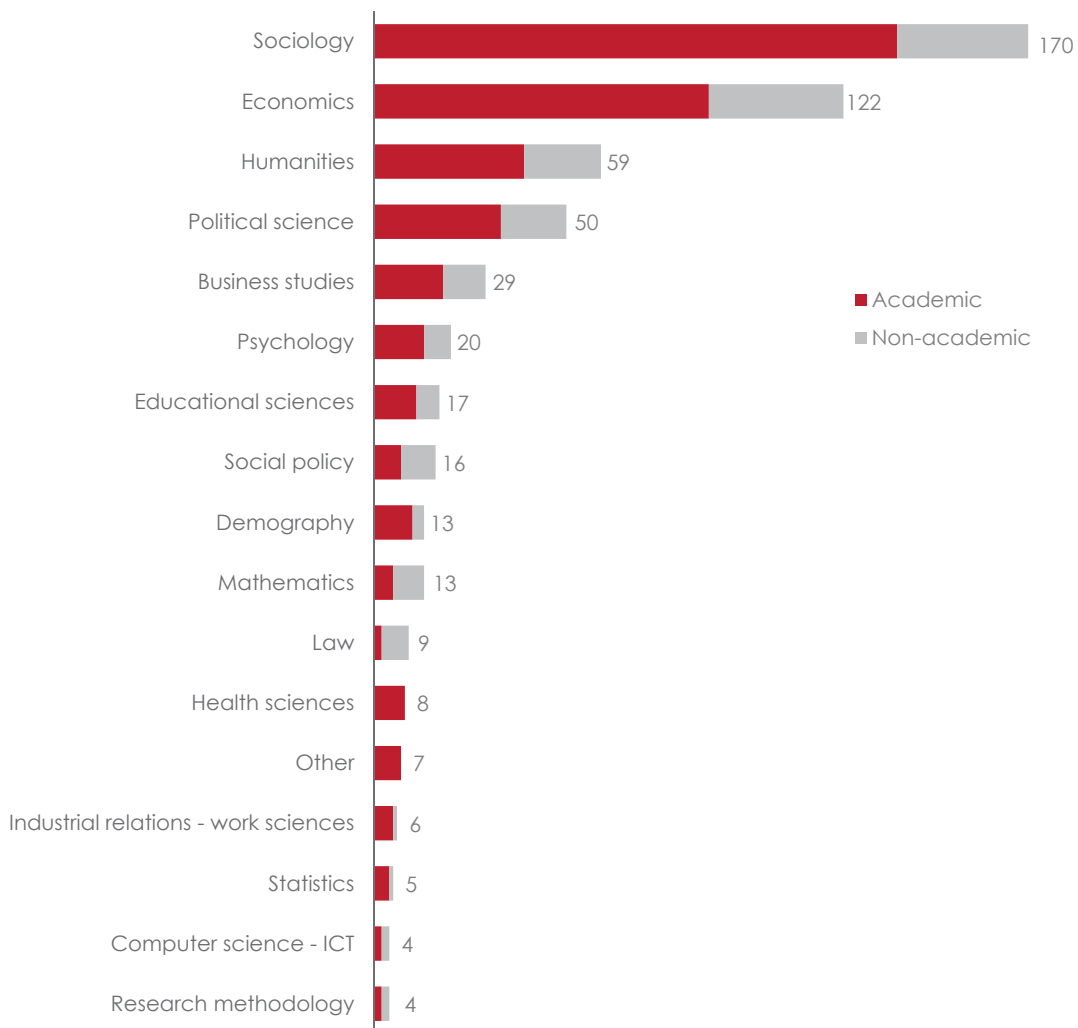
Figure 2.6 There is a relative good distribution of the respondents across the expertise domains related to inclusive growth
 The majority of the respondents in each expertise domain are from academics (red), with exception of the *inclusive growth* group, where the distribution is more equal.
 Percentage of survey respondents by expertise domain and function (n=371).*



* Frequencies can be found in the overview tables in Appendix 4.
 n = total number of respondents.
 Source Own calculations

Next to their expertise domain respondents were also asked to indicate their main scientific field(s) (Figure 2.7).⁹ Almost 31% of the respondents indicated sociology as their main scientific field. Secondly 22% comes from economics and almost 11% indicated humanities (in general) as their scientific field. Political sciences can be found at a fourth place with 9% and the fifth place, with 5%, is for business studies. Other scientific fields, such as psychology, educational sciences, social policy, mathematics, but also health sciences, etc. are also represented in the survey, but to a lesser extent.

Figure 2.7 Most respondents come from sociology (31%) or economics (22%)
 In general the distribution of the professional background is about 60 to 80% from academics (red) and 20% to 40% from non-academics (grey), with some exceptions. The total frequencies for each scientific field are listed.
 Number of survey respondents by main scientific field and function (in frequencies, r=552).*

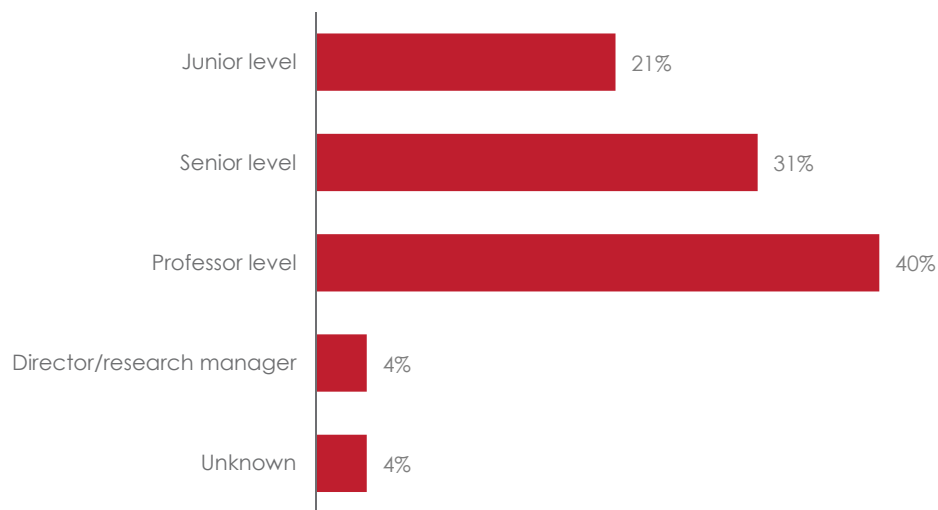


* Respondents could choose more than one scientific field. The cross tables can be found in Appendix 4.
 r = number of records.
 Source Own calculations

⁹ Respondents could choose one or several options from a given list, or fill in their scientific field under the option 'other'. The responses from the 'other' option were recoded into additional scientific fields. A rest group, called 'other' was created for the scientific fields that were mentioned only once or twice and were very specific.

The main part of the academic respondents is expert in his or her domain (Figure 2.8). About one fifth of the respondents is a junior level academic (n=59), of which the majority are PhD candidates (n=42), 7 are junior researchers and 10 research assistants. On the other hand 78% of the respondents are senior level researchers or more experienced. About 31% are senior level researchers (n=87) with 31 post-docs and 56 senior researchers. The largest group are the respondents who work at professor level (40%). Of them, 18 work as assistant professor, 23 as associate professor, 43 as full professor and 12 as distinguished professor. Another 15 work as professor in general. Further there is a small group of 4% of the respondents who work as director (n=7) or research manager (n=3). From 4% of the respondents the function is unknown. In general we can conclude that the main part of the academic respondents in the survey has already an extensive career in research (Table in Appendix 4).

Figure 2.8 The main part of the academic respondents is an expert in his or her domains
 78% of the respondents are senior level researchers or more experienced. 46% has reach the level of professorship or is a director or research manager at a research institute.
 Academic respondents by level of experience (in percentages, n=277).*

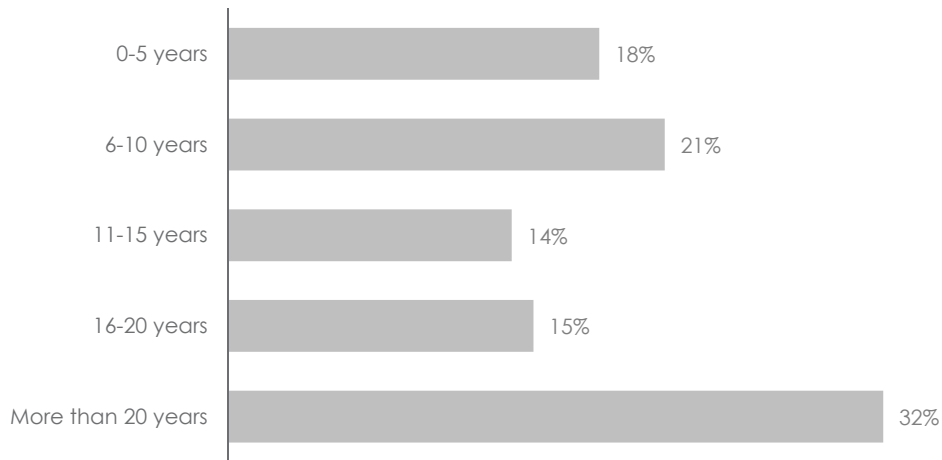


* Frequencies and more detailed tables can be found in the overview tables in Appendix 4.
 n = number of respondents.
 Source Own calculations

It is more difficult to determine the level of expertise of the non-academic experts. A combination of their function and the years of experience they have in this or a similar function and the field of inclusive growth in general can give a better view on the experience level of the respondents.

Most respondents have a certain level of experience within their job and/or the domain of inclusive growth (Figure 2.9). About 82% indicate to have worked more than 5 years within the expertise domain, 32% of the non-academic respondents had more than 20 years' experience, another 15% between 16 and 20 years of experience.

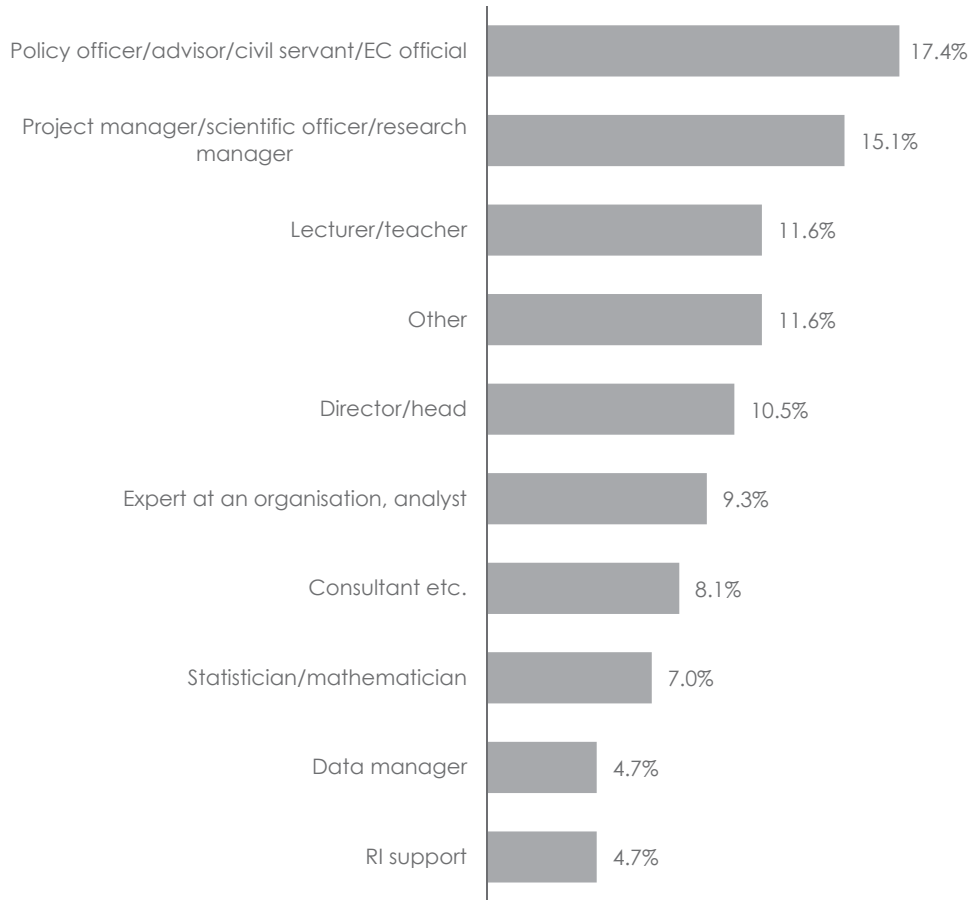
Figure 2.9 About 82% of the non-academic respondents indicate to have worked more than 5 years within the expertise domain
 Again the number of unexperienced respondents is rather limited.
 Non-academic respondents by years of experience (in percentages, n=94).*



* Frequencies can be found in the overview tables in Appendix 4.
 n = number of respondents.
 Source Own calculations

Among the non-academic respondents, the professions were evidently more divergent (Figure 2.10). The largest group of non-academic respondents is active as a policy officer, policy advisor, civil servant, EC official or at another governmental institute (n=15). The second group (n=13) consists of project managers, scientific officers or research managers, whom did not specify the sector of their organisation. Lecturers and teachers form the third largest group (n=10), together with the generic category of 'other activities' (n=10). Clearly the gross of the non-academic experts still has clear link-ages with (academic) research activities within the expertise domains related to inclusive growth, which allows them to also have a good perspective on a research infrastructure.

Figure 2.10 The experts working in non-academic functions often still do a job which is more or less directly linked to research work
 Non-academic respondents by type of job (in percentages, n=86).*



* Frequencies can be found in the overview tables in Appendix 4.
 n = number of respondents.
 Source Own calculations

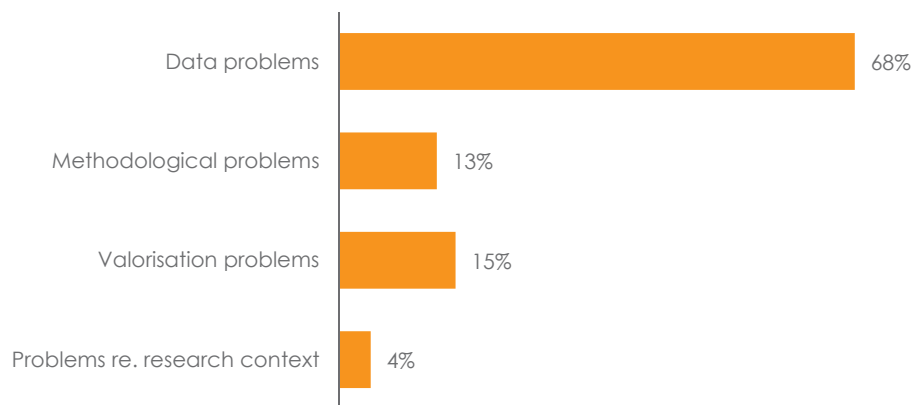
2.2.3 In conclusion: a sample covering experts on inclusive growth in Europe

To sum up we cannot make statements on the representativeness of our sample due to the purposive sampling method used. However we can state that the survey covers a diverse set of experts within the field of inclusive growth in Europe. Experts participating in the survey come from the different related fields, they have different levels of expertise (although the main part of the respondents is rather to very experienced in his or her field) and different scientific backgrounds. Both academic experts and non-academic experts participated in the survey. The 25% of non-academic experts within our sample is a limited number, but with 94 experts still sufficient to compare between the opinions from academic and non-academic experts. The differences between these two groups will be discussed where relevant. The experts come from across Europe (however with a larger share from Western European countries).

3. General priority-setting: data come first

The expert survey aimed to collect the opinions of experts related to the three main parts of the research circle, namely challenges for data, methods and valorisation. The experts were asked to list maximum three problems within their field related to each of these challenges. Figure 3.1 shows the number of coded problems (e.g. records) that were mentioned by the experts for each of the three types of challenges. Clearly much more data problems (1,156 records) were listed than methodological (219 records) and valorisation problems (261 records). Some challenges regarding the research context were mentioned (71 records), which were treated separately. In the next sections we will discuss these four types of challenges more in-depth and explain how these are interrelated. In this section we will first discuss and compare the types of challenges in general.

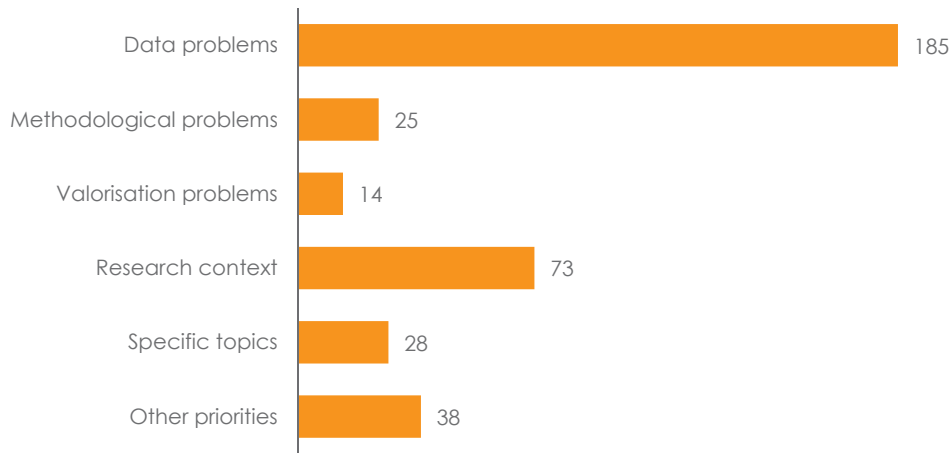
Figure 3.1 Data problems (r=1156) are the first priority for a future European research infrastructure in social sciences
Other challenges are valorisation problems (r=261), methodological problems (r=219) and to a lesser extent problems related to the broader context in which research is done (r=71).
Types of challenges mentioned by experts (in percentages, r=1707).



r = number of records.
Source Results from expert survey

At the end of the survey, the experts were also asked to formulate -taking into account all issues they brought forward filling in the survey - his or her main priority for a future European research infrastructure. A little more than half (51%) of the experts gave priority to a challenge related to data (185 records). Further 7% of the priorities related to methodological challenges (25 records), 4% to valorisation challenges (14 records). In addition 20% of the priorities pointed towards challenges for the research context in general (73 records). Next to these challenges some experts also brought forward the need to focus on specific topics in research (28 records, 8%) and some other priorities (38 records, 10%) (Figure 3.2).

Figure 3.2 Data problems are most mentioned priority for a future European research infrastructure in social sciences
 Priorities mentioned by experts (in frequencies, $r=363$).



r = number of records.
 Source Results from expert survey

Next to the total coded records of the experts we can also look at the fields filled in by the respondents (independent from the final coded records inside the fields).¹⁰ Figure 3.2 shows that data problems were mentioned by most of the experts. About 84% of the experts listed at least one data problem, methodological problems were mentioned by 63%. Valorisation problems were listed by less than half (47%) of the experts. Several respondents also indicated that they did not really know what they could put as a valorisation problem. The issues mentioned as methodological challenges were in our analysis later on split up into on the one hand methodological problems and on the other hand problems related to the context in which the research is done, such as available resources and cooperation. In addition several of the issues mentioned as a methodological challenge were in fact data challenges – since in practice data and methodological problems often overlap and are hard to distinguish. These records - which referred more towards data challenges - were therefore coded as data problems.

¹⁰ Remark: in some case the record was coded as a different type of problem than the field in which it was mentioned.

Figure 3.3 Data problems were also mentioned by most of the experts

About 84% of the experts listed at least one data problem, 63% mentioned methodological problems. Valorisation problems were listed by little less than half (47%) of the experts. Percentage of experts that mentioned at least one issue for each of the challenges and for the priority (n=371).*



* About 12% of the experts didn't mention any problems or a priority (but filled in other parts of the survey).
n = number of respondents.
Source Own calculations

About 44% of the respondents mentioned at least one of each of the types of problems and formulated a priority. Another 17% only did not mention a valorisation problem. Clearly formulating one or several valorisation problems was the most difficult for the experts. Data problems on the other side were more at hand for most experts. Also in formulating a priority about half of the experts put the focus on a data problem (Table 3.1).

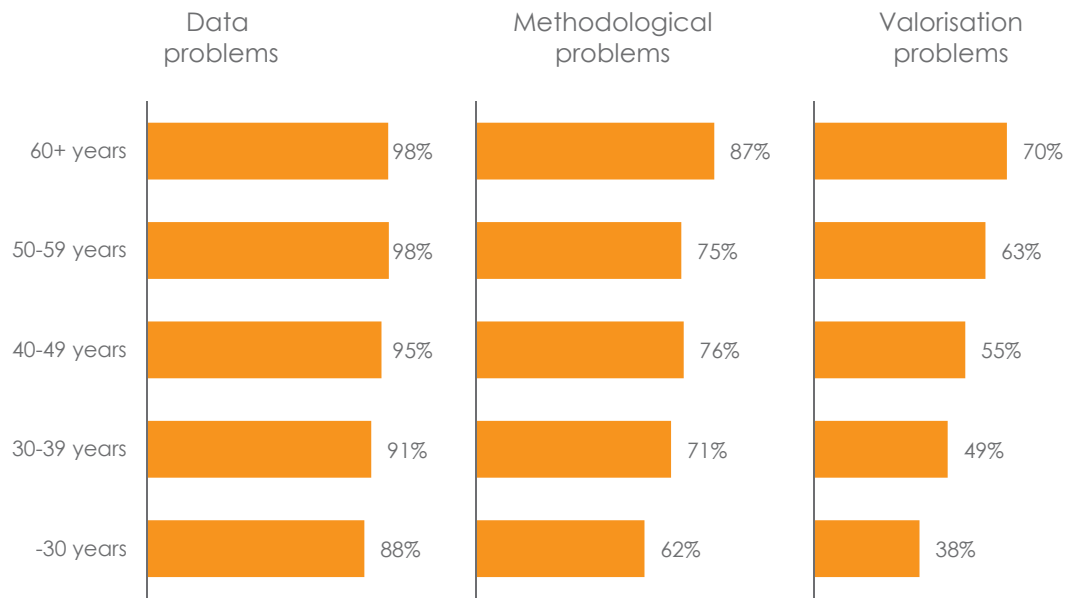
Table 3.1 About 44% of the experts mentioned at least one of each of the types of problems and formulated a priority
 Another 17% only did not mention a valorisation problem and 13% only listed one or several data problems and a priority (n=371).
 Types of problems mentioned by experts.

Data problem	Methodological problem	Valorisation problem	Priority	Frequency (n)	Percentage (n)
No	No	No	No	44	11.86
No	No	No	Yes	11	2.96
No	No	Yes	No	0	0
No	Yes	No	No	1	0.27
No	Yes	Yes	No	0	0
No	No	Yes	Yes	0	0
No	Yes	No	Yes	3	0.81
No	Yes	Yes	Yes	1	0.27
Yes	No	No	No	22	5.93
Yes	No	No	Yes	49	13.21
Yes	No	Yes	No	1	0.27
Yes	Yes	No	No	3	0.81
Yes	Yes	Yes	No	0	0
Yes	No	Yes	Yes	10	2.7
Yes	Yes	No	Yes	63	16.98
Yes	Yes	Yes	Yes	163	43.94

n = number of respondents.
 Source Own calculations

The age of the respondents has a strong impact on whether they list problems (for each of the types of problems). Older respondents tend to have a better view on these future needs. This is most apparent for valorisation problems, where older respondents mention up to twice as often a problem than the youngest respondents (Figure 3.4). There are small but insignificant differences between men and women whether or not they formulate problems. Women tend to mention a little less often a problem than men. Also across country groups there are no significant differences. Looking at the respondents from academics compared to those from outside academics, the first tend to mention a problem a little bit (but not significant) more often. This is however not the case for the valorisation problems, which were as often mentioned by experts from outside academics as experts from academics.

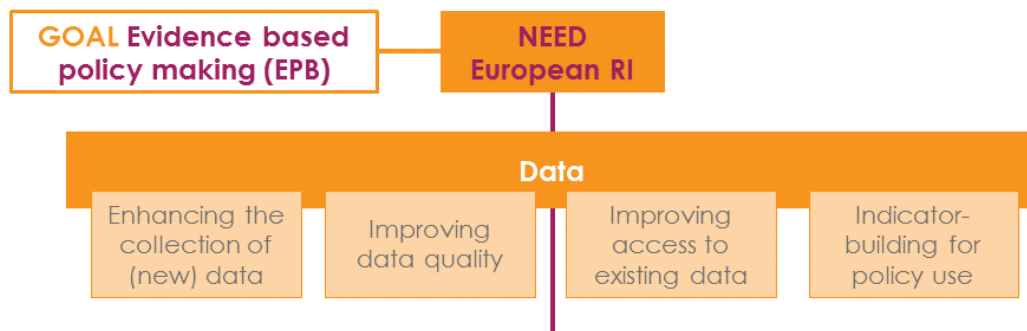
Figure 3.4 Older respondents tend to mention more often problems for each of the types of problems
 Especially for the valorisation problems older respondents mention up to twice as often a valorisation problem than the youngest respondents.
 Data, methodological and valorisation problems by age group (in percentages, n=311).



n = number of respondents.
 Source Own calculations

4. Data: more and better to compare

Figure 4.1 Data are the top priority for a European research infrastructure for social sciences

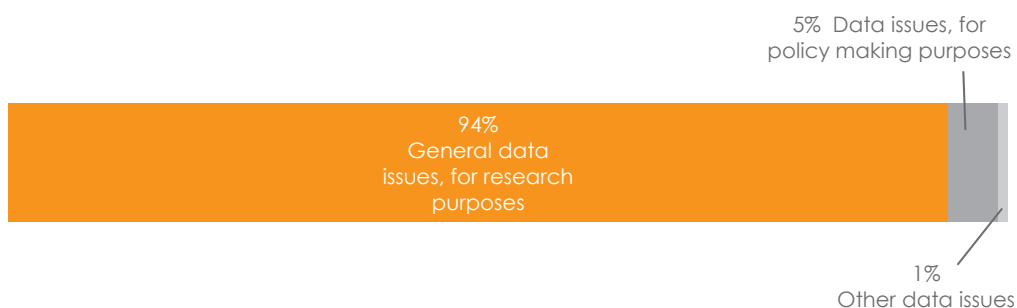


The main and most important challenge in the development of an infrastructure facilitating social science research on inclusive growth in Europe is - according to the experts-respondents in our survey - definitely 'data'-related. Good evidence needs to be of high quality, accurate and objective, credible, relevant and accessible and understandable (Sutcliffe & Court, 2005).

In the survey answers three main categories of challenges can be identified for data: (1) new and more data need to be collected, (2) the quality of existing (and future) data has to be improved and maintained, and (3) access to existing data needs to be improved and ensured. Indicator-building - using data - is put forward as an additional challenge. This fourth challenge directly relates to the use of data for evidence-based policy making. From this additional perspective with its own specific context and reality, some extra challenges for data are discussed (Figure 4.1).

4.1 Data are the top priority

Figure 4.2 The data problems mentioned are mainly related to general data issues, mainly for use for research purposes (r=1086)
 Some experts specifically touch on data issues from a policy perspective (r=57) and some other data problems (r=13).
 Three main kinds of data problems mentioned (in percentages, r=1156).

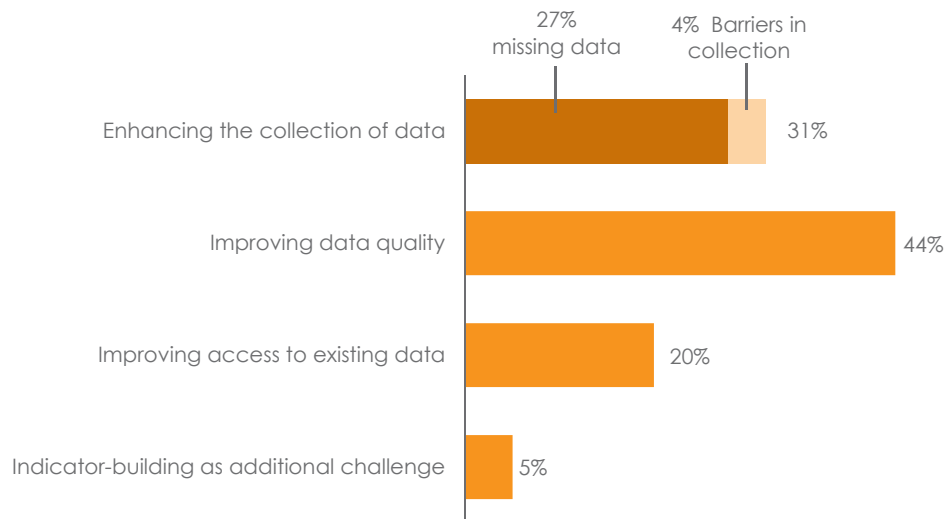


r = number of records
 Source Own calculations

Data issues were by far the most mentioned challenges in the survey response (1,156 records). Most issues raised concerned data in general, or from a research perspective (1,086 records). Some experts specifically touch on data challenges from a policy or evidence-based policy making perspective (57 records). Another 13 records could not be classified in one of these two broad categories ('other') (Figure 4.2).

Four main data challenges are put forward by the experts in our survey. Enhancing the collection of data is a first challenge which is discussed in 31% of the survey answers (355 records). On the one hand this has to do with the observation that at present researchers are confronted with a lack of data and there is a clear need for more data collection (27%, 311 records). On the other hand the experts point out existing barriers that hamper the data collection (4%, 44 records). A second challenge is the improvement of the data quality. This is the most frequently mentioned challenge (44%, 508 records). A third challenge, which is mentioned in 20% of the cases, concerns the improvement of access to existing data (223 records). Finally a smaller amount of the challenges formulated (5%) focus specifically on indicator-building (for policy making purposes) as an additional challenge (56 records) (Figure 4.3).

Figure 4.3 Improving the data quality (r=508) and enhancing the collection of (new) data (r=355) are the two main data challenges brought forward by the experts
 Next to this the improvement of access to existing data (r=223) and indicator-building (for policy making purposes) (r=56) are key challenges (percentages, r=1,142).
 Four main data challenges (in percentages (r=1,142)).



r = number of records.
 Source Own calculations

Across the expertise domains there are some minor differences on what the experts put forward as the main data challenge. For experts from the *social policy and inclusion* and from the *other* expertise domains the improvement of the quality of existing data is the most often mentioned challenge, while experts from the other expertise domains list the collection of new data most often (Table 4.1).

Young researchers see more challenges in the improvement of access to and quality of existing data. For older/more experienced researchers the challenges concern mainly the collection of new data. Maybe it is not surprising that access problems and quality issues are more an issue for less-experienced researchers.

Across countries there are as well some differences regarding which challenge (collection of new data or improvement of quality of existing data) is mentioned most often. In Nordic countries and

the New Member States the improvement of the quality of existing data is mentioned most. In Liberal countries about half (51%) of the mentioned challenges concern the collection of new data, while this is less (around 40%) in other countries. However the collection of new data is the most mentioned challenges in Continental, Southern European and countries outside the EU (and outside Europe) as well.

Table 4.1 Across the expertise domains there are some minor differences on what the experts put forward as the main data challenge.
Number of data problems (records) mentioned in total, by academics and non-academics and expertise domain.

	Total		Professional background		Expertise						
	Total records	Total records (%)	Academics (n=277)	Non-academics (n=94)	Inclusive growth (n=24)	Poverty and living conditions (n=51)	Social policy and inclusion (n=68)	Inequality and welfare state (n=73)	Working conditions, HRM, IR and vulnerability (n=60)	Labour market and precariousness (n=62)	Other (n=33)
Collection of data	355	31.7	283	72	24	52	46	79	61	68	25
<i>Missing data</i>	311	26.9	249	62	21	45	36	70	55	61	23
<i>Barriers in collection</i>	44	3.8	34	10	3	7	10	9	6	7	2
Data quality	508	43.9	403	105	28	68	100	100	90	67	55
Access to data	223	19.3	164	59	13	29	51	47	26	32	25
Indicator-building	57	4.9	35	22	7	8	8	9	12	9	4
Other data issues	13	1.1	11	2	1	1	1	0	2	5	3
Total records	1,156		896	259	73	158	206	235	191	181	112
% of total records		100	77.6	22.4	6.3	13.7	17.8	20.3	16.5	15.7	9.7

n= number of respondents, r=number of records
Source Own calculations

4.2 Collection of new data

Many respondents interpret the need for more data as the collection of new and better data. Challenges are related to removing barriers that hinder the collection of data - such as funding issues, legal and privacy restrictions, procedural problems and contextual barriers - and ensuring that the newly collected data meet the existing data needs and quality needs. A long list of data requirements and topics for which data need to be collected can be drafted, among which also the need for longitudinal data. Also other types of data need to be considered - such also qualitative data, big data, etc. - as well as the potential gains linked and longitudinal data can provide.

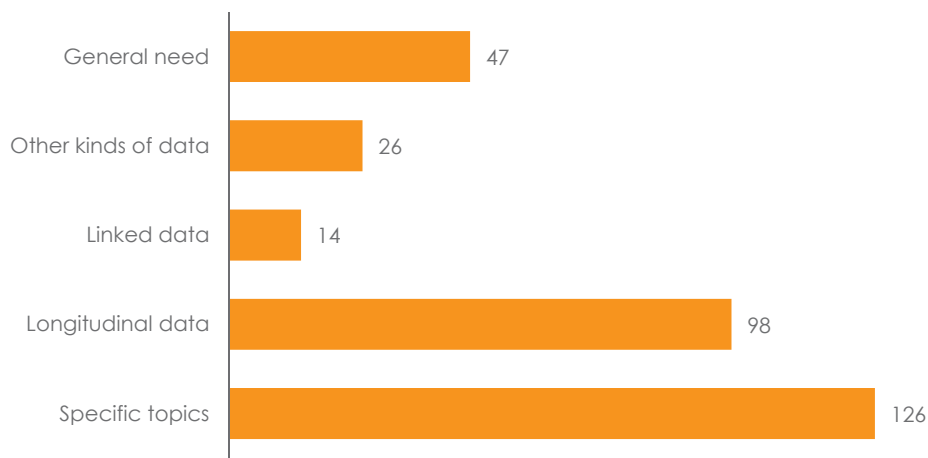
4.2.1 'Missing' data

The social sciences field of European inclusive growth is relying very strongly on microdata. In this regard the scientists are looking for up-to-date, comparable and repeated observations. As such, they are referring to the basic data requirements in social sciences, as for example expressed in a recent OECD report (OECD, 2013).

The experts in the survey indicated extensively (27% of the records on data challenges) that in their field there still is a strong need for ‘more and better’ data and pinpointed to the current lack of data (311 records). First of all, several experts expressed a general need for more data and lack of good data within their field (47 records). More attention to other kinds of data (26 records), such as qualitative data and administrative data, is another issue that is frequently raised. Also the need for more linked data (14 records), especially linked employer-employee data, is put forward. One very frequently mentioned problem is the lack of longitudinal data (98 records). Finally the most prevalent issue is the lack of data on very specific, topical and innovative issues (126 records) (Figure 4.4).

Figure 4.4 The need for longitudinal data and data very specific, topical and innovative issues are two challenges prominently brought forward by the experts

Other issues are the general need for data, the need for other kinds of data and for linked. Challenges regarding missing data (in frequencies, r=311).



r = number of records.
Source Own calculations

4.2.1.1 General need

First of all several experts clearly indicate that there currently is a lack of data in general. This lack of data is even more prominent in certain countries, such as Eastern European countries. Further the lack of comparative data is even stronger. There are only a few initiatives until now to collect comparative data at an EU or European level - such as the Labour Force Survey (LFS), the EU-SILC and surveys of Eurofound -but there is certainly a need for more comparable, high quality European data.

" Insufficient (almost inexistent) data from the East European countries. [352]"
 " Not enough good quality qualitative data. [382]"
 " Data is rather scarce (compared to the US) and is difficult to obtain. [195]"
 " Too few countries have register based statistical systems, so Labour Force Survey - and other surveys remain the only common and comparable source of data. [54]"

4.2.1.2 Other kinds of data

A second aspect that experts bring forward is that until now social sciences focus too much on quantitative datasets collected from surveys. Researchers should broaden their view and also collect other types of data. Qualitative data - especially when collected from a comparability viewpoint -can provide researchers with a lot of valuable information and allow other analysis than quantitative survey data. Qualitative data such as case studies can for example allow researchers to look more into the causes of certain phenomena.

" Too much focus on large-scale quantitative data, too few comparable qualitative data. [26]"
" Little qualitative and not oriented to the causes. [47]"

Administrative data and population register data can also be very interesting and useful to enrich survey data. However these administrative data are rarely available in European countries, especially at a high level of detail and quality. In addition it is even more difficult to collect and use these administrative data in comparative research. Even in the Nordic countries, where there is generally a good access to data and population registries are available for research, it remains difficult to compare across countries. Large data gains can be made in investing in comparable administrative data.

" Lack of high-quality administrative/register data in many countries. [172]"
" Population register data extensively available only in the Scandinavia; even there the countries need to be analysed separately. [78]"

Next some experts also bring forward the potential of other – new – data sources such as big data. When researchers find ways to deal with the challenges and limitations associated with these big data and think about how big data can contribute to their research, these big data have the potential of an exponential data increase.

" We have not thought how to use the big data possibilities in analysing the level of people's satisfaction and reasons behind the phenomenon. [69]"
" Fears and lack of confidence in the data collection from indirect sources (internet, social networks, apps, etc.). [227]"
" The broadening range of data sources that input to market, social and opinion research and the need to validate them with the same rigour as other areas of statistical research so they can be integrated into the tool box. [343]"

4.2.1.3 Challenge of linking data

The need for more linked data mainly comes from the experts on *labour market and precariousness and working conditions, HRM, industrial relations and vulnerabilities*. Currently there is no European linked employer-employee survey. Some countries already have this type of survey running, such as the WERS in the United Kingdom and the REPOSE in France. However a linked survey at European level would allow for a better study and understanding of the working conditions, the interaction between working conditions and living conditions, the relationship between work and health, etc.

" Absence of linked employer-employee data in most countries. [201]"
" No European employer employee linked data. [8]"
" Work and health data at the worker level should be linked to employer/organisational data (is often not the case). [130]"
" Need comparative administrative employee-employer panel datasets to understand how inequalities in the labour market are structured? [240]"
" And also data at firm level matched with data on employees working and living conditions allowing to study the interaction between living and working conditions and the interaction with the work environment. [199]"

In addition the linking of different data sources can be an important challenge to 'improve/enrich' social science research on inclusive growth and vulnerable groups. Bringing quantitative data and qualitative information together, and linking administrative and survey data will allow researchers to collect extensive and valuable data while limiting the collection costs to some extent.

" Connected qualitative & quantitative data sources. [400]"
" Linking survey data with register/official data. [413]"

4.2.1.4 Necessity of high-quality comparable longitudinal data

A main challenge put forward within the survey is the need for more longitudinal data, despite the fact that all recognize the high costs and the difficulties to collect good longitudinal data. These longitudinal data further need to be of high-quality (such as covering large sample sizes), comparable across Europe and cover a very long time period to allow for the analysis of specific phenomena. For

some research longitudinal data ideally should be collected from birth on. The present longitudinal - generally national - surveys have a too short time horizon and too small sample sizes to study specific groups within the survey and follow them through the life course.

- " The availability of reliable and large longitudinal microdata sets, e.g. Register data on income or employment statuses that are comparable on an international level. [9]"
- " Too many cross-sectional studies, too few high quality panel surveys. [87]"
- " Lack of sufficiently long and detailed microeconomic panel dataset at the EU level. [166]"
- " Lack of consistent cross-national and longitudinal data. [285]"
- " Individual and country-level data are often not available for the same time frames (longitudinal perspective). [16]"
- " Panel data with sufficient waves to facilitate panel estimation. [150]"
- " Too short time horizon and too small to analyse precarious groups over time. [194]"

Having high-quality, comparable longitudinal data would allow researchers to study issues which today are difficult to properly study, for example intergenerational mobility, life-cycle inequality, labour market transitions and employment trajectories. In addition it would become possible to show the impact of certain policies and uncover much better causal relationships. However besides focusing on the need for longitudinal data the research community should also look at other ways to deal with 'longitudinal' research questions and issues for instance by the aggregation or linking of data.

- " Panel data is available for only few countries, which restricts to study the effects of changes and dynamics on particular issues in other European societies. [66]"
- " Lack of long series of longitudinal data, leading to underestimation or ignorance of social investment effects. [208]"
- " Long term panels needed to document intergenerational mobility. [23]"
- " Lack of panel data on individual income and employment trajectories. [55]"
- " Harmonised and longitudinal data on organisational changes at establishment level, EU-level employer survey data on organisational changes and work-related topics. [261]"

4.2.1.5 Alack of data on very specific, topical and innovative issues

Beyond 'hard and simple' economic income data

Particular experts indicate that next to hard data (such as GDP and GINI) also additional and softer data and indicators should be collected. Other types of information such as future intentions are as well often uncovered in current surveys but would be valuable for studying social phenomena. In addition collecting data that are normally not collected together at the individual microdata level - because they are for example studied within different fields - can be an opportunity for future research.

- " The data does not always address the current issues. [90]"
- " Go beyond GDP/GINI to include 'softer' data (e.g. as in quality of life surveys, e.g. EQLS). [85]"
- " Too few information on intentions/ forecasting/perception in the next future (e.g. on possibility to change/lose job, break/enter a marriage, ...). [144]"
- " Income and expenditure data should be collected simultaneously in the same cross-sectional survey [121]"
- " Too much emphasis on income sources, and income poverty, while too few socio-demographic information (e.g. on subjective well-being and psychological dimensions) or on other acceptations of poverty material deprivation, subjective poverty). [144]"
- " A measure of current income as well as past-year income would be very useful. [165]"
- " Time allocation data are seldom collected with income data. [199]"

Migration topic

One specific aspect that is most mentioned (across all expertise domains) is the need for more information on migration. Migration is an important contemporary phenomenon that has an impact on different societal issues such as employment, poverty and working conditions. More data on migration paths, skilled migration, international trajectories, etc. are listed by the experts.

- " Data do not take account of intra-European migration. [26]"
- " Little microdata on the economic and social situation of migrants (legal and illegal), esp. temporary labour migrants, neither in the receiving country, nor in the sending country (when this is an EU country). [156]"
- " Data on international trajectories (linking labour market and migration data). [206]"
- " Lack of data on migrant labour especially reverse migration [224]"

A variety of topical data demands

Further the experts put forward a long and non-exhaustive list of relevant topics for which there is currently a lack of (sufficient) data (Table 4.2). Each expertise domain brings forward its own list of topics, linked to recent phenomena, prominent research questions, etc. within their domain.

Working conditions, HRM, industrial relations and vulnerabilities and labour market and precariousness

- " Lack of European workplace surveys. [299]"
- " Consistent large-scale data sets with enough labour market information (including for example working hours) and the family context. [184]"
- " Linked (longitudinal) information on jobs, educational skills and job composition of enterprises. [46]"
- " Lack of yearly data of several income sources such as market income, detailed transfers and taxes. [174]"

Poverty and living conditions and inequality and welfare state

- " Lack of a complete database which includes demographic information as well as information about the consumption and financial situation of households. [142]"
- " & lack of info on specific needs; also: one needs to include different (private) situation of people; [85]"
- " Lack of intra-household distribution of resources information. [166]"

Social policy and inclusion and inclusive growth

- " In some countries we lack data on who are the beneficiaries of social policies by age, sex, origin, etc. This is particularly true for policies whose competencies are at regional or local level. [269]"

Table 4.2 Topics for which more data are needed, by expertise domain

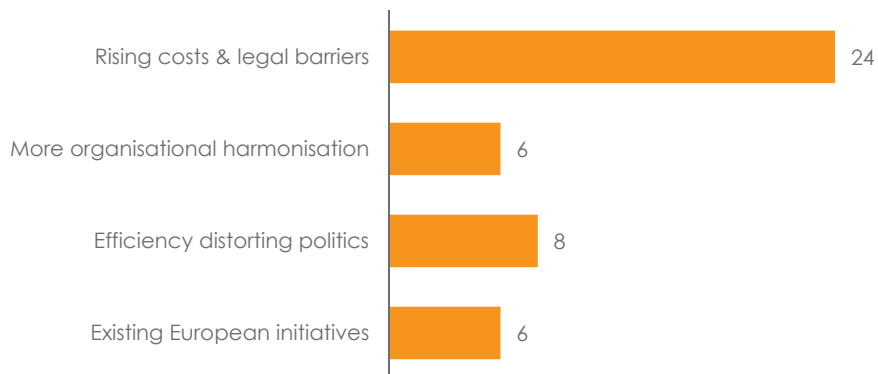
Expertise domain	Topics listed
Poverty and living conditions & inequality and welfare state	<ul style="list-style-type: none"> ▪ Past life events, perception future, life history, pathway of marginalisation, ... ▪ Housing: empty housing, access to housing, ... ▪ Other forms of poverty except income poverty ▪ Income: income and employment trajectories, negative incomes, income and expenditure, current and past-year income, ... ▪ Share of needs, intra-household distribution of resources, ... ▪ Take-up of forms of leave ▪ Social needs, social cohesion, specific needs, ... ▪ Wealth data ▪ In kind benefits ▪ Intergenerational social mobility ▪ Education ▪ ...
Working conditions, HRM, industrial relations and vulnerabilities & labour market and precariousness	<ul style="list-style-type: none"> ▪ Informal labour market, undeclared work, ... ▪ Job quality and quality of work issues: constraints, hazards, exposure, emotional strains, work stress, income, pay gap, reward package, contracts, wage evolutions, work relations ... ▪ Impact of new technologies on work, crowdsourcing, ... ▪ Skills and competences: skills, skill utilisation, skill needs, skill mismatch, educational composition ... ▪ Work histories (of precarious workers) ▪ Employer survey data ▪ Trade union membership, ... ▪ ...
Social policy and inclusion & inclusive growth	<ul style="list-style-type: none"> ▪ Access to services ▪ Effectiveness of social policies ▪ Public sector productivity ▪ Productivity of SMEs ▪ Financing and financing conditions of SMEs ▪ ...

4.2.2 Barriers in the collection of new data

Besides an ambitious list of data demands, a series of respondents mentioned a range of problems related to the process and context of data collection as key challenges that have to be resolved in the quest for new and innovative data. Those wanting to collect new data are often confronted with several barriers and problems (44 records) (Figure 4.5). The rising costs and increasing legal barriers are the most mentioned issue (24 records). Experts also point towards a need for more organisational harmonisation (6 records) in the data collection and to a political context which distorts a good data collection process (8 records). Finally some experts put attention to the threats that existing European initiatives are facing (6 records).

Figure 4.5 The rising costs and increasing legal barriers are the main threats for the collection of new data according to experts

Other barriers in data collection are the need for more harmonisation and current politics distorting the efficiency of data collection at European level.
Barriers to data collection (in frequencies, r=44).



r = number of records.
Source Own calculations

Rising costs

A first and important barrier to the collection of new data are the increasing costs associated with the collection of data and the lack of (recurrent) funding for data collection and all the costs associated with it. In addition the application procedures and rules for the existing funding opportunities are becoming more and more complicated.

- " Data production in general is becoming more and more expensive. [276]"
- " Providers of data are often confronted with funding problems. [270]"
- " Adequate funding to pay human resources, logistical and other necessary means to an investigation. [271]"
- " Insufficient priority (financial resources and organisational capacity) devoted to collecting and monitoring trends in income and resource poverty and social service provision. [414]"
- " Too complicated to apply for funding. [131]"

Demand for more organisational harmonisation

Organisational barriers furthermore complicate the data collection process, especially in cases of data collection at an EU or European level. Across Europe the countries often use different procedures and systems for the collection of data, sampling, storage of data, data cleaning and processing, etc. These differences often stem from longer national or regional traditions in data collection and countries are not eager to change these procedures which might threaten the comparability of the data from a national perspective (for example looking at changes over time). There is a need for harmonisation and unification of collection methods in Europe to improve the comparability of data from a European level.

Use of innovative data collection methods, for example using newer media such as internet, mobile phones, etc. can help simplifying data collection, improving response rates and limit costs of data collection.

- " Different systems for collecting, processing and storage of data in countries from EU. [1]"
- " No unified data collection methods. [71]"
- " Restricted access to national sampling frames for launching EU wide comparative surveys. [348]"
- " Too traditional ways of (survey) data collection, more room to internet and e-collection and mobile phone data collection. [194]"

Increasing legal barriers (privacy-related)

In addition data collectors are experiencing more and more problems in dealing with all the legal issues on data protection, the privacy restrictions, etc. Extensive privacy and protection procedures need to be developed and agreed upon by all involved countries before data collection. Data protection and access restrictions complicate the harmonised collection of data across Europe.

In some cases or countries specific types of more sensitive information on individuals - for example on ethnicity or disabilities - cannot be collected at a sufficient detailed level for further use in research or comparison across countries. It still remains difficult to have survey access to certain vulnerable groups and especially to obtain access to these groups across Europe. The increasing legal issues related to data collection complicate the development of reliable and good data within the context of inclusive growth that can be used for comparative purposes.

- " The increasing problems for researchers to build their own data bases where official data are unavailable, in particular the stronger focus on secrecy and integrity that has made it much harder to collect and harmonise the data necessary for comparative purposes. [34]"
- " Legal issues about data protection, e.g. Access to detailed administrative data at the individual level, or collecting/using sensitive information on ethnicity or disabilities. [164]"
- " In human research there is lack of access to vulnerable groups of people. [113]"
- " Rules of confidentiality preclude accurate analysis (data access, high level of aggregation, exclusion of important information, linkage between different data sources). [198]"

Efficiency distorting politics

Political aspects also hamper the collection of data at a European level. Some (sometimes deeply rooted) problems and conflicts between specific countries make cooperation on data collection difficult. Also political interest and interference can endanger the collection of reliable data. The experts talk of the lack of coordination between different types of data collection institutions (private and public institutions). Improving this political and policy coordination and cooperation (within and across countries) can both improve the quality and usability of the collected data and help limit costs of data collection and risks of duplication of efforts.

- " Political interference in data production (Eurobarometer). [317]"
- " Relational problems between countries. [317]"
- " Lack of coordination between private and public institutions producing statistics in the field. [79]"

Existing European initiatives under threat

Lastly the experts bring up the need to further strengthen existing initiatives and institutions at European level working on data collection, such as Eurostat, Eurofound, ... and existing European surveys such as the EU-SILC, LFS, ...

- " Strengthen (and merge) EU SILC and LFS surveys. Strengthen EUROSTAT. [43]"

4.3 Improving the data quality

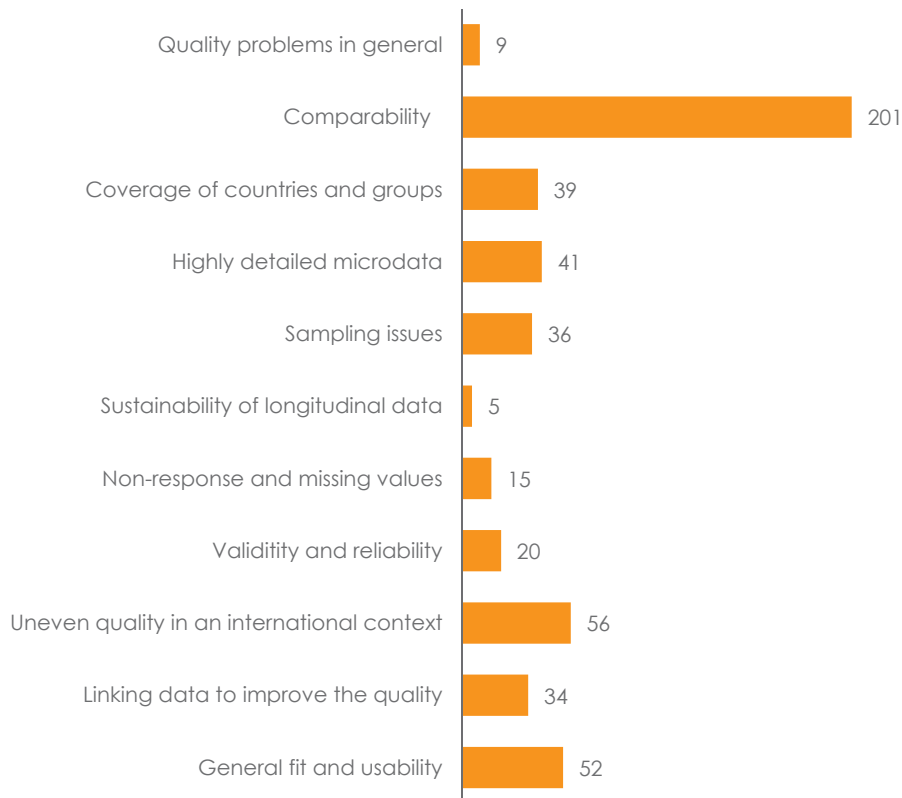
The quality of data is an important issue for the experts that participated in our survey. About 44% of the challenges for data that they put forward (508 records) concern the quality of data (Figure 4.3). Some experts formulate this challenge as a very generic problem with the quality of the data ($r=9$) and warn for the risks these data problems impose for the research results and interpretation of results (Figure 4.6).

- " Control of data. Some data are incorrect. [32]"
- " Many inadequate data. [241]"
- " Several data quality and methodological issues make the results prone to very different interpretations. [72]"

An important challenge for a future European research infrastructure therefore is to improve the quality of data in social sciences. Several quality aspects that need improvement are discussed by the

experts. A major issue is the comparability of data and the need for more harmonisation (201 records). Improving the coverage of (European) data (39 records) - in terms of country coverage and coverage of specific groups - and the more detailed measurement of certain variables (such as NUTS) (41 records) should also be put on the agenda. The sampling procedures and sample sizes are another important element (36 records). Other quality issues have to do with the sustainability of (longitudinal) data (5 records), non-response and missing values (15 records), questions on the validity and reliability of the data (20 records) and the uneven data quality in an international context (56 records). In addition some experts discuss how linking of data could help to improve the quality of data and tackle certain problems (34 records). Finally some experts allude to problems due to a lack of fit between the data and the research questions or used methods (52 records) (Figure 4.6).

Figure 4.6 The comparability of data and need for harmonisation is a major quality issue according to the experts
 Other frequently mentioned quality challenges concern the coverage of countries and groups, the need for highly detailed microdata, sampling issues and the general fit of data with research questions and methodology.
 Quality issues of existing data (in frequencies, r=508).



r = number of records.
 Source Own calculations

4.3.1 Increase the comparability

The need for comparable data is the main quality issue that is brought up by the experts (40% of the quality issues mentioned). The experts clearly point out that there is a lack of comparability in current data sets in terms of comparability across countries or regions or over time. There are often differences across countries for example. Although these differences are sometimes only small, they still

are significant and might affect the comparability. Furthermore it stays difficult to get a good grasp of the comparability of existing datasets. More efforts for improving and ensuring the comparability of data are needed.

- " Multi-national surveys: weak comparability of survey data from different countries is a challenge (differences in measurement and data collection modes, differences in data sources e.g. Income data from surveys vs. from registers). [73]"
- " Little comparable data at low territorial scale (i.e. municipal scale). [116]"
- " Difficult to understand the extent of comparability that it is possible to carry out. [151]"
- " Small, but still significant differences in the data collected in different countries. [166]"

Without proper comparative data it remains difficult for researchers to study inclusive growth and vulnerable groups from a European perspective. Findings from one country cannot easily be extended to other countries. Comparing across countries is not possible when different criteria, methods or concepts are used to measure the same phenomenon.

- " Due to the lack of proper comparative data, country specific finding are not easily extended to other countries. [78]"
- " Lack of comparable administrative data at the European level data. Most administrative data is generated at a national or regional level using local criteria and comparison across Member States is difficult. [355]"

The lack of comparability of data (at an EU or European level) can be due to differences across countries, which are not always taken into account properly. Not only institutional differences play a role here. Also cultural differences - for example in the understanding of concepts - might impact the comparability of the data. Language differences combined with cultural sensitivity embedded in languages can interfere with the comparability of data when collected across countries in which even the same language is used. When questions and concepts have to be translated to different languages, these risks are even more apparent.

- " Hard to compare qualifications frameworks across member States, since they are so different. [19]"
- " Different social systems in the different European countries. [226]"
- " Quality in surveys, cross-cultural aspects that influence how questions are understood, conceptual and interpretation problems, it is important for making valid comparisons. [131]"
- " No data on cross-national equivalence of measurement, esp. Differences due to culture, language, etc. Consequently, no ability to control for this in substantive analysis. [305]"
- " When different linguistic versions are used, adaptations are frequently not capturing the same concepts across groups assessed [291]"

Differences in the methods and instruments used in the data collection process across countries or over time are another important obstruction for comparability. In cross-country data collection the lack of harmonisation in the methods used for the data collection is still an issue. Subtle differences in methodology can however have substantive impact on the reliability and validity of the results using the data for comparative purposes.

For data collections at multiple time points the changes in the methodology or questionnaire over time poses the same problems to comparability. As one of the experts in the survey stated: *"If you want to measure change, do not change the measure"* [249]. On the other side data collectors are often pushed to change questionnaires and methodologies to be able to include present-day issues in the survey and deal with problems in the data collection. Data collectors are confronted with the dilemma between comparability on the one hand and having an up-to-date dataset and dealing with methodological issues on the other hand. No easy answers are available to solve this dilemma.

- " Different methods-not possible to compare research data. [113]"
- " Data are not comparable across countries because of differences in the instruments administered[291]"
- " Changes in design and questionnaires. [194]"
- " Moreover the break in series and the change in survey design often complicate the analysis of trends over time. [195]"

- " Comparability across time (changes in methodology, backward revisions and recalibration) [198]"
- " In repeated cross-national surveys, measurements (questions/categories change too often). "If you want to measure change, do not change the measure". [249]"

Another issue is the need for more harmonisation at a conceptual level across Europe. At present there are still a lot of frequently used concepts (such as self-employment, job quality, etc.) in social sciences for which there is no real agreement across Europe on the definition of the concepts. Doing research on concepts which are not similarly understood across countries evidently gives rise to questions on the comparability of the results. What's more is that this need for conceptual harmonisation in Europe is not only important for quantitative research but should also be addressed when doing qualitative cross-national comparative research.

- " There is as yet no single definition for the self-employment category at European level. Each competent authority thus refers to national legislation, making it difficult to implement a European-level strategy for countering bogus self-employment, especially when it comes to the cross-border context. [33]"
- " Cross-country harmonisation of country-level policy indicators is often insufficient.[16]"
- " Incompatibility due to the lack of common standards and measures. [48]"
- " Lack of harmonisation of concepts, methodology and questions between different surveys. [348]"
- " It is a challenge to ensure that research teams take a common approach when collecting qualitative data across different countries - e.g. in face-to-face structured interviews or in focus group work. [398]"

4.3.2 Better coverage of countries and specific groups

According to other respondents a lack of sufficient coverage in the existing data diminishes the quality of the data. The pan-European coverage is one way in which the coverage is problematic. Efforts are already done to include all EU and even all European countries in European comparable surveys, but this coverage still remains difficult. The lack of available funding for surveys, the absence of a developed national statistical office, limited interest in social sciences research from governments, etc. make it more difficult for certain countries to participate in these surveys and ensure a high-quality data collection with decent sample sizes.

- " Pan-European coverage of data is not yet available, while some progress has been made in recent years. [12]"
- " Research Infrastructures (SHARE, ESS) do not include all countries. The countries not included in RI are lacking the instruments for analysis of social policy process. [15]"

Another problematic aspect is the limited and sometimes even non-existing coverage of specific - often more vulnerable - groups in traditional surveys. Decent data on specific vulnerable groups are crucial for research on inclusive growth. These are vulnerable groups that are sometimes rather easy to survey, such as the youth (NEETs), temporary workers, etc., but not always identifiable within a survey or not represented sufficiently within the data to allow for specific analysis on these groups. There is also a lack of coverage of groups that are harder to identify, such as migrants, ethnic minorities, people with disabilities, people working in informal labour markets and groups that are hard to reach with traditional survey methods, such as homeless people, undocumented migrants, etc. The experts clearly indicate that vulnerable groups today often stay invisible within survey data and that there is a need of more high-quality data on specific groups.

- " Difficult to identify vulnerable groups through survey data, which is today often the main method to use for working conditions and vulnerability. [29]"
- " Reduced coverage - missing key groups - e.g. ethnic minorities, homeless, migrants particularly undocumented. [124]"
- " Invisibility (and invisibilisation) of certain social groups. [319]"
- " Weak regional and specific groups' coverage. [336]"
- " Difficulty in capturing reliable information on the most marginalised. [408]"

4.3.3 Need for highly detailed microdata

The quality of data is also deprived by the lack of sufficient detailed information to allow for good and useful analysis and conclusions for example at a regional level or for specific vulnerable groups. Due to privacy rules and anonymization procedures often only aggregated data are available. However these aggregated data can hide a lot of important variations across individuals. To be able to make clear and reliable conclusions it is important to have access to individual data. Within each of the expertise domains the researchers have specific views on where more detailed data are wanted.

- " Aggregated values: what does it mean if a mean has a certain value? Not too much, unfortunately. The information is (in) the variation. We need as much individual data as possible to work with. [254]"
- " Anonymization of statistical microdata and therefore lack of regional information and country of origin. [348]"

Experts on *labour market and precariousness* and *working conditions, HRM, industrial relations and vulnerabilities* mention a need for more detailed data on industries with NACE coding up to 3 or 4 digits as well as other employer data, and more detailed ISCO data on occupations. Some experts also indicate comparability problems over time with the ISCO and NACE classification due to the revisions of these classifications. More detailed information on tax and benefits and incomes are also high on their wish list.

- " Time reference period. Income varies on weekly, monthly, yearly basis and we collect only on yearly basis. [23]"
- " Very weak data on detailed industries 2/3/4 digit classifications. [52]"
- " Lack of annual migration data detailed by country of origin and country of destination and by education and occupation. [177]"
- " We have individual level data on employment conditions/ quality of working life (qwl), but we do not have such data which would permit us to distinguish qwl standards by company (that is company size, sector, nationality, and so on). [243]"
- " Access to detailed occupational codes (ISCO codes) in some survey (they are collected but not release to scientists i.e. EU-SILC data). [344]"

The experts from the fields of *poverty and living conditions, inequality and welfare state, social policy and inclusion and inclusive growth* also mention a need for more detailed information on tax and benefit data and income. In addition they have a need for detailed information within surveys on migration and migration paths, gender and education and the possibility to look at the data not only at an individual level but also include household level information. Detailed information at regional level - implying data at NUTS3 instead of NUTS2 level in most cases - is another key concern of many of these experts. At this moment most comparative research and data collection still focus too much on the national level, while for researchers as well as policymakers data on the regional level are often needed. In certain cases it is also more relevant to study certain phenomena at a regional level instead of a national level and to compare across regions instead of countries.

- " Lack of availability of regional (NUTS2, NUTS3) level data an EU Cohesion policy fund allocations across countries. [13]"
- " Some issues cannot be analysed in NUTS-2 and information at least on NUTS-3 level is needed. [170]"
- " Data are too focused at the national level, whereas regions and cities are becoming more important. [26]"
- " Often data at more disaggregated level are missing and this does not allow to evaluate what happens at local level. [199]"
- " Poverty being measured not for the individual but on a family level. [316]"

4.3.4 Sampling issues

In the same way the respondent-experts ventilate their objections concerning the sample sizes and sampling procedures of existing data. Sample sizes are often too small, especially to allow for focusing on specific groups within the data or compare across regions. For cross-national data collections the sample size is in some cases already too small of analysis at country level, let alone for analysis for

specific groups within a country. Likewise for longitudinal data a decent sample size over time is a necessity. Another factor regarding samples are the sampling techniques and procedures which are not always of high quality and do not always ensure representativity of the sample.

- " Sampling technique. [61]"
- " Good surveys have sometimes too small sample sizes to look in detail at specific groups in vulnerable situations. [105]"
- " Not representative samples. [304]"
- " Sampling designs could be more creative, e.g. Grid data could be used for clustering the first stage sampling. [417]"
- " Unclear and imprecise sampling (invisibility of certain social groups). [319]"
- " The quality of (randomly) sampling procedures, which do not always ensure a good comparability of data. [324]"

4.3.5 Sustainability of longitudinal data

More particularly for longitudinal data the experts put forward the quality consideration of the sustainability of these datasets. These sustainability issues have to do with the sustainability of the funding over time, the sustainability in terms of concepts, methodology, etc. and more overall the continued assurance of the quality throughout the time horizon of the data collection.

- " Sustainability issue with longitudinal surveys (their funding model and way of operating is deeply different from the traditional model of single-sited infrastructures of "Big Science"). [12]"
- " Assurance of quality of data over a long period [131]"

4.3.6 Non-response and missing values threatening data quality

Struggling with the non-response and missing values in the data are other quality issues which the experts speak of. The trend of increasing non-response certainly imposes quality questions on data collections in terms of representativeness among others. Attention for potential biases due to non-response is certainly necessary. Especially in longitudinal data collections non-response is a major quality issue. Handling of missing values in data and data imputation can have a significant impact on the quality of data.

- " Surveys: non-coverage and non-response. [15]"
- " Increasing nonresponse in sample surveys with direct data collection causes increasing biases to estimates because of selective response mechanisms to surveys. [73]"
- " Data imputation. [190]"
- " Low data quality (e.g. Small sample size, under-reporting or misreporting income in surveys, sample bias due to non-response, etc.). [198]"
- " Panel data research difficult with high turnover in sample surveys. [223]"
- " Quality of survey data, especially response rates of specific groups of respondents. [367]"

4.3.7 Unsatisfactory quality in terms of validity and reliability

A set of experts spell out the problem of reliability and validity of existing data, without further specifying. Doubts are raised on the reliability or the validity of particular datasets.

- " Reliability and validity. [61]"
- " Quality of existing data, both micro- and macro-level is sometimes doubtful. [244]"
- " Data quality in terms of uncertain and unreliable answers provided by respondents. [311]"
- " Difficulties to prove the validity of self-reported work and health. [37]"
- " Validity of measures. And reliability of measures. [386]"
- " The information obtained using subjective data are not always verified. [152]"

4.3.8 Uneven quality in an international context

At length the experts discussed other quality issues. These issues deal for instance with the subjectivity of data collected on some concepts. Data authenticity across Europe is questioned in some cases.

The uneven quality of data across Europe (even for the same data set) is another issue. International data collections or administrative data sources sometimes have problems concerning differences in the moment of data collection across Europe or other differences which hinder comparison.

- " Administrative sources, such as accident and disease registers are frequently of poor quality and international comparisons are difficult. [398]"
- " Discontinuation or different time points of data collection. [64]"
- " Data quality, especially in countries with less experience in collecting this type of data (e.g. Lack of good sampling and imputation skills). [72]"
- " Data authenticity: many EU governments and institutions hiding the real data on their unemployed and poverty rate for electoral reasons. So Eurostat database became unrealistic and therefore the results of his research work are flawed! [97]"
- " EU-SILC is costly and of uneven quality (concerns about sample size/quality of sampling) [164]"

4.3.9 Linking data to improve the quality of data

The experts also hint at possibilities of linking different data sources to deal with quality issues of data and improve the quality of the final data set. Linking administrative data and survey data for example can be useful to deal with imputation issues. Also linking qualitative and quantitative data can broaden the possibilities for research with specific data. In linking data sources the limitations associated with this linking procedure however always need to be taken into account.

Linking of data sources is still not frequently done due to the difficulties with which one is confronted in linking data and the complexity of the linking procedures. More instruments are needed to allow for linking of data. However next to investing in expensive linkage procedures and instruments, it is also important that the research community invests in formulating specific suggestions on what kind of linkage is needed both at national levels and at EU level. Clear and concrete suggestions for dealing with problems of linking data should be developed.

- " Imputations/reweighting for the data gaps in combined sets of administrative data (tax registers, insurance data) and survey data as collected by government institutions (NSI). [46]"
- " Complementarity; integrating the collection and use of quantitative and qualitative data [128]"
- " Possibility to connect between quantitative and qualitative data. [266]"
- " Possibilities and limitations in the linking of records for individuals over time and between administrative registrations, as well as with observations collected through statistical surveys. [214]"
- " Insufficiency of data crossing (we don't have the instruments requested for matching or pairing data about Health, Environment, Life Style etc.). [12]"
- " Linking of different register data or register and survey data complicated [197]"
- " Difficult to do matching between data sources (registers and surveys). [385]"

4.3.10 The general fit with and usability for current research

Quite a few experts also deliberate on the lack of fit and usability for research of existing data. For one they mention that existing data not always fit with the recent and hot research questions and are not adequate to investigate contemporary phenomena. For example for the study of certain local phenomena only national data are available. Micro level concepts require micro level data, while only macro level data are collected.

- " Current available data are not adequate for measuring multidimensional poverty and living standards, as some relevant dimensions are not covered. [18]"
- " National patterns/data used to explain what primarily local phenomena are. [26]"
- " Macro level data cannot answer questions on micro level conditions. [236]"
- " Difficulty of simulating benefit eligibility with available data sources. [154]"
- " Conceptually: Data mostly not collected to measure concrete policies. [348]"

There is sometimes no match between the available data and the available methods. Efforts are needed to improve this match by either ensuring that the collected data will be usable with the methods that are needed for the research, or developing new methods to deal with the available data.

" Sample size of for multinational data-sets often too small for multilevel analyses. [2]"

" Data don't allow to follow individuals moving from one country to another. [308]"

" The impossibility to model in a dynamic setting intergenerational transfer of poverty, due to a lack of appropriate data. [50]"

Quality problems of existing European datasets

Next to discussing quality issues for data in social sciences in general the experts also enumerated several quality issues concerning widely used European surveys and data sets, among others the EU-SILC, the LFS and the EWCS. In general the concerns regarding these surveys are in line with the general concern discussed above.

Quality issues of the EU Statistics on Income and Living Conditions (EU-SILC)

The longitudinal nature of the EU-SILC survey and the rotating panel structure is a main concern, since at this moment it does (not yet) allow for proper longitudinal analysis among others to evaluate the impact of policies, to track societal changes, or to study poverty dynamics. Further the mix of cross-sectional and longitudinal samples in the survey certainly complicate the use of the survey, which is reported to be not really user-friendly. Access to the data is also rather complicated and especially is link with a high administrative costs.

" Lack of a harmonized cross-country longitudinal survey. The rotational panel of the EU-SILC does not allow tracking the same sample of individuals over time. [31]"

" High administrative cost of SILC data access. [146]"

" SILC has set up a mix of longitudinal and cross-sectional samples (rotation design) which is very difficult to analyse. [11]"

" EU-SILC is too short: four year records are definitely too short for evaluating consequences of social policy actions and/or socio-demographic changes. [144]"

" The current panel structure of the EU-SILC makes it impossible to apply certain methodologies for the analysis of poverty dynamics. [57]"

" Questionnaire content in EU-SILC quite restrictive at present, some topical modules are an improvement but need repetition and (typically) extension; Eurostat should make stronger attempts at integrating scientists working in relevant areas when setting up questionnaires (national statistical offices will not evaluate available options according to research potential). [357]"

Another issue is the too high level of aggregation in the EU-SILC. More detailed micro data are often needed, especially for comparative purposes. The quality of the data and data collection process is also very different across countries, which hampers reliable comparative research with the data. Non-response and low samples sizes are one of the main issues here.

" EU-SILC - the main current source of microdata - does not provide enough detail (e.g. about the nature of cash benefits or on non-cash benefits) for a comprehensive analysis. [74]"

" Comparability problems, in particular when national data is compiled (as in the EU-SILC). [34]"

" EU-SILC -- many other issues such as variable quality across countries. [74]"

" Technical problems with the SILC, including low sample size, high rotation in the panel, non-response and attrition. [50]"

" Insufficient reliability of the EU-SILC data due to low response rates in many countries. [158]"

Quality issues of the Labour Force Survey (LFS)

The experts point out some problems with the (too) high level of aggregation of some data within the LFS. They also express the wish to have longitudinal LFS data, which would allow them to study other relevant issues. Linked with this some experts also put forward some topics which are not sufficiently covered in the current LFS but for which information is much required.

" LFS harmonisation too strict in the sense that important variables are often aggregated (e.g. Age given in 5 year brackets so you cannot identify kids below age 3) or useful variables omitted if not available for all countries. [164]"

" The EU-LFS is not longitudinal, which makes it impossible to study labour force transitions. [31]"

" LFS to cover more socioeconomic background variables. [13]"

" Lack of high-quality wage/earnings data in the EU-LFS: current releases have income deciles only, thus preventing an analysis of wage/earnings inequality and its change over time in the major EU labour market survey. [357]"

Access to the data is another issues. Expert report they experience a lot of problems and restrictions in getting access to data of among others the LFS. The interactive tables available online are in some cases not sufficient to answer the research needs and questions. In addition the experts point out difficulties in linking different European datasets, such as LFS, EU-SILC, etc. However linking these data sources would allow for a lot of additional and interesting studies and enable researchers to investigate some questions for which this is impossible with the current – unlinked - data.

" Restrictive access to important EU level data by Eurostat - EU-LFS, EU-SILC, Structure of Earnings survey etc. [192]"

" Linkage of different microdata sources (EU SILC, LFS etc.). [13]"

" Eurostat interactive tables on poverty and exclusion sometimes fail to support my needs, e.g. missing a certain breakdown I'd need. Would be useful to have a forum for suggestions and a stable link to it from the data section. [164]"

Quality issues of the European Working Conditions Survey (EWCS) and European Company Survey (ECS)
 Regarding to the Eurofound surveys EWCS and ECS the experts mainly mentioned a need for larger sample sizes in the surveys. Further they also stress that the ECS needs to be further developed and harmonised.

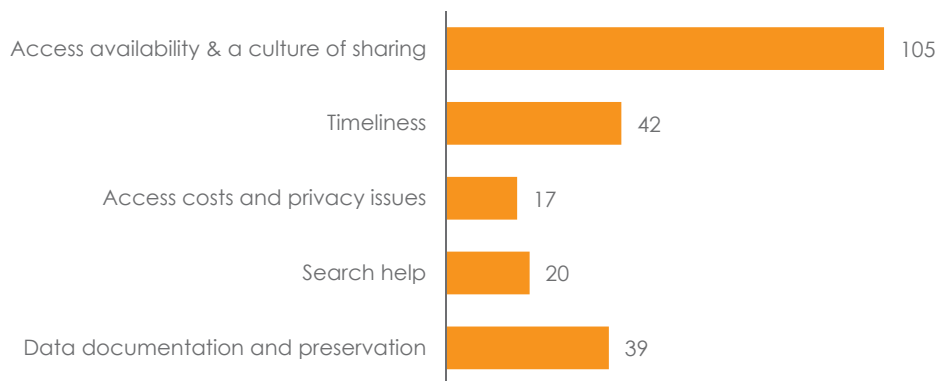
" Contrary to the EWCS, which is a relatively mature survey, we lack a harmonised EU-level employer/ establishment survey. [261]"

" Often to small samples for countries, e.g. European working conditions survey [88]"

4.4 Improving access to existing data

Across Europe already large amounts of relevant and interesting data are collected on social issues. Improving and ensuring access to these data will massively increase the range of data available for research. The growing culture of (openly) sharing data and research findings is an undeniable evolution which needs to be further encouraged and established (105 records). In this regard the timely availability of data is crucial (42 records). Privacy and ethical issues linked to this need to be solved, as well as the costs associated with data access (17 records). Improving the documentation of data (39 records) will allow data to become better discoverable (20 records) by and more usable for a broader public (not only researchers but other relevant stakeholders as well). Efforts for the preservation of data also need to be raised and pursued. (Figure 4.7).

Figure 4.7 The lack of access availability of data is the main challenge in improving access to data
 The timeliness of data availability, search help and improvement of data documentation and preservation are also important issues.
 Challenges in improving the access to existing data (in frequencies, r=223).



r=number of records.
 Source Own calculations

4.4.1 Insufficient access availability of data in Europe

The experts within our survey strongly agree on the fact that large shortcomings in data availability and access still exist across Europe. First of all there is a lack of awareness of the existing and available data. Researchers often simply do not know which data are available or even exist. Access to data is often also very restricted - due to legal and privacy issues (cfr. supra) - making it difficult to get access to data. However experts also agree that open access should be increased and even made compulsory for publicly funded data collections.

- " Awareness: most researchers don't know what is available and how can be accessed. [41]"
- " Insufficient visibility, access and use of existing data - i.e. key data [are] not easily available - e.g. detailed tables around proportion of people in poverty who are in work, EU-SILC data. [124]"
- " Data availability - we need openly available data. Also administrative data should be comparable and found in a common database - together with all the meta-info necessary to assess these data, analyse it and make sense of it. [254]"
- " Not all 'available data' is available - see data bases from projects financed through EU projects. [297]"

When access to data, and especially microdata, is possible, this is often only on-site access to the data in safe data centres and under strict access rules. Remote access (online) to data is more difficult and often goes together with strong limitations of the data which can be accessed. For example only specific combinations of variables can be used or the level of detail to which data can be accessed is low. These restrictions and the lack of secure remote access opportunities make transnational access to microdata still difficult within Europe.

- " Access to data [is] too restrictive, and if available only on location in Eurostat etc. [There is] no easy remote access. [54]"
- " Datasets are available only in a specific country and usable only on a "safe workplace". [335]"

Researchers are confronted with a lot of difficulties and hindrances in their attempts to get access to data. Procedures are long and often not very clear, the process to obtain data is very bureaucratic, etc. Obtaining access to European data from outside Europe is even more difficult. As a result a lot of costs are associated with accessing data. On the one hand the process to accessing data is often very lengthy and requires a lot of time investment. On the other hand data access is in some cases also not free and can be even very expensive for some stakeholders.

- " Access EU data should be as easy as accessing local national data (in my case UK data). [41]"
- " The process to get access to data is lengthy and quite bureaucratic. [170]"
- " The procedures allowing to access to data are not always very clear. [252]"
- " Access to the data. Sometimes it involves lots of administration and waiting time. [344]"
- " For some data sets access is restricted and expensive. [354]"
- " Too many data sets cost too much money for NGOs to access easily, therefore limiting opportunities for potentially different priorities for analysis than those of governments or academics. [414]"

4.4.2 Timeliness

An additional problem related to data availability is the sometimes extensive time lag between the data collection and the moment that data are made available. Data availability often is not timely enough. For a lot of European surveys it takes up to 2 years before data become available for researchers. Experts also note that this time lag is larger within social sciences compared to other sciences such as economic data. With an eye on evidence-based policy making this large time lag is certainly problematic, since the data are not timely enough to allow for 'real time' policy advice and responses.

- " Data is not timely. We work on information already 2 years old at the time of its release for the research community. [202]"
- " Social data being less timely than economic and employment data. [208]"
- " [Data] arrives rather late which hardly allows for a timely policy response. [195]"
- " Time gap between policy and data availability. [348]"
- " Data is too old to inform relevant policy decision. [377]"

4.4.3 Development of a culture of sharing

The experts also point out the issue of open data and open access. Open data policies across Europe would provide social science research with a large amount of interesting data. More open availability of research output, tools and analysis methods (and even syntax) should be encouraged.

" Open data policies are not on a satisfactory stage: we have huge possibilities to open the data. [69]"
" Data should be freely and easily accessible by everybody, including non-academic staff. [166]"
" To little open source publishing. [246]"
" Usage of open source statistical analysis tools. Promote and encourage the open dissemination of the analysis methods (including code where possible). [352]"

This need to make social research tools and out more open and freely accessible is not new and is widely discussed by researchers and stakeholders, which increasingly express the need to build up a culture of sharing within social sciences. The UK Data Forum (UK Data Forum, nd) states in its report for a 2013-2018 strategy on data resources for social and economic research for 2013-2018 that the sharing of data is the future of data in social sciences. Others, such as King go even further and claim that "*Scholars should see it as their responsibility to deposit data and replication information in public archives.*" (King, 2011).

Research can certainly benefit from open data access. First of all a large amount of data will become available for the research community: not only the large data sets which are often known and accessible, but also smaller and more unique datasets (King, 2011). The possibility for replication of research results increases the credibility of research findings. More data availability will also save costs in preventing duplication of certain research efforts such as data collection and allow for a better use of often costly data collections (which goes beyond the initial purposes of the data collection) (Mueller-Langer & Andreoli Versbach, 2014). Advantages of sharing of data and research findings are likewise discussed in the report of the OECD on 'New data for understanding the human condition': "*Published communication of scientific theories and of the experimental and observational data on which they are based has permitted others to scrutinise them, to test the replicability of experiments and observations, to support, reject or refine theories, and to re-use data to create further understanding.*"

Despite these potential benefits open data sharing is still at a low level for the moment due to the limited benefits of this sharing for the data collectors and the costs associated with it. Data collection is a costly process and making data available in an early stage might increase the competition in making publications on these data and increase the risk for the data collect that there will not be sufficient return on investment for the data collection. Therefore researchers often tend to strategically delay the disclosure of data until they have fully exploited the potential of the data themselves. There are also little incentives available for researchers to make their data available (f.e. in terms of academic reputation). Sharing data brings with it certain risks for the researcher: criticism of colleagues on research results, a loss of exclusivity on the data, and the risk that others build further upon your first research findings and take the edge of your research activities (Dupriez & Boyko, 2010; Mueller-Langer & Andreoli Versbach, 2014).

Several researchers and stakeholders nowadays make a plea for more incentives for data sharing, accompanied with need for standards on data citations (and on appreciation of data citations) (Mueller-Langer & Andreoli Versbach, 2014). Other stakeholders should also put more pressure on the research community for open data sharing through among others mandatory data disclosure policies in journals, data disclosure requirements from granting agencies (King, 2011; Mueller-Langer & Andreoli Versbach, 2014). It is defined as important to create a culture of sharing and to pass this belief on to the future researchers from the beginning. In addition there is a need for an infrastructure which facilitates data sharing and open access through among others the development of protocols for metadata, data citation, ... (King, 2011). Across Europe there are already some initiatives focusing on improving access (f.e. Data without Boundaries project) or developing standards and protocols (f.e. DDI initiative), but these initiatives until now have not yet sufficient basis to become a European data infrastructure.

4.4.4 Privacy issues and other legal barriers

Another important problem related to access of data are strong legal and ethical restrictions of privacy protection and data confidentiality. The strong restrictions make it difficult to obtain access to microdata and the procedures slow down the process to get access to data. These restrictions often only allow for on-site data access in secure data centres. In some cases the restrictions make it impossible to study specific vulnerable groups (which are only represented in small numbers in datasets) or the anonymization of the data makes it impossible to even identify specific vulnerable groups. Ethical and legal restrictions also already influence the data at the moment of data collection, by prohibiting the collection of certain types of information of individuals (such as ethnicity, gender, ...).

- " Lack of trust in researchers therefore imposing high ethical restrictions. [89]"
- " Legal issues about data protection, e.g. Access to detailed admin data at the individual level, or collecting/using sensitive information on ethnicity or disabilities. [164]"
- " Difficult to access national micro-level data sets, in part due to issues of research ethics and confidentiality. [244]"
- " Legal and procedural problems hampering the use and dissemination of administrative data in research [50]"

This burden of legal restrictions and ethical issues is widely acknowledged by the social sciences research community. The restrictions and regulations are relevant to ensure confidentiality and maintain the trust of participants in surveys (and ensure representative and good response rates). In the context of data sharing these restrictions however slow down the progress (Dupriez & Boyko, 2010; King, 2011). The increasing use of new types of data (such as big data) will bring along new risks for privacy issues which need to be addressed (OECD, 2013) and there is a need for adaptation and improvement of the existing sharing procedures and privacy protocols and regulations (King, 2011). Maybe the focus in privacy protection and ethics needs to be *"on more transparency in how data are used rather than limiting identifiability."* (OECD, 2013). The development of (international) rules and procedures, standards on intellectual property rights and privacy protection protocols - with the help of the legal community - can help to tackle these legal and ethical issues and improve international access to data in Europe (King, 2011).

4.4.5 Search help and data documentation

Open and free access to data is an important advantage/achievement/gain, but only if researchers are able to use the data to which they have access. Experts however remark that this is another sticking-point. There is an overload of information available (on the internet), but this makes it more difficult to find the relevant and right data. An expert-induced and commented overview of available data - which can be provided by a European data infrastructure - might help researchers to find their way through the information abundance.

- " Information overload, making it even more difficult to find the "right" data. [48]"
- " Variety and complexity of availability of data. Difficult to identify relevant sources. [348]"
- " There is no common data file or data list. Data are dispersed widely. [140]"
- " Data are presented to researchers often using "archivists" terms that are not common language for researchers. Data providers thus definitely need to learn how to use their own data as researcher and become teachers, trainers and leaders in complex data analysis. [59]"

It remains also difficult to find data which are used in studies. References or links to the data are often not included in publications, which makes use of the data and replication of the results impossible even if the data is publicly available. The development of standards for data citations might help to improve this deficiency (Mueller-Langer & Andreoli Versbach, 2014).

- " Publications without a clear reference on the exact data used (therefore no replication possible). [352]"
- " The majority of papers do not include links to full online data sets. [45]"

In its report the OECD (2013) also underlines the importance of making data discoverable through properly referring to data in publications and enclosing the necessary metadata. Today data discovery is too often a process of luck. Documentation of available data is often lacking. ‘*Metadata*’ is a term commonly used for this documentation of data and can be defined as follows: Metadata “*help researchers understand what the data are measuring and how they have been created, help them assess the quality of the data and are needed to develop data discovery tools.*” (Dupriez & Boyko, 2010).

These necessary metadata are not always available for data and there is a need for standards on the documentation of surveys and data, which include among others information on the data collection and processing (sampling design, concepts and definitions, weights, variables, imputed values, etc.). This proper documentation of data is important to ensure a good and informed use of the data and avoid misunderstandings and misinterpretations which stem from data collection issues.

Dupriez and Boyko (2010) give some suggestions on the types of materials that should be included in the metadata. A first type is explanatory material which contains information on the data collection methods, the dataset structure, variables, coding, classification schemes, weighting, data sources, confidentiality and anonymization, ... A second type is contextual information which clarifies the project context in which the data are collected and the aims of the data collection, involved stakeholders in the data collection, ... as well as the background of the dataset itself such as previous data collections and new editions, ... The third type is cataloguing material which includes a bibliographical record to the data and is the basic instrument for data discovery.

- " Meta data are not always provided with data. [252]"
- " Lack of agreed standards and documentation for surveys. [348]"
- " A research infrastructure should provide full access to complete documentation of the data: Concepts, definitions, measurement, data sources, sampling designs, missingness patterns, adjustment methods for missingness (weighting, imputation), edit procedures applied, etc. The databases itself should contain the necessary variables for proper statistical analysis: Sampling design variables (stratification, clustering), weight variables, reweight variables, indicator variables for identify imputed values, etc. This is not the case in user data files type sources, for example. [73]"
- " The lack of contextual knowledge and documentation in order to improve the interpretation and avoid any misunderstanding of statistical questions, which may rely on national, or even regional, institutions, norms in the different countries. [324]"

A last issue related to transnational data access that the experts put on the table are language problems. Often data and metadata (and survey questionnaires) are only available in the language in which the data are collected and no translation is done for example to English. This makes it difficult to explore national data sources for international or transnational research. Other experts however remark that ‘English’ is maybe too much promoted as the one and only common language for European researchers and for international cooperation.

- " Language problems - practice based research is often not translated. [246]"
- " Language translation. [313]"
- " Access to datasets in English (monolingual researcher). [5]"
- " A missing balance of linguistic and cultural diversity in research traditions with the aim of international cooperation. *English only is not the royal road.* [262]"

4.4.6 Ensured preservation of data

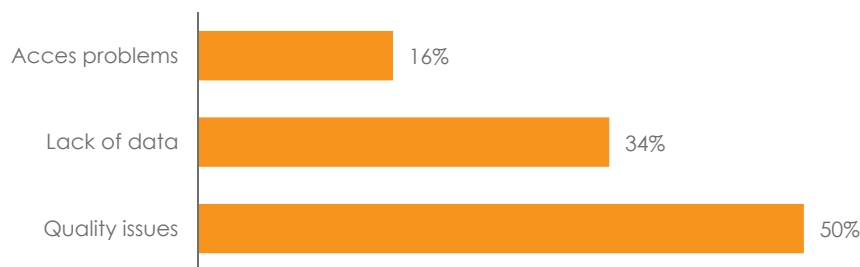
A final issue associated with the access to data is the preservation of data. Experts indicate in our survey that there is a lack of an international procedure and regulation on the preservation and storage of data in Europe. This absence of international standards also threatens the comparability of data across Europe. The Inter-university Consortium for Political and Social Research stresses in its report (ICPSR, 2009) the importance of ensuring the long term access to data and long term preservation of data and provides some principles and good practice for developing a sustainable preservation programme.

" Diverging laws regarding storage and access to data across countries. [285]"
 " Different structure of stored data (comparability is missing). [110]"

4.5 Data for policymaking: indicator-building as an extra challenge

Data on inclusive growth are used for creating input and evidence for policymakers and evidence-based policymaking. Next to general figures and broad-based analysis of phenomena this is typically done through the construction of indicators in the policy field of inclusive growth. An indicator is a statistic about a concept or phenomenon which allows to investigate this phenomenon, for instance to monitor it over time, to compare it across countries or to make predictions on future levels. For the creation of these indicators data are of course needed. Evidently this implies that the challenges for data related to indicator-building are similar to those already discussed previously (in general): demand for data (and missing data on specific topics), quality issues and access problems. However, a limited, but nevertheless significant number of respondents raised particular problems (56 records) on matters related to the indicator-building and the policy usage. Half of the specific challenges that experts stipulated have to do with quality issues (28 records). Another 34% of the issues raised are related to a lack of data (19 records) and 16% are linked with access problems (9 records) (Figure 4.8).

Figure 4.8 Half of the data challenges related to indicator-building consider quality issues of the data (r=28)
 Other challenges are related to the lack of data or access problems.
 Challenges related to indicator-building for policy making (in percentages, r=56).



r = number of records.
 Source Own calculations

4.5.1 Access to indicators

Access to data is crucial for the development of and continuous follow up of indicators. As for data in general, European availability is a basic requirement which is not yet accomplished. Privacy issues and other legal barriers hinder access to data. Timely information is often as well and maybe even more a necessity to prevent indicators being outdated. Documentation and clear guides are needed to prevent misuse of data and ensure a good interpretation of indicators. Finally the preservation of data should also be safeguarded. Particular issues raised are the need for timely data to allow for timely indicators and the demand for well documented, simple and straightforward data and indicators.

Timely (other) data

Timely access to data for the construction of indicators is certainly an issue, as for timely access to data in general. In this regard the experts stressed that there are different needs in terms of timeliness of data depending on the purpose for which data is used. There is in the first place a different need

of timeliness for research and policy purposes. Policymaking is often a short-term activity for which up-to-date and speedy information is needed as input. Academic research has often a longer time horizon in which phenomena are studied more in-depth.

Thus the (research or policy) questions that motivate the data need determine the timeliness criterion of the data. For example when simple figures on the evolution of certain phenomena are needed to monitor this trend and even develop interventions depending on the trend, very timely data are needed. While if someone wants to study associations between certain phenomena (causal or not) less timely data can also be sufficient since these associations do not tend to change rapidly.

- " Outdated indicators due to changing types of threats to worker health (e.g. 24/7 availability). [103]"
- " Timeliness of social indicators, esp. on disaggregated groups[400]"

Documented, simple, straightforward

To ensure that indicators are used by policymakers it is important that policymakers know about the existence of these indicators and where to find them. They need to have sufficient and clear documentation on the indicators to facilitate their use. For instance providing proper definitions of the indicators should be an element in the documentation of indicators. Easy indicators which are simple and straightforward in the use and easily accessible are often preferred. A lack of documentation and visibility of indicators might cause an indicator to die a quiet death.

- " Lack of visibility of social indicators in other sectors. [171]"
- " The available data are not used enough. [22]"
- " To provide appropriate definitions of the indicators at multidimensional level. [75]"

Likewise the interpretation of indicators should be kept as easy and intuitively as possible. Experts point out that current policy indicators are often difficult to interpret which hinders their effective use.

- " Policy indicators are hard to interpret so they are not useful. [202]"
- " Accessibility and ease of the tools. [125]"

4.5.2 Demand for innovations

Proper datasets are necessary as a basis for the development of reliable indicators. In addition good and meaningful indicators need to be constructed to monitor trends in contemporary phenomena, assess the impact of policies, analysis changes, etc.

- " A lack of clear datasets that allow for analysis of policy instruments [187]."
- " Lack of comparable indicators on social services of different kinds (training, family support, health care). [200]"
- " Lack of tools and instruments to measure and interpret the impact of working conditions on productivity. [29]"
- " Development of poverty indicators, especially deprivation. [77]"
- " Deficit of meaningful indicators and measures of multidimensional poverty and vulnerability. [75]"
- " Social policy indicators beyond spending. [362]"
- " Specificity of indicators measuring particular change/there is a need to research on new indicators and develop them based on evidence. [64]"

4.5.3 Quality of data and indicators

The same quality issues should be taken into consideration for indicators as for data in general. In addition experts bring forward some quality issues of the indicators. The issues listed concerned mainly limitations of existing indicators (23 records). The need for more harmonisation of indicators (2 records), problems concerning the fit of indicators and their usability for policy making (3 records) are discussed in addition.

Certain existing indicators have limitations which influence the quality of these indicators. This concerns among others the reliability of the indicator from an EU-wide perspective. Another limitation of certain indicators are the indices which are constructed for these indicators. Overall, experts mention several sorts of indicators for which quality is not yet sufficient.

- " Still relevant measurement/indicator problems. [134]"
- " Poor indicators for new forms of precarious employment in population surveys (e.g. hyper-casualised workers without employment contracts coded as self-employed/entrepreneurs) [27]"
- " Applied poverty measures insufficient. [24]"
- " There are always problems to form indexes out of indicators. [69]"
- " Reliability of EU-wide indicators. [328]"
- " Lack of differentiation of indicators [377]"

The lack of harmonization of indicators at EU-level makes it also difficult to use indicators for comparisons between countries. In many cases the indicators are not yet (sufficiently) standardized or there is no agreement on how the indicator should be measured. Improving the comparability of existing indicators and ensuring comparability during the development of new indicators should be a main point of attention.

- " Lack of agreement about the indicators to be chosen for tracking changes and policy progress. [103]"
- " Most indicators on work and health are not really standardized across countries. [130]"

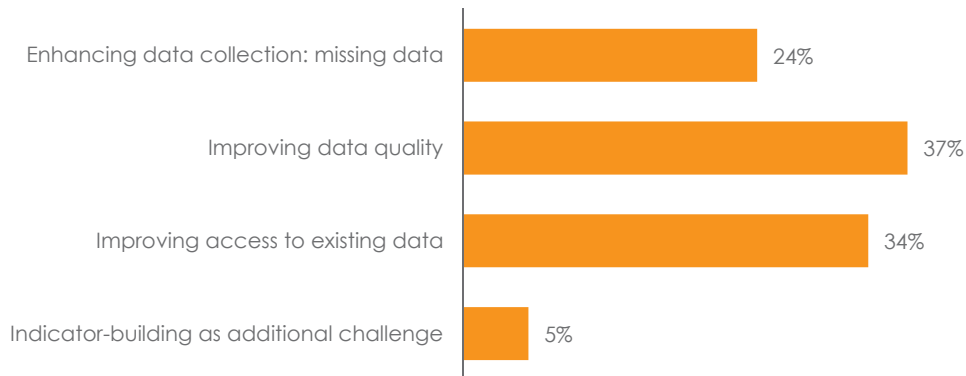
Finally existing indicators are not always adequate to use for the preferred purposes. Indicators are not always comparable enough across countries or simply do not allow for monitoring current trends.

- " Poverty target in Europe 2020 is scientifically weak and not a requirement therefore sound cross-national comparison is very difficult. [414]"
- " Problems to compare welfare indicators across settings [273]"

4.6 Data as the key priority

As already explained in the previous chapter, the experts were also asked to formulate his or her main priority for a future European research infrastructure - taking into account all issues they brought forward filling in the survey - at the end of the questionnaire. 'Data' was the key priority according to the respondents of our survey. About 51% of all the priorities mentioned (cfr. infra) concern data issues (185 records): 37% of the data priorities related to the need to improve the data quality (68 records), another 34% concerns the improvement of access to existing data (62 records). Further 24% express a need for new or more data on specific topics where data are still missing today (45 records). Barriers in the collection of data are not mentioned as a priority. A few respondents (5%) specifically focus on the indicator-building challenges for policy making purposes (10 records) (Figure 4.9).

Figure 4.9 The most mentioned data priority is the improvement of the quality of existing data (r=68). Improving access to existing data is the second priority (r=62). Other priorities relate to collecting new data to address the list of current missing data (r=45) and – mentioned by a smaller group – indicator-building for policy making purposes (r=10). Data priorities in percentages (r=185).



r= number of records.
Source Own calculations

4.6.1 Access problems

Existing access problems to data should be one of the priorities to deal with for a European research infrastructure. In general access should be made easier and more transparent, and more data should be made available - at a highly detailed level - especially for research purposes. Data availability in addition should be timelier. Furthermore the usability of available data should be improved, through better documentation of data and the creation of proper metadata. These priorities matter even more for data from research projects which are financed by the European Union.

- " Also, efforts should be made to allow users to access more detailed data, especially panels or data that follows individuals over time, given that this has the potential to make better estimations. [3]"
- " A simpler, smoother way to access research documents as already done (with EUROSTAT) for data. [80]"
- " Easier data accessibility and more user-friendliness of the data (more operational comparability). [72]"
- " Making available databases or qualitative data from research projects financed by EU. [297]"

An open access policy is promoted by several respondents as an important priority. Making data, syntax, protocols, etc. more available can enhance the quality of research.

- " Make better quality data, more available. Insist on open research protocols as many academic researchers do, especially in the USA (make data available, syntax/do files when publishing findings). [192]"
- " Enhancing to publish open data in structured format. [100]"

Finally a European research infrastructure can facilitate access to existing data through the development and maintenance of an integrated system of data and data access, such as a framework or common depository. Setting up different types of access systems - such as secure labs and remote access tools - will ensure data accessibility whilst dealing with different levels of need for data protection and security. Building an infrastructure that facilitates access to data in various ways will contribute largely to the progress in social sciences.

- " Need for a transparent framework for access to microdata for research purposes. [390]"
- " Ensure good use of data, build out secure labs at European level. [397]"
- " Bringing existing resources together in an integrated system, improve access and use of research infrastructure. [128]"
- " Get register data systems in other countries than the Nordic. Set up a system of remote access to a common database of European - and data from other countries when possible. [54]"
- " Data availability and quality. Common depository of EU financed research outputs - there seems to be a lot of overlap. [164]"
- " A better integration of different data sets that are at the same time easy available. [88]"

4.6.2 Need for new or more data

Creating new and better data is another important priority. This should be high-quality and timely data, with a good coverage of European countries as well as of specific - more vulnerable - groups. Further longitudinal data or other methods to study phenomena over time are needed. In addition some point out that attention needs to be given to the development and use of other types of data, such as linked surveys, big data, other new data sources, etc.

- " Pan-European data coverage. [56]"
- " Better (detailed, regionally broken down) data + access. [13]"
- " Under coverage, exclusion of groups at risk. [15]"
- " Lack of real-time data. [364]"
- " To my opinion, it would be to build a common linked employer-employee survey at the European level. [339]"
- " Provide longer time-frames in data, either through a panel study or a better retrospective study. [187]"
- " New data sources ("big data"). [73]"
- " Production of harmonised high quality data useful to scholars from different disciplines. [273]"

4.6.3 Quality issues

Finally the quality of available data is a major concern and priority for the future. High quality data are necessary to provide policy makers with sound evidence which can play a role in decision making. Knowledge of the limitations and advantages of existing data needs to be strengthened to ensure that researchers deal with the data and its limitations in a proper way.

- " I'm not at all sure that we need more infrastructures in terms of tool, but we certainly need more and better data that is truly comparative (such as the ESS). [34]"
- " Think the priority should be to strive to produce the best possible data. Without really good data, no amount of other tools and instruments will be very useful. [165]"
- " Improve the understanding of researchers in this area of the strengths and weaknesses of observations from administrative registrations. [214]"

A major issue related to the quality of data is improving and ensuring the comparability of collected data. The need for harmonisation across Europe and standardisation of some measurements across Europe but also across disciplines is crucial. More comparable data and standardisation in the collection of certain data will allow for a broader use of the collected data (in different disciplines and for multiple purposes).

- " Find a good balance between adapting existing data sets to make them better and making small trade-offs in order to keep existing comparability. [296]"
- " Lack of integration and harmonisation between sources of social statistics. [53]"
- " Standardization of data collected. [82]"
- " More exchange between different research projects to agree on a standard in surveys. [323]"
- " Data standards & interoperability with high level analysis and visualisation tools. [372]"

4.6.4 Challenges for indicator-building for policy making

A first type of priority discussed by the experts is the need for more and better indicators. These need to be developed and included in current score boards, evaluation tools, etc. New indicators should focus on measuring inclusive growth from a broad perspective and at a European level.

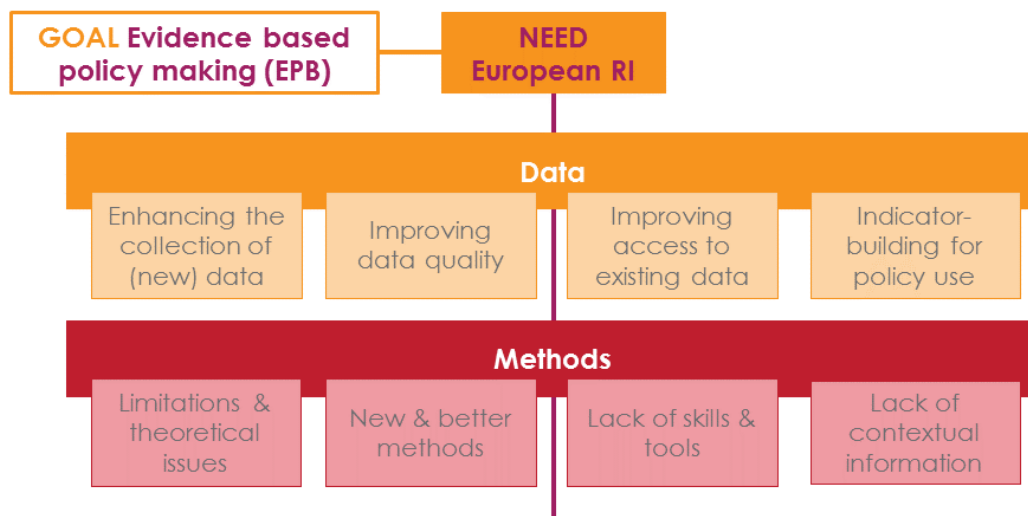
- " Build comparable institutional indicators on the different programmes of the welfare state. [151]"
- " Inclusion of new indicators that tackle the most challenging issues. [171]"
- " New policy instruments against poverty and inequality at European level should be studied. [163]"

On the other hand improving the quality of existing indicators is also a major issue. More agreement and harmonisation of existing indicators is needed, especially from an EU or European perspective. The comparability of indicators across countries should be improved and the access to and use of existing indicators facilitated.

- " Lack of agreement about the indicators to be chosen for tracking changes and policy progress. [103]"
- " Improving the EU-wide indicators. [328]"
- " Facilitate access, enrich data and improve comparability, make tools more accessible. [346]"

5. Methods, skills and training

Figure 5.1 The limitations of existing methods and underlying theories bring along challenges for the social sciences research community
 Next to this there is a need for new and better methods to deal with actual questions and complex data. Finally sufficient resources need to be available: good funding, adequate tools and researchers with the necessary methodological skills.

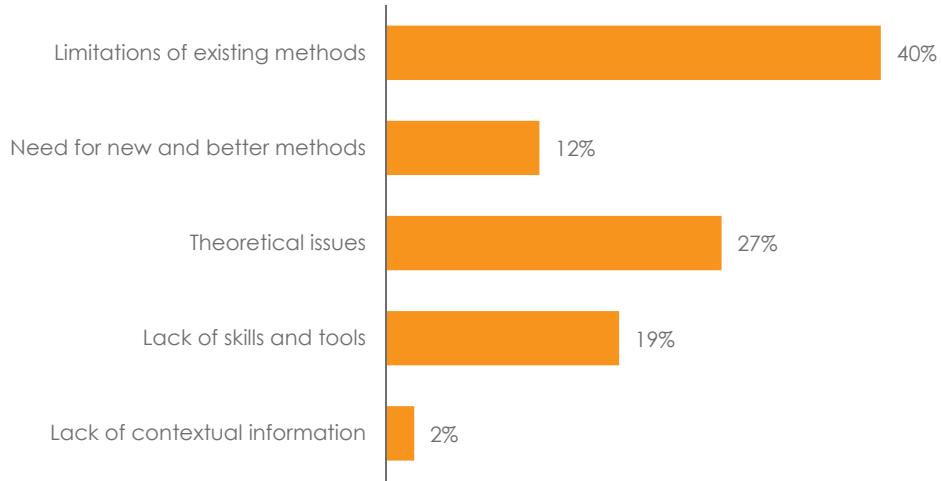


Next to accurate, reliable, credible, accessible and relevant data, researchers also need high quality methods to analyse the data. Nonetheless today the research community focusing on the European inclusive growth strategy is confronted with several limitations in existing methods and the underlying theories and frameworks and faces challenges to tackle these limitations in the next years. Social sciences research needs high quality, complex and very specific methods to deal with the limitations of existing data and allow researchers to work properly with the data of the future. New methods need to be developed to deal with actual research questions and actual data. The lack of methodological skills (among researchers) and statistical tools imposes further methodological challenges. Besides adequate tools it is important that social scientists have the necessary skills to work with available methods. Researchers need to be trained in using these methods. It has to be ensured that the research community of the future has the necessary methodological skills to work with the available data and provide answers to ‘pending’ research and policy questions. In addition a lack of contextual information also influences the proper choice and use of methods (Figure 5.1).

5.1 Methodological challenges in figures

In the various methodological challenges listed by the experts (219 records) we can distinguish five types of challenges. The largest group of challenges have to do with limitations of existing methods (87 records). 27% of the challenges go down to theoretical issues underlying methods (59 records). Another 19% concerns the need for skills and tools to work with the methods (41 records) and 12% imply the need for new and better methods (27 records). Finally a few experts discussed how the lack of contextual information hampers research and the proper use of methods (5 records) (Figure 5.2).

Figure 5.2 Limitations of existing methods are the most mentioned methodological challenges (r=87)
 Further theoretical issues underlying the methods (r=59) and the need to have sufficient skills and tools to work with the methods (r=41) respectively are the second and third most mentioned challenges. Another 12% mentioned the need for new and better methods (r=27) and a few experts discussed how the lack of contextual information hampers research (r=5). Methodological challenges in percentages (r=219).



r = number of records.
 Source Own calculations

Across the expertise domains we can notice some differences in the challenges mentioned by the experts. Experts from *inclusive growth* research mention more often than others theoretical issues, while experts from *poverty and living conditions* research more often point out the need for new and better methods. The lack of skills and tools is more frequently discussed by experts from *working conditions*, *HRM*, *industrial relations and vulnerability*, *labour market and precariousness* and *other* expertise domains (Table 5.1). Some country differences can also be seen. Experts from liberal countries focus more on a need for more skills and tools, those from New Member States most often bring forward the need for more and better methods, and experts from countries outside Europe more often discuss theoretical issues. We can also notice, maybe paradoxically, that older respondents and experts with more experience tend to point out the lack of (methodological) skills and tools more often than their younger and less experienced counterparts.

Table 5.1 Across the expertise domains we can notice some differences in the challenges mentioned by the experts

Number of methodological challenges (records) mentioned in total, by academics and non-academics and per expertise domain (in frequencies, r= 219).

	Total		Professional background		Expertise						
	Total records	Total records (%)	Academics (n=277)	Non-academics (n=94)	Inclusive growth (n=24)	Poverty and living conditions (n=51)	Social policy and inclusion (n=68)	Inequality and welfare state (n=73)	Working conditions, HRM, IR and vulnerability (n=60)	Labour market and precariousness (n=62)	Other (n=33)
Limitations of existing methods	87	39.7	65	22	4	9	14	21	14	15	10
Need for new and better methods	27	12.3	21	6	3	1	9	4	1	8	1
Theoretical issues	59	26.9	44	15	2	12	13	14	9	5	4
Lack of skills and tools	41	18.7	31	10	1	4	6	6	7	9	8
Lack of contextual information	5	2.3	2	3	0	0	0	1	3	1	0
Total records	219		163	56	10	26	42	46	34	38	23
% of total records		100	74.4	25.6	4.6	11.9	19.2	21.0	15.5	17.4	10.5

n= number of respondents, r=number of records.
Source Own calculations

5.2 Limitations of existing methods

When doing research in social sciences, researchers have a broad range of methods at their disposal nowadays. However these methods often come with their specific limitations. In some cases the problems have to do with the fact that the method is not fit to use for the data due to the limitations of the data. The lack of common methodology is also a challenge formulated by the experts. The improper use of certain methods is another issue. Finally the need for more replication and reproducibility of methods is formulated.

Knowledge and consideration of limitations

Existing methods all have their specific assumptions and limitations in their use. Experts point out that dealing with these specific limitations is an important challenge for a future research infrastructure in social sciences. Especially the difficulties that arise when trying to combine specific methods should be tackled. Combining different methods and perspectives will allow to study social phenomena from a more holistic viewpoint and to better understand how phenomena interact and evolve within the society and across Europe.

Comparative research and methods also bring along specific challenges to which answers still need to be formulated. A research infrastructure can provide the necessary support for a scientist to deal with the dilemmas he/she faces and help him/her to make a proper trade-off in providing useful cross-national comparative evidence on European social phenomena.

- " Difficult to combine multilevel analysis with other models such as multivariate models. [2]"
- " Strong focus on multilevel analysis neglects qualitative differences between mechanisms in different countries. [55]"
- " Difficulty to combine the methods to explore in-depth, beyond association, the complex mechanisms at the roots of social exclusion. [82]"
- " Methodological dilemmas in doing comparative analysis (use multilevel models rather than fixed effect models etc.) but in most cases these involve trade-offs between clarity/simplicity of exposition and statistical/scientific rigour. [192]"
- " Econometric analyses are not objective and can be built to achieve the result wanted. [194]"

The existing methods are not always fit to deal with actual problems and data. Current data have certain limitations - as discussed earlier - such as problems with the coverage, small sample sizes, etc. The methods available today do not always allow dealing with these limitations properly (see next point). On the other hand researchers do not always take these limitations sufficiently into account. More reporting of the limitations of data and methods, as well as on the assumptions made in a study, is certainly necessary.

- " The current tools and methodologies are sometimes old school and do not tackle the real problem. [42]"
- " Still it is not common scientific practice to always report standard errors. [11]"
- " Research too often does not take into account the limitations of survey data (and also of administrative data) in terms of coverage. [11]"
- " An insufficient tackling of endogeneity problems, correlation is interpreted as causation. [202]"
- " The validity issues regarding survey-based research. Researchers should be encouraged to compare surveys with register based information and report the possible validity issues regarding concepts. [283]"
- " No balance between refined statistical methods and poor reliability of data analysed. [311]"
- " In qualitative methodology the subjectivity of the researcher is intimately involved in scientific research. [386]"
- " Researchers are not exploring first their assumptions on why they've taken a particular methodological approach. [60]"
- " Simulation studies are not clear enough about identification and validation. [172]"

Lack of agreement

Especially from a European comparative perspective experts discuss the lack of a common methodology to study specific phenomena. This problem hinders the comparability of research results across Europe from national studies. More harmonization and agreement on methodologies will allow for large gains in comparability across Europe. In cross-national studies and projects researchers all too often first need to agree upon a methodology before proceeding with the actual research. Developing a common methodology across Europe will foster not only the cooperation within cross-national projects but also the comparability of findings across projects and studies.

- " Lack of agreement about the proper way to aggregate the different dimensions of multidimensional well-being. [295]"
- " Lack of common methodology. [377]"
- " Not common methodological approach on studying social policies. [369]"

Improper use of certain methods

The experts further point out that certain methods are overused while other - sometimes more relevant - methods are not used. For example there still exists a large gap between quantitative and qualitative researchers which all stick to their regular set of methods. However looking beyond their borders and adopting some methods from other traditions can allow for a more complete study of the problem and a more holistic view on the issue. A better methodological knowledge and more training in all types of methods will help the researchers to make better choices for the best methods and combinations of different types of methods and allow researchers to use the chosen methods properly and deal with their limitations (cfr. infra).

- " Too much use of linear regression, too few dynamic simulation methods. [54]"
- " Lack of longitudinal analyses (cohorts). [37]"
- " Low use of Bayesian approaches in comparing countries or small number of cases. [63]"

- " Scenarios analysis is not used enough as a basis or use of foresight analysis. [69]"
- " Too much based on conventional psychological measurements and scales, not focused on challenges such as interdependencies, clusters. [318]"
- " Overuse econometrics and lack of mixed methods. [25]"
- " Research community is divided into quantitative and qualitative research. [88]"

Replication and reproducibility

A final methodological issue on existing techniques that is brought up, is about the reproducibility of research findings. Currently only very few replications studies are done. Researchers also do not do strong efforts to allow for their findings to be replicated - in terms of proper reporting on the data, data cleaning procedures, reporting on methodological procedures, making codes available, etc. The methods and data used are often only briefly and vaguely discussed in academic publications which make it nearly impossible to replicate the results. Making research studies more open for replications studies will however help to give strength to the findings and the used methods.

- " Weak efforts for replication. [35]"
- " Lack of reproducibility of results - it should be an obligation for scientists to deliver all results with the data and the code for data transformation and analysis. That would make these results checkable, reproducible and the valuable, expensive data available to others that get the chance to research these data as well. [254]"
- " Materials and methods are not explained extensively in some publications. [45]"

5.3 Need for new and better methods

Alongside the discussion of dealing properly with the limitations of existing methods the experts in our survey also speak of the need for new and better methods and further development of new and promising methods to overcome these existing limitations. The needs for new methods are various and concern all types of methods. They go from very specific methods such as sequence analysis, nowcasting, small area estimations, etc. on to more general needs for better methods to do specific types of research or deal with certain types of data, such as methods for rotating panel data, life-course analysis methods, methods to work with big data, ...

- " Limited by available statistical methods and tools. [34]"
- " Advancements in sequence analysis. [120]"
- " Life-course methods must still be further developed to study people's careers over time. [187]"
- " Too much focus on standard econometric methods to analyse complex problems that require more advance methods. [224]"
- " Better development of methodologies to carry out cross countries analysis could help in assessing the effectiveness of public policies. [199]"
- " Special advanced econometric techniques are needed for the analysis of rotating panel data. [170]"
- " Develop new tools to link episodes, sequences and explanatory models. [120]"
- " Which tools can social researchers use to analyse big data? [269]"
- " Need to implement econometric models allowing to measure latent variables and their interaction. [199]"
- " Small area estimation concentrates on geographical and political areas but socio-demographic domains are more important and have much less auxiliary information to apply Small Area Methods. [11]"

Data visualization is also regularly alluded to as a powerful tool that will allow for methodological improvements. Data visualization can not only allow researchers to better analyse the results and explore data, but can also be a valuable tool in the communication of research findings and even of basic data towards stakeholders and the broader public.

- " Data visualisation can be a powerful tool and should be developed further. [125]"
- " Missing high level analysis and visualisation tools. [372]"

5.4 Theoretical issues

The theories and frameworks - that underlie specific methods - bring along certain challenges to be addressed by a research infrastructure for social sciences. A first challenges is a lack of theories and

frameworks within social sciences research on inclusive growth. Developing the theoretical framework better can help researchers in the choice of proper methods and the collection or choice for the best data (and items).

- " Lack of theory which determines methodologies. [378]"
- " Weak theoretical frameworks, almost no social theory background. [317]"
- " Measuring impact not only in the social policy area but also at economic and society level. [128]"
- " Items in international comparative data sets often lack a theoretical basis. [17]"

Other experts point out that some of the frameworks used today are not appropriate or even incorrect. Consequently this will also influence the relevance and reliability of the research results based on these frameworks. The underlying framework in some cases has a strong impact on the selection of the data that is collected and the way these data are analysed afterwards. Problems with the framework underlying data collection will seriously hamper the (secondary) use of the data afterwards.

- " Labour market models may not reflect the diversity of labour market approaches across the EU so may produce interpretations that don't accurately reflect these differences. [380]"
- " Data collection reflects theoretical frameworks. Current available data are collected within an obsolete and inadequate theoretical framework. [18]"
- " Wrong choice of data because of poor theoretical underpinnings. [378]"
- " Gap between the theoretical concept and empirical information gathered. [38]"
- " Data remains quite field specific (e.g. data collected by economists won't include variables of interest to sociologists) which makes interdisciplinary research very difficult. [202]"
- " Lack of common understanding of concepts and methodologies. [62]"
- " Over reliance on a narrow 'scientific' approach. [30]"
- " Subordination of theory to data. [81]"

Furthermore some experts call attention to the fact that theoretical reasoning is subordinated to the data. Apart from this some experts indicate that current theories and frameworks are sometimes too complex, which hinders the proper and frequent use of them in research. This complexity is also a major stumbling block for the communication of research findings towards stakeholders and for the appropriate and regular use of findings by stakeholders.

- " Complexity and multidimensionality of the concept of poverty and social exclusion. [258]"
- " Complexity of the conceptual frameworks. [8]"

5.5 Skills and tools for research

The lack of sufficient skills and tools is another major challenge in terms of methods. The main core of the problems discussed here concern a lack of skills among researchers (and other stakeholders) to use the existing methods properly and a need for more training on methodological issues (40 records). Further a lack of good statistical tools and software packages to apply methods (6 records). Important to note is that domain experts from *working conditions*, *HRM*, *industrial relations and vulnerabilities* and *labour market and precariousness* proportionally mention much more problems regarding skills and tools compared to experts for the other expertise domains.

Skills and training to work with methods

A first issue is the lack of expertise. There are not enough methodological experts to deal with the methodological problems and challenges social sciences are confronted with. Especially in some countries there are simply not enough (methodologically highly trained) researchers active within social sciences.

- " The most important problem is that we do not have enough clever, analytical people to use the tools and instruments. [69]"
- " Lack of researchers in sociology and political sciences. [104]"
- " Lack of experts in methodology. [104]"
- " Lack of social science capacity in former Soviet countries. [355]"

A second issue is that the current researchers not always have the necessary skills and competences to be able to deal with the methodological challenges they are confronted with. Researchers within social sciences are not always educated sufficiently on methodological aspects. The emphasis on methods within the education is not always satisfactory to ensure students to exit their education with the necessary methodological skills. Increasing the knowledge of existing methods (through training and more attention for methods in education) will enhance the use of the best methods for each research question.

- " [Methods are] very dispersed and not sufficiently well known. [151]"
- " Lack of knowledge on the appropriate statistical and econometric models to use. [272]"
- " Researchers are not fit to handle the current wealth of data available to them. They are neither educated nor trained in data exploration, data management, data analysis. [59]"
- " Again, poor training of social science doctoral students in quantitative analyses limits our ability to maximize existing datasets and emerging big data. Bologna does not compete with 6-year U.S. model. [240]"

Finally there is a need for more training opportunities - at an affordable price - on methodological issues. These training opportunities should be various going from online tutorials, training courses, online courses to individual coaching opportunities. Creating methodological training centres which provide advanced methodological training for researchers across Europe on important methods for social science research - both basic level and more complex issues - can facilitate the improvement of the skills. In addition more training opportunities should also be provided for policymakers, expert practitioners and other stakeholders. The indicators they use for instance also become increasingly complex and it is difficult for stakeholders to learn to work with them, since they often not have access to the necessary basic expertise and tools.

- " The availability and affordability of training at more advanced levels. [9]"
- " In my opinion, there should be more centre of excellence for methodological training for graduate students to be provided in English. They should be subsidized or fully funded keeping in mind international students studying in Europe. Also, providing data is not only enough building human capital in students is more important. Except UK there are few training centres in western part. So they should be increased and must include varieties of method courses. Some special advanced method centres can also be created. [51]"
- " We need training programs to work with complex data, online tutorials and readable documentation and examples for work with these data. [254]"
- " We need as much individual data as possible to work with. These have to be documented and we need training programs to work with complex data, online tutorials and readable documentation and examples for work with these data. Data anonymization is a big topic here - but there are a lot of ways achieve this. [254]"
- " Lack of education for policy and field researches. [374]"
- " Learning curve too long because of spread hence unknown or inaccessible expertise & tools to the broader audience (researchers, policy makers). [147]"

Tools to work with the methods

Experts report a lack of tools for specific types of research. A need of more sharing of existing tools and software is expressed. Some tools, such as statistical software packages for highly complex methods are too expensive, which make it impossible for researchers to use them to their full potential and apply the method best fit for the data and research questions. The lack of resources might encourage researchers to use a suboptimal but less expensive method. Consequently the need for more open source data analysis software is also put on the table.

- " Cost (some software are too expensive and hence not always available). [346]"
- " Data analytic tools and technology could be shared much more widely. [353]"
- " Lack of software in the area of qualitative research. [366]"
- " Insufficient promotion of the open source data analysis software. [352]"

5.6 Lack of contextual information hinders research

Some experts mention the lack of contextual information in some situations. For instance on policies and policy changes it is sometimes difficult to collect all the necessary contextual information to fully understand the changes and the implications of it - even more when studying policies across Europe. This lack of contextual information brings with it the risk of misinterpretations of certain events and finding or even misuse of certain methods based on incorrect assumptions. More international cooperation and more cooperation between stakeholders and researchers can help in this case to ensure all necessary contextual information becomes available and is taken into account when interpreting findings (cfr. infra).

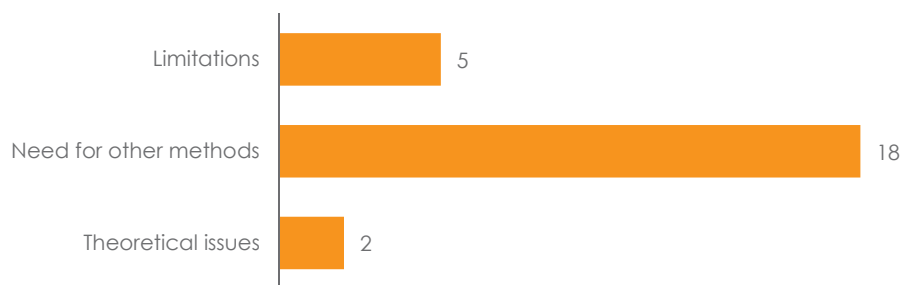
" Lacking description of detailed situations before changes in policies were made. [68]"
 " The lack of contextual knowledge and documentation in order to improve the interpretation and avoid any misunderstanding of statistical questions, which may rely on national, or even regional, institutions, norms in the different countries. [324]"
 " Lack of context information. [319]"

5.7 The development of new methods is a priority

The methodological priorities comprise about 7% of all mentioned priorities, or 25 records. These priorities mainly consider the need for specific new kinds of methods (18 records). Further some put the priority on dealing with limitations of existing methods (5 records) and theoretical issues (2 records) (Figure 5.3).

Continuous attention for and investment in the development of new methods to deal with the challenges of existing and future - new/big - data is clearly the main methodological priority. Experts in our survey are rather specific regarding the types of methods which need to be further developed such as methods to link and integrate data, mixed-modes, multilevel methods, etc.

Figure 5.3 The methodological priorities mentioned mainly consider a need for more and other methods (r=11)
 Further some put the priority on dealing with limitations of existing methods (r=5) and theoretical issues (r=2).
 Methodological priorities in frequencies (r=25).

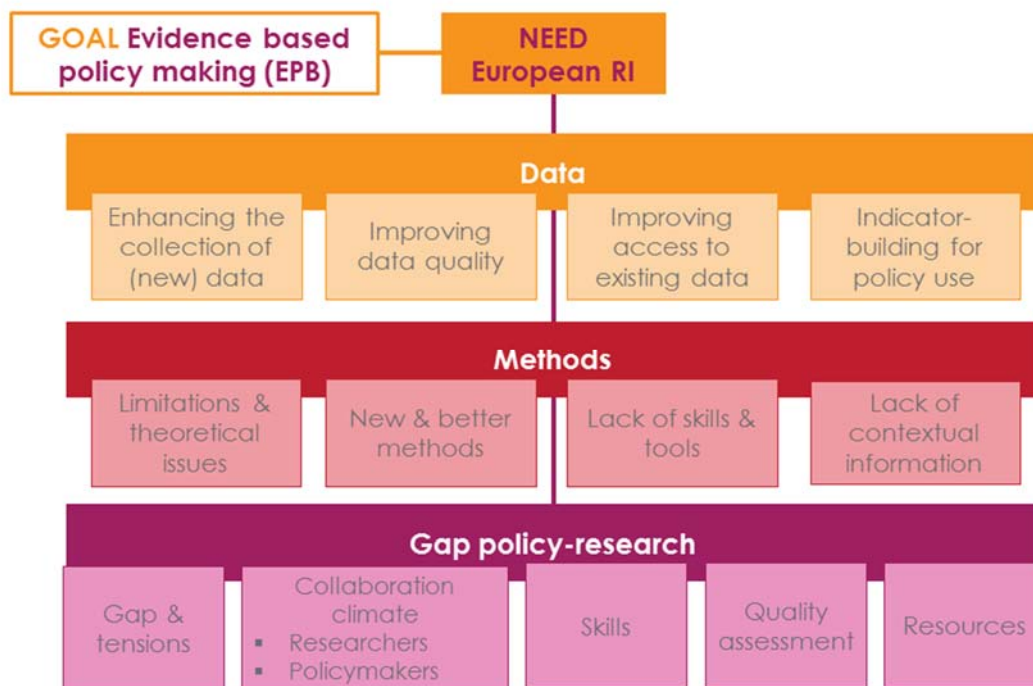


r = number of records.
 Source Own calculations

" And further, possibilities and methods for integration of "new" data sources with "old" data sources (sample surveys, register surveys). [73]"
 " Going towards mixed-mode designs (web plus other) using new technology and to fully benefit the registers etc. as auxiliary data and then in estimations methods. [417]"
 " Improve data availability & comparability and foster research on methodologies able to tackle the complexity and the interaction of different dimensions. [199]"
 " Invest in new methodologies and support of social experiments. [42]"

6. Bridging the gap between policy and research

Figure 6.1 Bridging the gap between policy and research brings along several challenges
 Dealing with the tensions between policy and research, improving the collaboration climate at the side of both policy makers and researchers and the linked willingness to bridge the gap, developing the necessary skills, providing means for quality assessment of the available evidence for policy makers and ensuring researchers and policy makers have sufficient resources at their disposal.



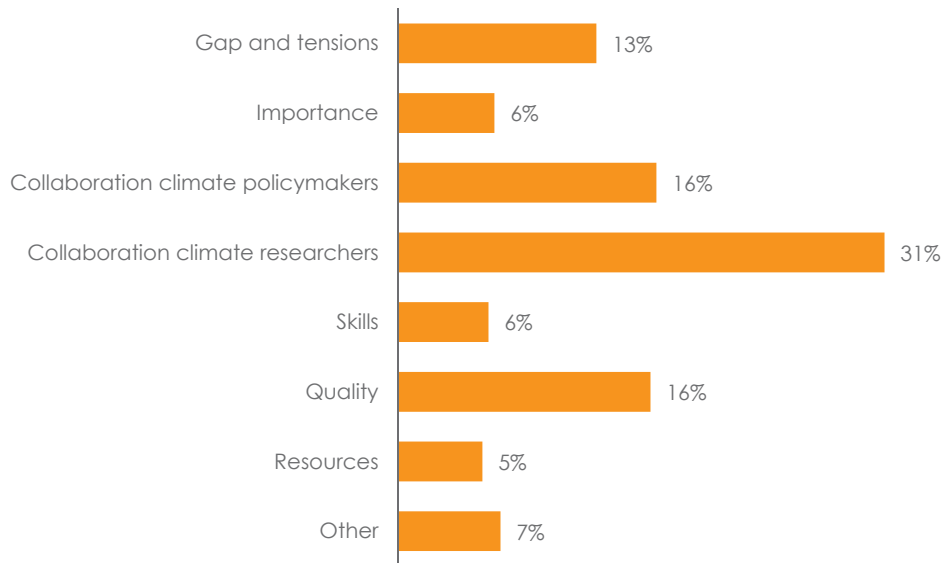
The gap between research and policy is a manifold discussed topic, which was also brought forward as a main issue within the expert survey in terms of valorisation problems. The experts named 261 valorisation problems in total, of which most (93%) can be related to this gap. In this part we will discuss issues related to bridging this gap between policy and research and the different challenges associated with it, such as the existing tensions between policy and research, the collaboration climate between academics and policy makers, the need for skills and resources to bridge this gap, and others (Figure 6.1). We start with some figures on the challenges mentioned by the experts.

6.1 The gap between policy and research in figures

A central finding from the survey (Figure 6.2) is the acknowledgement that there (still) is a gap between policy and research and that there is a need to build bridges between the two sides. Experts point out that there are existing tensions between policy and research (33 records), which should not be ignored, notwithstanding that valorisation of research - toward a broader non-academic public - should be of importance (16 records). The collaboration climate at both sides - policy makers

(43 records) and researchers (81 records) - and the willingness to bridge the gap is defined as the most important issue in this regard. It is furthermore important to see that the improvement of the collaboration climate at the academic side is defined as a bigger issue. A third aspect is the lack of skills to bridge the gap between policy and research, that is prominent at both sides (15 records), which can also be related to issues on the ability to assess the quality of the research done (42 records). A last important aspect is the lack of resources for and funding of valorisation (14 records).

Figure 6.2 Improving the collaboration climate at both the side of researchers and policy makers is the most mentioned challenge in bridging the gap between policy and research. Challenges related to the gap between policy and research (in percentages, $r=261$).



r = number of records.
Source Own calculations

There are some differences between the challenges mentioned by stakeholders (172 records) and academics (89 records). Both put the discouraging climate for collaboration and the related willingness of researchers to bridge the gap on the first place (58 records of academics and 23 of policy makers). For academics, the second most prevalent challenge relates to the collaboration climate at the side of the policy makers (32 records) and quality assessment issues are ranked third (23 records). Policy experts on the other hand put quality assessment issues on the second place (19 records), and the existing gap third (14 records). With exception of experts from the field of *labour market and precariousness*, all other experts most often mention the collaboration climate at the side of researchers as a challenge. Valorisation problems are most often mentioned by experts from *social policy and inclusion*, *inclusive growth* or *other* expertise fields (compared to the number of experts from each group) (Table 6.1).

Table 6.1 Both academics and experts from outside academia put the discouraging climate for collaboration and the related willingness of researchers to bridge the gap on the first place. With exception of experts from the field of *labour market and precariousness*, all other experts most often mention the collaboration climate at the side of researchers as a challenge
 Number of valorisation challenges (records) mentioned in total, by academics and non-academics and per expertise domain (frequencies).

	Total		Professional background		Expertise						
	Total records	Total records (%)	Academics (n=277)	Non-academics (n=94)	Inclusive growth (n=24)	Poverty and living conditions (n=51)	Social policy and inclusion (n=68)	Inequality and welfare state (n=73)	Working conditions, HRM, IR and vulnerability (n=60)	Labour market and precariousness (n=62)	Other (n=33)
Gap and tensions	33	12.6	19	14	2	5	8	6	5	6	1
Importance	16	6.1	12	4	4	2	3	3	2	0	2
Collaboration climate	43	16.5	32	11	4	4	13	8	6	5	3
Collaboration climate researchers	81	31.0	58	23	9	15	18	13	11	9	6
Skills	15	5.7	7	8	2	0	5	1	0	1	6
Quality	42	16.1	23	19	3	0	10	7	8	11	3
Resources	14	5.4	12	2	1	0	3	5	2	0	3
Other	17	6.5	9	8	0	1	6	4	2	1	3
Total records	261		172	89	25	27	66	47	36	33	27
% of total records			65.9	34.1	9.6	10.3	25.3	18.0	13.8	12.6	10.3

n = number of respondents, r = number of records).
 Source Results from expert survey

6.2 The existing gap and tensions between policy and research

The survey outcomes confirm that the gap between policy and research still exists, certainly in particular European countries. There is limited or no cooperation and communication between policy and research and a lack of mutual understanding at both sides. Beneath this gap we can see several tensions between research and policy.

" The mutual knowledge of policy makers and social scientists is still insufficient. In most European countries, policy makers don't know the contributive potential of research, while social scientists are unable to explain this potential in an intelligible and attractive way. [12]"

As a first element questions can be raised on the role of science. Should researchers and science focus on societal relevance and take responsibility in the discussion on societal issues; should science focus on excellence within its specific discipline; or should science try to link these two aspects? And whether time and space should be provided to researchers to do reflective work (ESF, 2013). In line with this discussion, there is also the question on whether valorisation is or should be an evaluation criterion of research. And if such is not the case, the question is whether valorisation activities can be expected from researchers. Some argue that publicly-funded research should provide some return on investment. In addition it is difficult to clearly assess the impact of research.

- " Academics are increasingly concerned with publishing in 'starred' journals and less with making a contribution to public policy. This is the main criterion for career advancement. The latter should become a 'requirement of the job'. [243]"
- " Even though policy related valorisation is accepted as a worthwhile activity in general terms it is not always a key criterion for academic advancement. [74]"
- " All publicly - funded research fields should provide return of investment and accumulated and running balances of (sunken cost) investment made and return measured. [4]"

Tensions exist furthermore between the policy and the research cycles and objectives, each having its own reality. While policy often is short-term oriented, looking for quick and ready-made solutions for existing problems in the real world from an interdisciplinary perspective, research is often long-term oriented and slow (but very precise), with a focus on very specific research questions and causalities within a disciplinary field. While researchers look for good and consistent statistics on phenomena, policy needs easy to use and understandable indicators to monitor specific trends in society. These differences hamper a good link and exchange between policy and research. This mismatch consequently also leads to frustrations at both sides: at the side of the researchers because their work is ignored or misused by policy makers, and at the side of policy makers since the input from research is too late or unrealistic (Sutcliffe & Court, 2005; Zimmermann, 2014). Balancing between the objectives of both research and policy will be of key importance in bridging the gap.

- " [There is a] need for common ground between the rigour (and therefore policy irrelevance) of much academic modelling, and the inevitable reverse in policy development. [208]"
- " [There is a] mismatch between policy and research cycles. [267]"

Another issue is the delicate line on which researchers have to balance while doing research commissioned by policy institutions or policy-related research in general. For one thing they have to comply with the expectations and questions of their funders, for another they have to safeguard the possibilities to do independent research (Zimmermann, 2014). Some experts question whether it is maybe better to leave some bridges between policy and research unbuilt. Maybe intermediate bodies (such as think tanks) can fill some of the gaps.

- " Real interest for independent scientific advice does not exist. Scientific advice is 'bought'. [241]"
- " There is a conformist attitude, so few dare to openly attack [...] policies. [54]"
- " [There are] too many state funded think tanks. [20]"

Finally some key elements are put forward by the experts to bridge the gap between policy and research. More efforts need to be made to involve relevant stakeholders in the whole process of research. Especially social partners such as trade unions, labour organisations, etc. Although it sometimes remains difficult to reach the relevant stakeholders, more cooperation between policy makers (and stakeholders) and researchers is crucial. Also suggestions for a channel or interface to bridge the gap are made.

- " More involvement of certain stakeholders is necessary (to get the message across). [42]"
- " Although I would add a concern that not enough is done by 90% of studies to ensure that valorisation involves the subjects of the research - workers, trade unionists and vulnerable workers. [52]"
- " [There is a] lack of medium in which to translate research into policy. [89]"
- " Maybe an interface (technical or human) between tools/results (producers) and audience (users) to be elaborated further. [147]"
- " Knowledge mobilisation is poorly understood by social science researchers and by policy makers. [355]"

6.3 Collaboration climate between researchers and policy makers

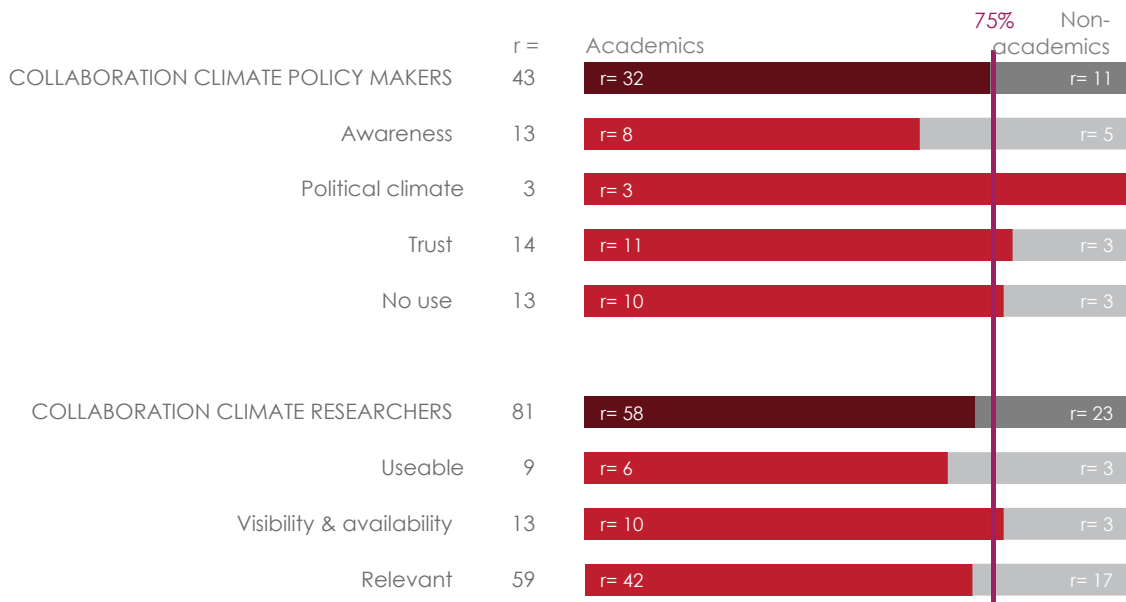
The existence of a positive collaboration climate between researchers and policy makers is an important issue in bridging the gap - to the extent that the gap should be bridged. A positive climate will enhance the willingness of both parties, as well as the facilities and opportunities to collaborate. The absence of this collaboration climate and aspects related to this (or hindering the development of such a climate) are discussed repeatedly by the experts. There are 43 records discussing issues

influencing this collaboration climate from the side of the policy makers (16.5% of all records on valorisation issues) and 81 on the side of the researchers (31% of all records on valorisation issues) (Table 6.1). In relation to their share in the survey (75% academics, 25% non-academics), both academics and non-academics equally bring forward the problem related to the collaboration climate from the side of policy makers and researchers (Figure 6.3). 74.4% of the issues from the side of policy makers are mentioned by academics, 25.6% by non-academics. Non-academics report a bit more often issues from the side of the researchers (28.4%), while 71.6% of the records come from academics.

Figure 6.3 Both academics and non-academics equally (in relation to their share in the survey) bring forward the problems related to a collaboration climate from the side of policy makers and researchers

The lack of awareness of available research outcomes and problems with the usability of research outcomes is relatively more often mentioned by non-academics. The political climate hampering the use of research outcomes by policy makers is only mentioned by academics (number of records and percentage of all academics versus non-academics mentioning issues related to the willingness).

Challenges related to the collaboration climate, by professional background (in frequencies).



r = number of records.
Source Own calculations

6.3.1 Policy makers

Next to the absence of a climate of collaboration and the willingness to collaborate in general, the experts identify four interesting factors that influence the collaboration climate at the side of policy makers and hampers their willingness to use input from research in the decision making process: a lack of awareness of the research results and their relevance, the political climate, absence of trust in the input from research and the non-use of results as such (Figure 6.3).

A first issue is the **lack of awareness** among policy makers of the existing research findings and the relevance of these findings for their practice. This lack of awareness is relatively more often mentioned by non-academics (38.5% of the records). This is also related with differences between policy makers and researchers in the attention that is given to topics. Secondly, the **political climate** can

influence the extent to which research outcomes are used. Also the high speed of the political cycle and the lack of coherence of policies over time are mentioned here. This latter issue is only mentioned by academics. Third, **the absence of trust in and openness** towards the results from research sometimes influences the willingness of policy makers to use these results. Finally, experts also point out that policy makers in some cases **decide not to use the input** from research (for various reasons). These experts cast thus doubts on the ‘real’ existence of evidence-based policy making.

- " Lack of willingness for governments to engage with researchers in order to understand their findings and the implications of their findings. [5]"
- " A lack of political interest in complicated and complex research results, rather than simplistic ones. [262]"
- " Political opposition (fewer directives wanted) [288]"
- " Enterprises, trade unions and politicians are not really interested in research. They prefer their own channels of communication. [241]"
- " Lack of political awareness of the importance of job quality and hence insufficient uptake and embeddedness of the existing EU-level data, indicators and knowledge on this issue. [261]"
- " Distrust of policymakers of researchers, in some cases justified by over-production/duplication of research. [192]"
- " Evidenced-base politics is more a dream than reality. [88]"
- " Power and influence kill scientific results. [317]"

6.3.2 Researchers

The discouraging collaboration climate from the academic side and the limited willingness to close the gap are however stressed even more strongly by the respondents. Again this is a challenge that is recognised by both academics and non-academics (Figure 6.3). As mentioned earlier, the **lack of incentives for valorisation** of research outcomes towards a non-academic public certainly is defined as an important determinant of this growing problem.

- " And almost as certain the lack of interest in communicating the research results by the researchers. This is partly driven by the incentives created for the academic researchers. [283]"
- " "Not knowing what policies policy makers want. [342]"

The next issue concerns **communication**. While researchers juggle with complex measures, extensive analyses and nuanced interpretations, policy makers in general prefer simple and straightforward measures that can easily be interpreted by everyone. Thus, in communicating results towards policy makers, researchers should also try to communicate in a simple and clear language, to increase the probability of their results being understood and used by policy makers and prevent misinterpretation and consequently misuse of their work.

- " Willingness to "keep things simple". [216]"
- " Communication... Policy makers and research speak different languages. [89]"
- " The distance between researchers and users is too large. There should be more direct communication to transport important insights and to avoid misinterpretations. [11]"
- " The researchers should be able to tell their main findings in a way that is possible to understand any ordinary politician as well. [417]"

A third element is the **visibility and availability of research output**. Experts report that relevant research findings all too often are not used simply because policy makers and other stakeholders don't know them, on the regional, national or EU-level. Researchers should invest more in making their results visible, to the policy makers and the general public. The public availability of and access to these results is related to this, as well as efforts to communicate the results through media used by a broader public (f.e. policy oriented journals, public media, etc.).

- " Easier access by everyone, including the general public, to the main results obtained through specific policy oriented papers. [151]"
- " Insufficient awareness of scientific/research findings on part of policymakers [192]"
- " Research teams in most universities are too small to participate in EU-research. Much information is lost between national research and the EU-level. [241]"

Ultimately the **relevance** of the communicated research outcomes plays a crucial role, as shown in the challenges named by the experts (59 records). From the records 71.2% of these relevance questions come from academics, 28.8% from non-academics. This need for relevance comes forward in many aspects.

Research output should be relevant for policy makers in terms of the **topical questions it answers**. Due to the difference in focus of research and policies, research questions can sometimes be too vague or too specific and detailed, making their broader relevance unclear. In communicating research outcomes to policy, researchers should keep in mind how their research relates to or can give answers to current policy questions.

- " Formulation of research questions (need to be reformulated into policy questions). [64]
- " Academic research is hardly related to the real-life, we build models that are not valid in real life situations so the general interest in research results is understandably low. [202]

The relevance can also be situated at the level of providing **timely and comparable** information. Research results are regularly based on data collected five or more years earlier. The information is often already too outdated for real use by policy makers. This can also be linked to the large time lag between data collection and data available with which researchers are generally confronted.

Similarly, research studies regularly focus on one or a few countries or regions for which a situation is thoroughly studied. The comparability and **generalisation** possibilities of these data are limited and unclear to policy makers, making it more difficult to properly use outcomes from studies.

- " Due to the lack of proper comparative data, country specific finding are not easily extended to other countries. [78]
- " Policy-related valorisation need to take in consideration countries' variation economically & demographically. [215] Time gap between policy and data availability. [348]

Indicators and tools constructed are not always considered as useful or relevant for policy making. Some tools are too vague and complex that it is no longer clear what they measure and how they can be used for non-experts in the field. Other tools are simply outdated to be used in the present-day context. Further policy makers prefer to have simple and clear-cut indicators and tools. However, it remains difficult to create these tools without oversimplifying the situation or losing too much critical information and nuances.

- " Many of the indicators used for evaluation are based on the old industrial society and not the way of today's work. [29]
- " [Tools are] too outdated for current answers to current problems. [194]
- " Tools are often "black boxes" that can only be utilised by experts. [125]
- " The use of the modern simple and clear analysis tools is still in the beginning stage. [69]
- " Research translated into policy is flawed and 'made easy'. [318]

6.4 Skills to bridge the gap

Bridging the gap between the world of policy making and research requires certain skills of both policy makers and researchers, to be able to communicate better with each other and understand tools and results. In the expert survey this issue is mentioned seven times by academics and eight times by non-academics (Table 6.1).

Experts often mentioned a need to improve the statistical and methodological knowledge of policy makers, people in public administration and other stakeholders. They should have more knowledge about the use of existing instruments: how does it work, under what circumstances, etc. This knowledge is necessary and will help to better understand the input that is given to them from

research, avoid misinterpretations and misuses, and allow them to better assess the quality and reliability of the input given.

- " Lack of understanding of policy makers of advanced statistical analysis. [224]
- " We should make efforts to improve the statistical literacy of decision-makers/stakeholders. [73]"
- " How does the instrument work: what does it do? Why does it work: how does it create value from knowledge? When does it work: under what circumstances does it work, and when not? [386]"

The experts also report a lack of skills at the side of the researchers to communicate in a good and understandable way towards stakeholders and public. This are for example general communication skills (as well as a willingness to communicate of course), such as presentation skills, skills to make simple and clear visual representations of results or statistical skills to construct a straightforward indicator, as well as a better understanding of the processes of decision making and context in which policy makers work.

- " We should improve our ability to report in understandable manner to decision-makers/stakeholders the results from complex statistical analyses and their interpretation, incl. reservations and cautions against over-interpretation. [73]"
- " Lack in communication skills from the academic publications to the public and media. [385]"

6.5 Quality assessment of provided evidence

The ability to properly assess the quality of research results will influence the probability of the results being used in policy making. Consequently, doubts on the quality, or the impossibility to full assess the quality of research is a large barrier for policy makers. There is a need for policy makers to be better informed (cfr. skills) and researchers to better report the conditions in which the research is done and clearly illustrate the reliability and robustness of the results and methods. More information on the limitations of research outcomes and methods, nuances and others can help policy makers to better assess the quality of the evidence they receive from research.

- " 'Excessive rigour' - e.g. unwillingness to forecast poverty since the modelling is imprecise and unreliable; whereas e.g. exchange rates are forecast despite the greater unreliability. This hobbles social policy compared to economic policy. [208]
- " Low developed quality assurance based on peer reviews. [6]
- " Conclusions of institutions X are drawn be on the basis own methodology and often are inconsistent with the conclusions of the entity Y. [234]
- " I have ethical concerns about the steps to randomised controlled trials in social policy, especially at EU level, where the European Commission does not seem to be aware of ethics issues. [414]

However, ideological influences, or the perception of ideological contexts in which research is done, can also give rise to doubts on the representativeness, validity and reliability of research results. Policy makers often struggle to assess whether the best or most fit approach is used to examine the topic, and what the assumption and limitations of the approaches are. The lack of clarity on some of these issues -again also related to skills - make it difficult for policy makers to discriminate between trustworthy research results and others.

- " "Ideological" contents (or perceived as such) of tools and models. [147]
- " Domination by implicit and unreflected ideological prejudice. [6]
- " They adopt research designs which are inappropriate for very complex special settings. [30]
- " Assessing single policies misses the complexity of the drivers on performance/behaviour etc. There is a need for tools to adequately characterise 'background' influences on policy success. [30]

6.6 Resources to bridge the gap

A final - but ever returning - issue is the lack of resources for valorisation or research outcomes towards stakeholders and the broader public. Budget for policy related research is too limited. Researchers lack the time and money to do these types of research. And within funded projects, even at national or EU-level, there is often not sufficient budget and time devoted to valorisation activities.

More and ongoing investments in policy-relevant research as well as the valorisation of research results are therefore certainly necessary to bridge the gap between policy and research. This initiative again needs to come both from policy makers (providing funding for this research) and researchers (devoting time and money to valorisation activities within a project).

- " The conditions for valorisation are limited - Insufficient time & money to do this well. Plus, performance is mostly measured in terms of publication; valorisation is valued much less. [2]
- " Too small available budgets for policy relevant scientific research. [177]
- " Available research data that could be used to answer interesting questions is not analysed, because there's no real "micro" funding on national or EU-level. [254]
- " There are insufficient resources and time given for impact evaluation, even nationally; cross-nationally it is even more difficult. [414]

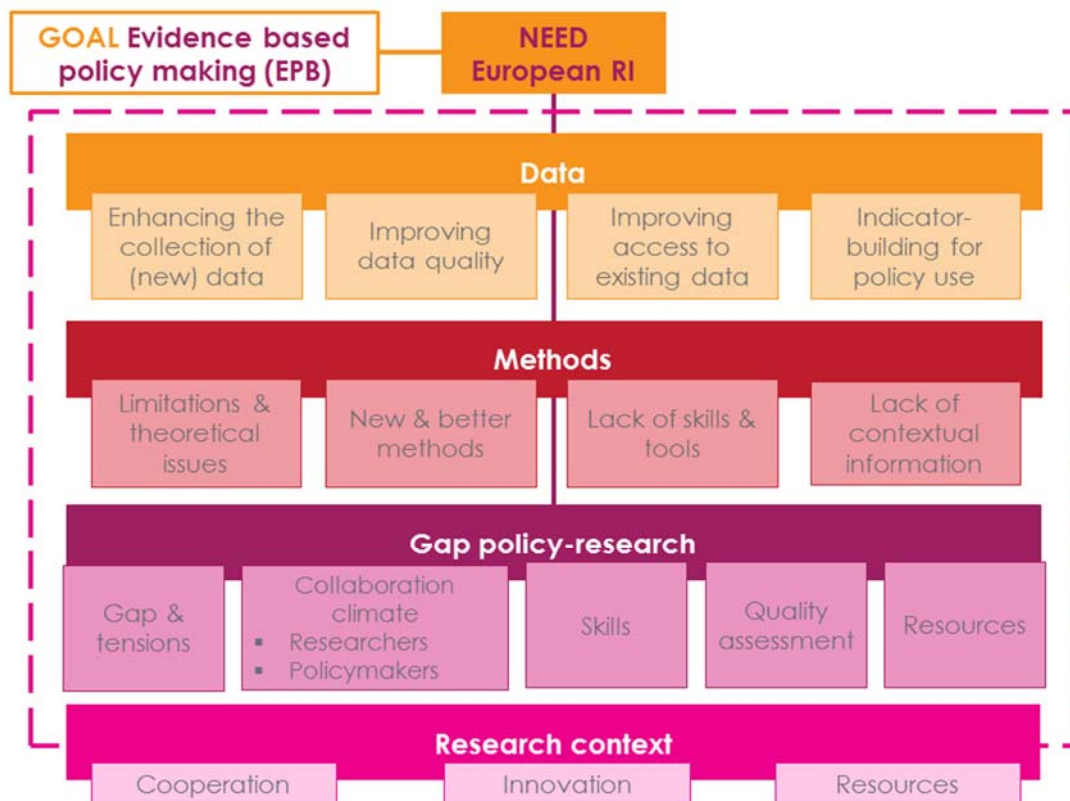
6.7 Priorities in dealing with the gap between research and policy

Only a few experts put the priority on the challenge to deal with the gap between policy and research (4%, 14 records). They suggest the use of specific projects, platforms and research programmes as important steps in bridging this gap. Further the need for skills and incentives for both policy makers and researchers is put forward.

- " Bridging the gap between academia, policymakers and centralized/coordinated data infrastructures (statistical offices) with coordinated research programs. [46]"
- " Integrating the academic research more widely with policy makers' knowledge and creating incentives to both side for putting time and energy into this. [283]"
- " Building expertise and capacity of policymakers directly; or building dynamic networks between policy-makers academics/experts to co-produce (technical and experiential) knowledge to inform policy. [125]"

7. Research context

Figure 7.1 Next to data, methodological and valorisation challenges the broader research context also plays a role in the creation of a European research infrastructure
Strengthening cooperation between disciplines, countries and stakeholders; enhancing the drive for innovation; and ensuring the availability of sufficient resources are the main challenges.



Between the answers to the questions on data or methodological challenges, we detected another category of opinions that we classified separately and deal with in this section. They relate to the broader organisational context of research, which also plays a role in the creation of a European research infrastructure. Strengthening cooperation between disciplines, countries and stakeholders; enhancing the drive for innovation; and ensuring the availability of sufficient resources are the three main topics which were put on the agenda by the experts in our survey (Figure 7.1).

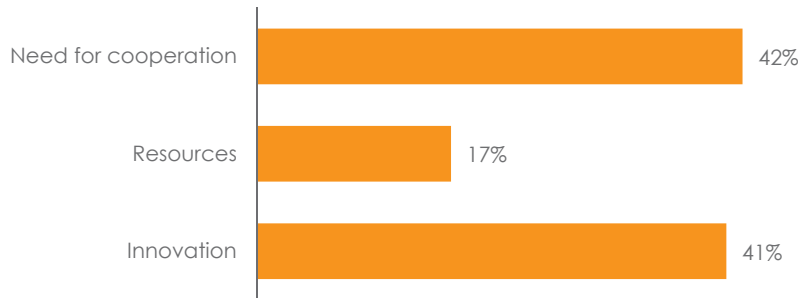
7.1 In figures

The main challenge that is formulated is the need for cooperation (30 records). Cooperation within social sciences should be increased between disciplines - which allows for more interdisciplinary use of methods - and across countries but also more cooperation between researchers and other stakeholders. Secondly the need for a more innovative approach is brought up (29 records). Some experts

discuss the decreasing resources for research and the impact of this trend on social sciences research (12 records) (Figure 7.2).

Figure 7.2 The need for cooperation (r=30) and for more innovation (r=29) two main challenges for the social sciences research community in general

In addition more resources are needed (r=12) to continue social sciences research. Challenges within the research context, in percentages (r=71).



r = number of records.
Source Own calculations

The most mentioned challenges by experts from *poverty and living conditions* and *labour market and precariousness* are the need for more innovative research and a focus on other topics. Experts from *inequality and welfare* research and from *other* research domains mention the lack of resources much more often than experts from other domains. The other experts (from *inclusive growth, social policy and inclusion, and working conditions, HRM, industrial relations and precariousness* research) see the need for cooperation as most important (Table 7.1).

Table 7.1 Number of challenges related to the research context (records) mentioned in total, by academics and non-academics and per expertise domain (frequencies).

	Total		Professional background		Expertise						
	Total records (frequencies)	Total records (%)	Academics (n=277)	Non-academics (n=94)	Inclusive growth (n=24)	Poverty and living conditions (n=51)	Social policy and inclusion (n=68)	Inequality and welfare state (n=73)	Working conditions, HRM, IR and vulnerability (n=60)	Labour market and precariousness (n=62)	Other (n=33)
Need for cooperation	30	42.3	20	10	5	1	7	5	10	1	1
Innovation	29	40.8	26	3	0	7	7	5	3	6	1
Resources	12	16.9	10	2	0	0	2	4	4	1	1
Total records	71		56	15	5	8	16	14	17	8	3
% of total records		100	78.9	21.1	7.0	11.3	22.5	19.7	23.9	11.3	4.2

n = number of respondents, r = number of records.
Source Results from expert survey

Younger and less experienced experts tend to mention the need for more innovation more often than older and more experienced experts. The lack of resources is more discussed by experts from liberal countries, while experts from Nordic countries mention more often the need for innovation and experts from Southern European countries stress the need for more cooperation more often.

7.2 Need for more interdisciplinary and international cooperation

The need for more cooperation in research is a key topic confirmed by the experts in our survey. More cooperation is describe as the high-road for progress in social sciences research and the way to tackle several challenges that the research community faces today and will be facing in the near future. Facilitating cooperation therefore is a major issue that needs to be addressed by a European research infrastructure for social sciences. This cooperation needs to be established and improved at several levels: more interdisciplinary research, more cooperation across European countries and more cooperation with other stakeholders.

Interdisciplinarity and multi-disciplinarity

Actual research topics of social sciences, such as poverty, social exclusion, ... are interwoven in the European societies and can be addressed from different perspectives which all put the attention to different aspects of the phenomenon, such as economics, social sciences, life sciences, and etc. Consequently research studies from different disciplines all bring forward their specific recommendations for policy, different challenges, different causalities, ... Studying these phenomena from a more interdisciplinary or multi-disciplinary perspective will allow researchers to get a more holistic view on the issue and better understand certain changes and trends. In addition the increasing complexity of data and methods necessitate more cooperation between statisticians, methodologists and social scientists. More cooperation will also allow for an increasing mix of methodologies which allow studying the phenomena more in-depth and compensating the limitations of individual methodologies.

Today however there is still too little interdisciplinary research. It remains difficult to encourage researchers from different disciplines to work together in a project - despite some requirements for interdisciplinary teams from certain funding agencies. Multi-disciplinarity is often not sufficiently valued and recognized since it does not allow the scientist to profile him/herself clearly within one discipline or field. Academic careers are still too often developed in one field or discipline and interdisciplinarity is more a shortcoming than an added value in this respect. The academic community needs to invest more in promoting interdisciplinarity, starting already with providing exchange programs, visiting grants, fellowships, ... for younger researchers to widen their view and facilitate a multi-disciplinary approach.

- " Existing tools necessitate multi-disciplinary approach (no single person can both master theoretical knowledge of the field with methodological expertise needed to do 21st century research). [307]"
- " Separation (e.g. No linking together of initiatives focussing on the same field). [110]"
- " Rather difficult cross-linking between different disciplines (economic, social). [128]"
- " Interdisciplinary research is not sufficiently legitimized in academy. [159]"
- " Cross disciplinary research is dwindling in reality, despite the lip service paid on its behalf. Scientists remain closed within their field of experience, since this is the safest way get funding. [241]"
- " Promoting exchanges, co-protections, visiting grants, grant and fellowship especially for younger researchers and unstructured. [283]"

Researchers also struggle with ways to integrate different methods and techniques from different disciplines and research traditions. Facilitating this integration can be an important challenge for a European research infrastructure.

- " How to better integrate ways/techniques for data analysis from different research traditions (e.g. Sociology, psychology, epidemiology, econometrics). [130]"
- " Getting together research traditions (quantitative and qualitative). [213]"

" In lots of research it would make sense to combine qualitative and quantitative methods to gain more insight. Model oriented economic research that neglects the subjective perspective could benefit here a lot. [254]"

International cooperation

Between European countries cooperation needs to be improved as well. Experts acknowledge that this cooperation should be encouraged by funding agencies. However it still remains difficult to ensure international cooperation. Competition and communication (and language) problems play a role here. Despite those difficulties more cooperation is necessary to understand inclusive growth from a European perspective. Studying phenomena in different countries and comparing and bring together the findings can allow valuable spill overs of best practices and a better understanding of the differences and communalities across countries. This international bird's eye view is necessary to develop good European policies.

" Difficulties in international collaborations as it should be implemented and sponsored the formation of research networks especially with the weakest points in this direction (for example Italy, Spain, etc.). [289]"

" How can we make sure that researchers working in the same fields in different countries come to know each other's research topics and results? [269]"

" Lack of cooperation at international level. [374]"

" Much competition between (and inside) universities: not enough cooperation to really work on a European scale. [241]"

Cooperation throughout the value-chain

Finally the cooperation between researchers and other stakeholders needs to be fostered. Tackling the current gap between policy and research requires more cooperation between policymakers and researchers from the start of a research project. Cooperation between data collectors and scientists will help to improve the fit between the collected data and the data needs.

" Lack of "strong interdisciplinarity" (i.e. inter-sectoriality): the cooperation between data scientists and social scientists is still in its infancy. [12]"

" Researchers and policy makers should be more encouraged to perform together randomized controlled trials on policy relevant issues. [283]"

" Lack of cooperation between practitioners and academic researchers. [374]"

" Relative isolation of economic and social analytical methods and academic/policy worlds. [400]"

7.3 Innovation

Some experts speak of problems regarding the current focus of research in social sciences. They mention among others a too large focus on individual behaviour and on causal effects. Others list some elements to which the social sciences community should give more attention. These topics are all rather specific for an expertise domain, but despite the specificity we can notice a general need for a shift of the focus within social sciences. More specifically less rigour (in following the dominant traditions) and more openness (for different approaches, multi-disciplinarity, and etc.) are needed when studying social phenomena.

" Too great a focus on individual behaviour. [382]"

" The tendency of social sciences to fragment into different research paradigms. [355]"

" Dominance of statistically elaborated quantitative comparative studies with no qualitative, in-depth scrutiny. [292]"

" Only causal effects count. [270]"

" Insufficient attention to the dynamic nature of work and employment (too much static analysis which gives insufficient attention to how and why things like wages change for an individual over time). [201]"

" A lack of interest for individuals "self-perception". [80]"

7.4 Resources

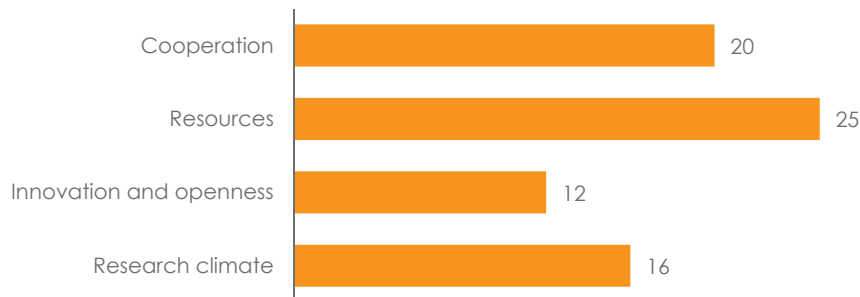
The decreasing funding for research makes it more and more difficult for researchers to obtain proper funding for projects. Many researchers go from one to another project without sustainable funding. Especially long-term funding is necessary to allow for the creation of a sustainable infrastructure and sustainable tools for current and future research.

" Steeply decreasing funding for fundamental research. [241]"
" Efforts necessary to get projects funded. Researchers that struggle to make their living from project to project can't work on proposals half-time. [254]"
" Lack of long-term funding instruments of some form, to ensure sustainability of infrastructures/tools and making the most of investments that have been made. [74]"

7.5 Priorities

About one fifth of all priorities mentioned by the experts concern the broader context in which research is done (73 records). Among them 20 experts discuss the need for more cooperation, 25 experts point towards a lack of resources within social sciences, 16 other experts discuss the existing climate in which research is done and 12 mention the need for innovation and openness (Figure 7.3).

Figure 7.3 The main priorities regarding the context in which research is done is the general lack of resources (r=25) and the need for more cooperation (r=20)
Other priorities a need for more innovation and openness of research done today (r=12) and issues regarding the research climate (r=16).
Priorities regarding the research context, in frequencies (r=73).



r =number of records.
Source Own calculations

Cooperation

Improving and enhancing the cooperation between researchers from different disciplines and countries, and between researchers and other stakeholders during the whole research project is an important challenge to which priority should be given. In addition the development of easy-to-use and easy-to-access platforms (online or other) for researchers as well as other involved parties can be an important step in improving the cooperation.

" Broader involvement of researchers from different backgrounds when discussing the further development of data sources. [133]"
" Try to involve in all the steps of the process a broader and more diverse group of researchers and users of data and outputs. [168]"
" Provide platform for discussion and exchange of ideas between researchers at different levels, involving policy makers as well. [195]"
" Creating multi-disciplinary and multi actor (practitioners and scholars) research areas - an inclusive research strategy. [213]"
" The construction of a network of researchers with topic-related sub-networks. [366]"
" Collaboration and open data, shared analysis and database. [418]"

Resources

The availability of sufficient resources is another priority that is put forward. Funding and especially long-term funding is necessary to develop strong international networks, set up proper data collections (with longitudinal data, several waves of cross-sectional data collections, proper sample sizes, well developed questionnaires, etc.), and in-depth research on relevant social phenomena. Good training opportunities for researchers need to be provided to ensure the researchers of today and tomorrow have the necessary skills to deal with the available data and look for answers on contemporary social problems.

- " Investment funds both for research and for training and mobility of researchers. [289]"
- " Facilitate the funding of data providers because no research is possible without data. [270]"
- " To insure the sustainability (broadly conceived: not only financial, but including people training etc.) of those RIs. [12]"
- " Providing long-term funding for international research networks. [16]"
- " Closer partnership and funding for social science academics, active research providers and InGRID project to cooperate to improve these areas of validation, and to ensure that the importance of evidence based research based on the methods of the applied social sciences is valued and understood. [343]"

Innovation and openness

Several experts point out that innovation and openness are key to progress within social sciences research. A continuous urge to keep innovating and to be open for change, for new methods and new perspectives needs to be encouraged across the research communities and young researchers should be taught on the importance of these skills and attitudes. International and multi-disciplinary cooperation can also play a role in this socialisation.

- " Allow for greater debate in economics about alternative methods, perspectives and paradigms. [25]"
- " Holistic long-term perspective on EU populations' socio-economic development (beyond GDP). [400]"
- " Directions must change, the focus on providing solutions and services for vulnerable groups. Therefore it would be recommended to use existing data to obtain solutions, not only to be studied the groups and the problems. [1]"
- " Think out of the box! Research alternatives, and be inspired by what is done outside of Europe. [394]"

Climate

Finally a climate in which European cooperation and integration of research activities at a European level is put forward. Developing a European framework, integrating the expertise and tools that already exist across the Member States will allow the involved European research communities to bundle forces and make mutual progress.

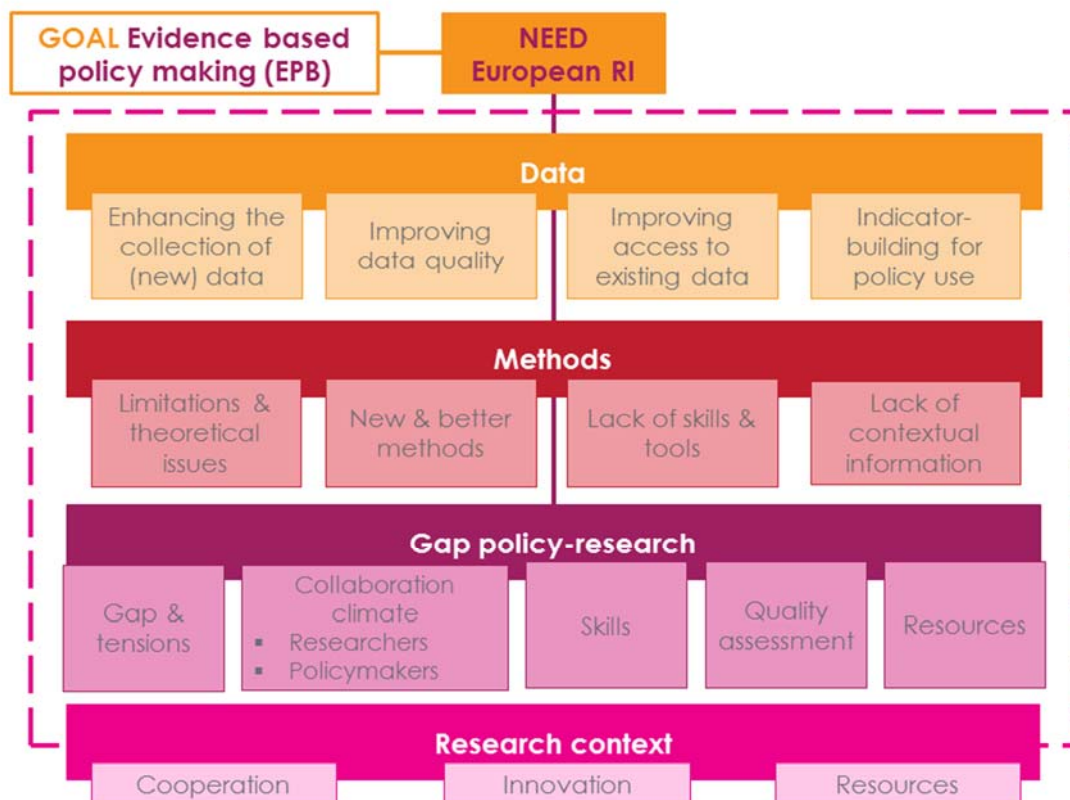
- " To define a "European framework" (with common objectives and tools accessible by all EU research institutions) for research on social inclusion and social innovation. [79]"
- " Bringing existing resources together in an integrated system, improve access and use of research infrastructure. [128]."

8. Conclusions

The central question of this report was: “What are challenges that the European research community on inclusive growth needs to address to develop a European research infrastructure which will foster evidence-based policy making?” In plain words: what is necessary so that researchers can develop evidence which afterwards is used by policy makers in their decision making on this matter? What goes wrong today? What should be improved? Can we find some common ground on these challenges across Europe?

Aiming to get a broad view on all existing perspectives of relevant stakeholders on this issue, we surveyed a sample of European experts within different scientific fields related to inclusive growth. We strived for and obtained a diverse sample including both academics as experts from outside academics, younger and very experienced people and coming from across Europe. Diversity was the main and accomplished goal of this purposive sampling strategy.

Figure 8.1 There are four main challenges which the European research community needs to deal with to create a European research infrastructure on inclusive growth, which fosters evidence-based policy making.



The mainly qualitative analysis of the survey responses resulted in a classification of the reported challenges in four dimensions: data, methods, the gap between policy and research and the research

context. For each of these main challenges several important issues can be identified which need attention and actions. Figure 8.1 gives an overview of these challenges and the issues that need to be tackled.

Data should be the main priority: more and better data are necessary for high-quality comparative research

Data are clearly the main priority for the European research infrastructure. This data challenge is to be divided in four main issues or needs for the future. A first issue is the need to enhance the collection of new data. More data are necessary, and more diversity in data that are collected is important. Linked with this existing barriers for data collection threaten the quality of current data collection efforts. Attention for data quality - at various levels and from various perspectives - is a second important need. The main quality issue to be tackled is improving the comparability of data across Europe, as well as across surveys, studies, etc. Other quality issues should also be given more attention. Linkage of data is brought forward as a possible method to improve data quality. Thirdly more efforts need to be done to improve the access to existing data. Easy and timely access to data, linked with creating a culture of sharing within the research community is important. Together with more access also the documentation of data and tools and platforms to find (and preserve) data should be an aspect of attention for all researchers and data collectors. Finally an additional challenge can be put forward, namely indicator-building for policy use for which high quality data are necessary. The same challenges of timely access, high quality and more data are of concern here.

Improvement of methods and researchers' (methodological) skills must go and in hand with more and better data

Existing methods and theories come with their sets of limitations and are not always suitable to answer current research questions or deal with existing data quality problems. Awareness of these limitations and the development of new and better methods should therefore be high on the agenda of methodologists and other researchers. Next to that continuous attention for the development of proper research and methodological skills of young people and continuous knowledge exchange to keep these skills up to date is crucial to arm the research community with the necessary tools to address future research topics and policy questions.

Bridging the gap between policy and research is a challenge to be tackled both by policy makers and researchers

A gap exists between policy and research. Although experts from both sides agree that this gap is an important challenge for the future - especially looking to the goal of evidence-based policy making - bridging this gap is and will not an easy exercise. Given the existing tensions between policy and research and the differences between the policy and research cycle it even remains to be discussed whether and to which extent the gap has to be closed. Bridging the gap will be a challenge for both policy makers and researchers. A first issue relates to the need to create and improve a climate of and for collaboration, which fosters the willingness of both groups to communicate and cooperate with each other and really strive for evidence-based policy making. The lack of the necessary skills at both sides to work together and understand each other properly is another obstacle to be removed. Improved possibilities to assess the quality of research will aid to increase the use of research results by policy makers. Finally, an ongoing investment in policy relevant research and the necessary valorisation activities is factor that all parties should not lose track of. Despite all these challenges, experts agree that bridging this gap is important:

" To provide policy-makers (but also relevant stakeholders) with easy-to-use tools and instruments which enable them to make evidence based decisions, to choose between more options knowing and better understanding their likely effects.(For example, quantitative impact assessment of policy measures using various simulation models.) [207]"

A research context that encourages cooperation and innovation and provides the necessary resources should be created.

Cooperation and innovation are two key words for the future. This is the case for companies and organizations, but is not less true for a research community. Improving the international and interdisciplinary cooperation between researchers and research groups has been on the agenda for some time and some efforts are done, but the establishment of structural and strong cooperation across Europe is not been reached yet. Next to that the cooperation between academia and other stakeholders also has a large way to go. For innovation the same can be said. Everyone knows this 'magic' word, but efforts still need to be done to create more and real openness and room for innovation. Resources - in other words: funding - long term and structural - are necessary and crucial.

8.2 It starts with data

Whether we like it or not, data are the starting point for much research, and most certainly for research which can give input for evidence-based policy making. Data are the start. As extensively pointed out by experts in our study, this should not only concern the collection of new data. For sure we need continuous collection of new data to be able to study new phenomena, evolutions within time, progress, the impact of policies, etc. But next to that serious gains can be made in putting more effort to the harmonisation of data across Europe - and the formulation of advices for future, harmonised and more comparable data collections - and the improvement of widespread, easy and timely access to existing data. The quality issues of data can be addressed through more attention for quality in the data collection, but also through the development of methods to deal with these problems, and other (innovative) solutions such as data linkages.

Progressing towards a European research infrastructure on inclusive growth starts with a strong focus on the data, but goes hand in hand with the development and improvement of methods, training and knowledge exchange on these data and methods and community building which includes not only the European researchers from different disciplines, but other relevant stakeholders as well. In addition investing (efforts and money) in building bridges and a collaborative climate between policy makers and researchers needs to be increased.

" Transnational and cross-disciplinary knowledge exchange, data accessibility, and measurement consistency. [285]"

" Accuracy on data, experience of the people analysing them and knowledge of the various instruments for valorisation (or lack of knowledge). [386]"

appendix 1 Questionnaire first round of expert survey

a1.1 Introduction part of survey

Dear participant

Many thanks for your participation in our survey.

Practical instructions

For most questions, sufficient space is provided to enter your answers. For other questions it is sufficient to tick your answer of choice. When you answered all the questions on the screen, you can tick the box 'next'. If you did not answer one of the questions, it might be possible that you receive an error message. Please do fill in this question (indicated in red).

This survey contains open questions which you might want to give some time of consideration. You can look at the questions in the survey using the 'next' and 'previous' buttons. By ticking the box 'send' at the end of the questionnaire, your response is registered.

Privacy statement

All collected information will be used only by KU Leuven-HIVA within the framework of this research and will not be handed over to a third party. Responses will be analysed and reported anonymously.

If you encounter any difficulties with this survey, or if you would like more information regarding the survey, please contact us (lise.szeker@kuleuven.be).

Kind regards on behalf of InGRID,

Guy Van Gyes
Coordinator of InGRID

[Privacy](#)

a1.1 Part 1: Your expertise

First we would like to ask you about your (research) expertise related to the European topic of inclusive growth:

What is your main area of expertise? (Broad area)

- Inclusive growth
- Poverty and living conditions
- Social policy and inclusion
- Inequality and welfare state
- Working conditions, HRM, industrial relations and vulnerability
- Labour market and precariousness
- Other: *<open field>*

What is your current/last job description?

- Research job
- Other: *<open field>*

What is your research experience (if research job)?

- Junior researcher
- PhD candidate
- Post-doc
- Senior researcher
- Assistant professor
- Associate professor
- Full professor
- Distinguished professor
- Other: *<open field>*

How many years of work experience do you have in this time of job and the field of inclusive growth?
(If other)

- 0-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- More than 20 years

Could you specify your particular field of expertise some more? Please write some keywords here.

What is your main scientific field?

- Economics
- Business
- Sociology
- Political sciences
- Educational sciences
- Law
- Demography
- Psychology
- Mathematics
- Statistics
- Humanities
- Other: *<open field>*

a1.2 Part 2: The future research agenda <not if field of expertise = other>

In this part we would like to explore your opinion about the future agenda for research on **<your field of expertise>**. Which topics, related to **<your field of expertise>** will become prominent in European research? Which research topics will be key in the next 5 to 10 years?

What are to your opinion the three main drivers that will provoke the most important changes in Europe in the next 10 years regarding **<your field of expertise>**?

- Main driver 1: *<open question>*
- Main driver 2: *<open question>*
- Main driver 3: *<open question>*

What are to your opinion the five research topics related to **<your field of expertise>** that will be key in the next 5 to 10 years?

- Topic 1: <open question>
- Topic 2: <open question>
- Topic 3: <open question>
- Topic 4: <open question>
- Topic 5: <open question>

a1.3 Part 3: Research infrastructure needs

A European research infrastructure is a facility or platform that provides the scientific community with researchers and services to conduct top-level research in their respective fields. In plain words it is about 'facilitating' research.

In this section we would like to ask you to think about what kind of research infrastructure is necessary to develop European top-level research in your field of expertise? Especially we want to receive input from you on which aspects of the research infrastructure are missing or problematic, and need to be developed or definitely improved. Infrastructure can relate to data, methods and tools of valorisation.

What are to your opinion the main problems with currently available data within your domain of expertise in Europe?

Please write down maximum 3 key data problems, being as specific as possible.

- Data problem 1: <open question>
- Data problem 2: <open question>
- Data problem 3: <open question>

What are to your opinion the main problems with the current tools and instruments for analysis and interpretation for European researchers within your fields of expertise?

Please write down maximum 3 key methodological problems, being as specific as possible.

- Methodological problem 1: <open question>
- Methodological problem 2: <open question>
- Methodological problem 3: <open question>

What are to your opinion the main problems with the current tools and instruments for policy-related valorisation for European researchers within your fields of expertise?

Please write down maximum 3 key valorisation problems, being as specific as possible.

- Valorisation problem 1: <open question>
- Valorisation problem 2: <open question>
- Valorisation problem 3: <open question>

Looking at your previous answers, what is to your opinion the main priority to tackle for the European research infrastructure within your domain of expertise?

- Priority: <open question>

a1.4 Part 4: Background information

Your gender?

- Female
- Male

Your age?
<Open field>

Country in which do you work?

- Austria
- Belgium
- Bulgaria
- Croatia
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Ireland
- Italy
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- Poland
- Portugal
- Romania
- Slovakia
- Slovenia
- Spain
- Sweden
- United Kingdom
- Albania
- Bosnia and Herzegovina
- Faroe Islands
- Iceland
- Israel
- Liechtenstein
- Former Yugoslav Republic of Macedonia
- Montenegro
- Norway
- Serbia
- Switzerland
- Turkey
- Other: <open field>

Do you have any comments about this questionnaire? Please indicate them here.
<Open question>

This questionnaire is part of a Delphi expert survey. The second round of the survey will include a short voting on the aggregated results as an extra, but very important step of validation. The quality and usefulness of this Delphi survey will greatly improve by your participation to this second round. May we contact you again by e-mail for this second survey round? Many thanks in advance

- Yes, you can contact me
- No, so I will receive no feedback on this survey

We would like to ask you to fill in your e-mail address on which we can contact you again.

<Open question>

This information will be disconnected from your answers to the questionnaire and only be used to contact you in a later stage with the main conclusions of the first round and a link to the second survey round.

appendix 2 Invitation letter first round of expert survey

Dear Madam, Sir

As a recognised expert in the field, we kindly invite you to participate in the futuring survey of the InGRID research infrastructure.

What is InGRID?

InGRID is an EU FP7 project built around a research infrastructure. A European research infrastructure is a facility or platform that provides the scientific community with resources and services to conduct top-level research in their respective fields. In plain words: it is about ‘facilitating’ research.

The InGRID infrastructure is connected to the social sciences community that wants to make an evidence-based contribution to the EU2020 policy target of inclusive growth. More broadly defined, this research community is focusing on social in/exclusion, vulnerability-at-work and related social and labour market policies from a European comparative perspective. It is about poverty research, labour studies, policy analysis and social statistics. Key tools in this social science research are all types of data: administrative data, census data, and surveys on income, quality of life or working conditions, policy indicators, ...

The Delphi expert survey

An important part of the InGRID project is to map the future demands and challenges of the mentioned European research infrastructure. As a first step to this exercise, we organise a brief Delphi web-survey. We want to kindly invite you as recognised expert to participate in this survey. The Delphi method includes two rounds. In a first round we map ideas and opinions. A second round is dedicated to validating the results by a voting procedure.

Could you please fill in the first, mapping questionnaire by clicking the following web-link:
<https://websurvey.kuleuven.be/index.php/966594/lang-en>¹¹

Answers will be treated in full confidentiality. Participation takes about 20 minutes.

Thanks in advance for your much appreciated expert input!

Guy Van Gyes & Lise Szekér
Co-ordination team

¹¹ This is the link to the open version of the survey.

appendix 3 Node trees for coding challenges in survey response

1. Data challenges

A. General data issues

- a. Data collection
 - i. Missing data
 - General need
 - Other kinds of data
 - Linked data
 - Longitudinal data
 - Topics
 - ii. Barriers
 - Costs and legal issues
 - Organisational issues
 - Context and politics
 - European initiatives
- b. Data quality
 - i. General
 - ii. Comparability & harmonisation
 - iii. Coverage
 - iv. Detailed data
 - v. Sampling
 - vi. Longitudinal data
 - vii. Linking data
 - viii. Fit
 - ix. Other issues
 - Non-response & missing
 - Validity & reliability
 - Quality
 - Datasets
- c. Access
 - i. Availability
 - ii. Timely
 - iii. Costs & privacy
 - iv. Finding data
 - v. Documentation

B. Data issues for policy making

- a. Indicator building
 - i. Access problems
 - Timely
 - Simple
 - ii. Lack of data

iii. Quality issues

C. *Other data issues*

2. Methodological challenges

A. *Limitations*

- a. Limitations
- b. No agreement
- c. Misuse
- d. Replication

B. *Theoretical issues*

- a. Frameworks
- b. Overreliance
- c. Complexity
- d. Incorrect

C. *New methods*

D. *Skills & tools*

- a. Skills
 - i. Lack of people
 - ii. Lack of skills
 - iii. More training
- b. Tools

E. *Context*

F. *Other*

2. Valorisation challenges

A. *Gap*

B. *Importance*

C. *Willingness*

- a. Policy makers
 - i. Awareness
 - ii. Climate
 - iii. Trust
 - iv. No use
- b. Researchers
 - i. Useable
 - ii. Available
 - iii. Relevant

D. *Skills*

- c. Policy makers
- d. Researchers

E. *Quality*

F. *Resources*

G. *Other*

3. Challenges in the research context

A. Cooperation

B. Innovation

C. Resources

4. Priorities

A. Data priorities

a. Lack of data

b. Data quality

c. Access

d. Indicators

B. Methodological priorities

a. Limitations

b. New methods

c. Theoretical issues

C. Valorisation priorities

D. Priorities regarding the research context

appendix 4 Tables on descriptives and background variables

a4.1 Tables on gender, age and country in which respondents work

Table a4.1 Frequency table men and women (n=303*)

Gender	Frequency (n)	% (n)
Women	150	49.50
Men	153	50.50
Total	303	100

* From 68 participants the gender is unknown.
n = number of respondents.
Source Own calculations

Table a4.2 Frequency table age distribution, in total and by gender (n=303*)

Age group	Total (n)		Men (n)		Women (n)	
	Frequency	%	Frequency	%	Frequency	%
- 30 years	25	8.25	11	3.63	14	4.62
30-39 years	77	25.41	30	9.90	47	15.51
40-49 years	86	28.38	48	15.84	38	12.54
50-59 years	63	20.79	33	10.89	30	9.90
60-69 years	44	14.52	26	8.58	18	5.94
70+ years	8	2.64	5	1.65	3	0.99
Total (n)	303	100	153	50.50	150	49.50

* From 60 participants the age is unknown.
n = number of respondents.
Source Own calculations

Table a4.3 Frequency table country in which respondent works (n=311*)

	Total (n)			Total (n)	
	Frequency	%		Frequency	%
Countries of the EU			Countries of the EU		
Austria	8	2.57	Italy	30	9.65
Belgium	39	12.54	Latvia	0	0.00
Bulgaria	1	0.32	Lithuania	5	1.61
Croatia	0	0.00	Luxembourg	10	3.22
Cyprus	2	0.64	Malta	0	0.00
Czech Republic	0	0	Netherlands	25	8.04
Denmark	6	1.93	Poland	5	1.61
Estonia	3	0.96	Portugal	5	1.61
Finland	7	2.25	Romania	7	2.25
France	17	5.47	Slovakia	1	0.32
Germany	30	9.65	Slovenia	2	0.64
Greece	6	1.93	Spain	13	4.18
Hungary	7	2.25	Sweden	11	3.54
Ireland	14	4.50	United Kingdom	34	10.93
Associated countries			Associated countries		
Albania	5	1.61	FYR Macedonia	2	0.64
Bosnia and Herzegovina	0	0.00	Montenegro	0	0.00
Faroe Islands	0	0.00	Norway	3	0.96
Iceland	0	0.00	Serbia	2	0.64
Israel	0	0.00	Switzerland	1	0.32
Liechtenstein	1	0.32	Turkey	2	0.64
Countries outside Europe			Countries outside Europe		
Outside Europe	4	2.25			

* From 60 participants the country in which he or she works is unknown.

n = number of respondents.

Source Own calculations

Table a4.4 Frequency table country groups (n=311*)

Country group**	Total (n)		Men (n)		Women (n)	
	Frequency	%	Frequency	%	Frequency	%
Liberal countries	47	15.51	30	9.90	17	5.61
Nordic countries	26	8.58	17	5.61	9	2.97
Continental countries	123	40.59	68	22.44	55	18.15
Southern countries	56	18.48	23	7.59	33	10.89
New Member States	31	10.23	10	3.30	21	6.93
Non EU countries	13	4.29	3	0.99	10	3.30
Outside Europe	7	2.31	2	0.66	5	1.65
Total (n)	303	100	153	50.50	150	49.50

* From 60 participants the country is unknown.

** Liberal countries = United Kingdom & Ireland; Nordic countries = Norway, Denmark, Finland & Sweden; Continental countries = Austria, Luxembourg, France, Netherlands, Germany & Belgium; Southern countries = Portugal, Greece, Spain, Cyprus & Italy; New Member States = Bulgaria, Slovakia, Slovenia, Estonia, Lithuania, Poland, Hungary & Romania; Non EU countries = Liechtenstein, Switzerland, FYR Macedonia, Serbia, Turkey & Albania; Outside Europe = Australia, Canada, Malaysia, Belarus & Georgia.

n = number of respondents.

Source Own calculations

a4.2 Tables on professional background of respondents

Table a4.5 Frequency table on functions (n=371)

Function	Frequency (n)	% (n)
Academic	277	74.66
Non-academic	94	25.34
Total	371	100

n = total number of respondents

Source Own calculations

Table a4.6 Frequency table on expertise domain by function (n=371)

Expertise domain	Total (n)		Academics (n)		Non-academics (n)	
	Frequency	%	Frequency	%	Frequency	%
Inclusive growth	24	6.47	13	3.50	11	2.96
Poverty and living conditions	51	13.75	40	10.78	11	2.96
Social policy and inclusion	68	18.33	45	12.13	23	6.20
Inequality and welfare state	73	19.68	63	16.98	10	2.70
Working conditions, HRM, industrial relation and vulnerability	60	16.17	44	11.86	16	4.31
Labour market and precariousness	62	16.71	46	12.40	16	4.31
Other expertise domain	33	8.89	26	7.01	7	1.89
Total (n)	371	100	277	74.66	94	25.34

n = total number of respondents.

Source Own calculations

Table a4.7 Frequency table on main scientific field(s) (r=552)

Expertise domain	Total (r)		Academics (r)		Non-academics (r)	
	Frequency	%	Frequency	%	Frequency	%
Sociology	170	30.80	136	24.64	34	6.16
Economics	122	22.10	87	15.76	35	6.34
Humanities	59	10.69	39	7.07	20	3.62
Political science	50	9.06	33	5.98	17	3.08
Business studies	29	5.25	18	3.26	11	1.99
Psychology	20	3.62	13	2.36	7	1.27
Educational sciences	17	3.08	11	1.99	6	1.09
Social policy	16	2.90	7	1.27	9	1.63
Demography	13	2.36	10	1.81	3	0.54
Mathematics	13	2.36	5	0.91	8	1.45
Law	9	1.63	2	0.36	7	1.27
Health sciences	8	1.45	8	1.45	0	0.00
Other fields	7	1.27	7	1.27	0	0.00
Industrial relations - work sciences	6	1.09	5	0.91	1	0.18
Statistics	5	0.91	4	0.72	1	0.18
Computer science - ICT	4	0.72	2	0.36	2	0.36
Research methodology	4	0.72	2	0.36	2	0.36
Total (r)	552	100	389	70.47	163	29.53

* Respondents could choose more than one scientific field. The cross tables can be found in Table a1.8.
r = number of records.

Source Own calculations

Table a4.8 Cross tables scientific fields, frequencies (r=522)

	Sociology (r)	Economics (r)	Humanities (r)	Political science (r)	Business studies (r)	Psychology (r)	Educational sciences (r)	Social policy (r)	Demography (r)	Mathematics (r)	Law (r)	Health sciences (r)	Other fields (r)	IR - work sciences (r)	Statistics (r)	Computer science - ICT (r)	Research methodology (r)
Sociology (r)	170	25	16	22	9	8	6	7	9	5	2	1		2		1	
Economics (r)	25	122	25	13	10	4	2	2	6	3	1	1	1		3		
Humanities (r)	16	25	59	8	8	4	3		1	3	1	3			4	1	
Political science (r)	22	13	8	50	4	2	2	1	5	3						1	
Business studies (r)	9	10	8	4	29	3			2	4	1	1			2	1	
Psychology (r)	8	4	4	2	3	20	5		1	1	1	2					
Educational sciences (r)	6	2	3	2		5	17	1	1	2	1			1	1		
Social policy (r)	7	2		1			1	16		2							
Demography (r)	9	6	1	5	2	1	1		13	1	1				1		
Mathematics (r)	5	3	3	1	4	1	2	2	1	13		1					
Law (r)	2	1	1	3	1	1	1		1		9						
Health sciences (r)	1	1	3		1	2				1		8		1			
Other fields (r)		1											7				
Industrial relations - work sciences (r)	2						1					1		6			
Statistics (r)		3	4		2		1		1						5		
Computer science - ICT (r)	1		1	1	1											4	
Research methodology (r)																	4

r = number of records.
Source Own calculations

Table a4.9 Frequency table on expertise level of academic respondents (n=267)

Expertise level of academic respondents		Frequency (n)	% (n)
<i>Junior level</i>		59	22.10
	Junior researcher	7	2.62
	PhD candidate	42	15.73
	Research assistant	10	3.75
<i>Senior level</i>		87	32.58
	Post-doc	31	11.61
	Senior researcher	56	20.97
<i>Professor level</i>		111	41.57
	Assistant professor	18	6.74
	Associate professor	23	8.61
	Full professor	43	16.1
	Distinguished professor	12	4.49
	Professor (not specified)	15	5.62
<i>Director/research manager</i>		10	3.75
	Director	7	2.62
	Research manager	3	1.12
Total (n)		267	100

n = number of respondents.
Source Own calculations

Table a4.10 Frequency table on expertise level of non-academic respondents (n=94)

Expertise level of non-academic respondents	Frequency (n)	%
0-5 years	17	18.09
6-10 years	20	21.28
11-15 years	13	13.83
16-20 years	14	14.89
More than 20 years	30	31.91
Total (n)	94	100

n = number of respondents.
Source Own calculations

Table a4.11 Frequency table on non-academic functions (n=86)

Functions of non-academic respondents	Frequency (n)	% (n)
Policy officer/advisor/civil servant/EC official	15	17.44
Project manager/scientific officer/research manager	13	15.12
Lecturer/teacher	10	11.63
Other	10	11.63
Director/head	9	10.47
Expert at an organisation, analyst	8	9.30
Consultant etc.	7	8.14
Statistician/mathematician	6	6.98
Data manager	4	4.65
RI support	4	4.65
Total (n)	86	100

n = number of respondents.
Source Own calculations

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InGRID

Inclusive Growth Research Infrastructure Diffusion

Referring to the EU2020-ambition of Inclusive Growth, the general objectives of InGRID – Inclusive Growth Research Infrastructure Diffusion – are to integrate and to innovate existing, but distributed European social sciences research infrastructures on ‘Poverty and Living Conditions’ and ‘Working Conditions and Vulnerability’ by providing transnational data access, organising mutual knowledge exchange activities and improving methods and tools for comparative research. This integration will provide the related European scientific community with new and better opportunities to fulfil its key role in the development of evidence-based European policies for Inclusive Growth. In this regard specific attention is paid to a better measurement of related state policies, to high-performance statistical quality management, and to dissemination/outreach activities with the broader stakeholder community-of-interest, including European politics, civil society and statistical system.

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More detailed information is available on the website: www.inclusivegrowth.be

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InGRID

Inclusive Growth Research
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